



## **WHEN RELIABILITY MATTERS!**

### **THE G.R.I. WARRANTY**

GRI magnetic contacts for doors and windows carry a Lifetime Warranty against faulty workmanship, material and factory defects.

Replacement policy is "Two For One" prior to installation.

After installation, if the switch fails due to material or factory workmanship, a \$10.00 credit will apply providing the following conditions are met:

Switch must be returned to the factory, case intact, for examination and determination of cause.

Replacement or the \$10.00 credit does not cover failure due to physical abuse or contact freezing from application of high voltage, lightning, transient surge or capacitor discharge through the contact.

Please consult your GRI catalog or the GRI website at [grisk.com](http://grisk.com) for additional warranty information on specialty products.

At G.R.I., Quality Products And Customer Service To Surpass Our Customer's Expectations Are Our Goals.  
G.R.I. Products - Built to Impossibly High Standards!



## **INNOVATION, QUALITY & SERVICE**

At G.R.I. only the finest raw materials are used in producing a contact switch you can install with confidence. Our Purchasing Department requires vendors to meet or exceed our specifications on reeds, plastic, wire and potting material.

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G.R.I. is a vertically integrated manufacturing company with in-house facilities for Tool & Die, Injection Molding, Engineering and Production. Our name and logo are also found on products other than security switches. G.R.I. produces the Air Traffic Control Board used by the F.A.A. in their control towers across the nation. One of our pushbutton switches is a special design developed specifically for the F.A.A.'s use.

Our Engineering Department makes use of in-house CAD/CAM to design not only your security contacts, but custom designed Keyboards and Switches, built to rigid specifications for applications in Military, Aerospace, Industrial and Medical Fields.

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Our Founder, Mr. George Risk, knew a company could not draw a line down the middle of the production floor and build products to Mil-Spec on one side and not the other! G.R.I.'s Quality Assurance Department inspects all incoming materials, sub-assemblies and finished goods to the same exact standards demanded by our high tech applications.

**G.R.I. - Your Choice When Reliability Matters!**

**Securing the World into the  
Millennium and Beyond**

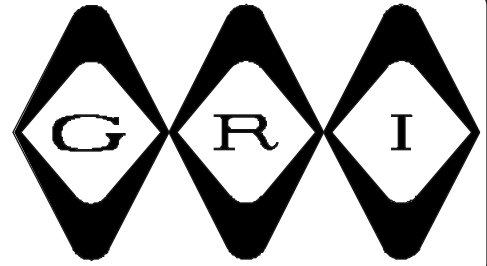


MADE IN U.S.A.



# **SPECIAL SERVICES**

# SPECIAL SERVICES



## CABLE & WIRE OPTIONS

G.R.I. stocks 3 basic lead lengths at reduced costs for our customers. Special lengths, colors and styles are available for additional charges. Please call factory for pricing.

12" Leads #22AWG

36" Leads #22AWG

72" Leads #22AWG

Special Lengths #22AWG

Zip Cord

Jacketed 2 Conductor

Jacketed 4 Conductor

Jacketed 6 Conductor

#5702 Armored 3/16" ID Bulk SquareLok

#8296 Armored 7/32" ID Bulk SquareLok

#8449 Armored 5/16" ID Bulk SquareLok

#5702 & #8296 Armored Cable

#8449 Armored Cable

Supervisory Loop

Dummy Center Terminal

Standard

Stock Item

Stock Item

Non-Standard

Non-Standard

Non-Standard

Non-Standard

Non-Standard

Unstrung Cable

Unstrung Cable

Unstrung Cable

Strung Including Ferrules

Strung Including Ferrules

Using Standard Wire

## DIODE & RESISTOR SWITCHES

G.R.I. makes available resistors and/or diodes built in for your convenience. Standard tolerance is  $\pm 5\%$ . Other tolerances available upon request. Call and talk with your G.R.I. representative regarding values, etc.



SERIES RESISTOR



PARALLEL RESISTOR

Resistors

1 Resistor Any Value

2 Resistors Any Value

Diodes

1 Diode

2 Diodes

DPDT available in a variety of GRI Recessed and Surface Mount Contacts.  
Please call factory for more information

## CUSTOM MANUFACTURING

G.R.I. offers custom manufacturing to help you out in those situations where a standard product just won't work. Our representatives at the factory can help you with your special needs. Please give us a call.

**All Costs Are Approximate And Are Subject To Change Without Notice.**

GEORGERISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

TOLL-FREE 1-800-445-5218 • 1-800-523-1227  
(308) 235-4645 • FAX (308) 235-3561  
E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
WEB SITE: [www.grisk.com](http://www.grisk.com)



# SPECIAL SERVICES

## WHEN RELIABILITY COUNTS — YOU CAN COUNT ON G.R.I.!!!!

“A SWITCH IS A SWITCH” is a statement we hear from time to time — usually from those we refer to as “price shoppers”. This type “shopper” evidently only considers the actual cost of the contact itself in computing his cost of installation — not the cost of repeated trips to the site of a false alarm or complaints from their customer that their system is not operating correctly. Just what is the expense involved for a warranty service call??? Certainly more than the price of a switch!!

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### QUALITY CONTROL

G.R.I.’s “Zero” Defect Program is the standard our employees follow. They know that quality cannot be inspected “IN”. We build with quality parts, quality people and quality standards. Each G.R.I. production line must 100% inspect the sub-assemblies produced by their line. Quality Control Inspectors then do an on-the-spot inspection of 20% of these sub-assemblies PRIOR to moving the lot onto the next process. If any defective assemblies are discovered, another 20% of the lot is inspected by Q.C., continuing on up to 100% inspection. All faulty assemblies are discarded plus an investigation is begun to determine the cause for the defective assemblies.

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### LIFETIME WARRANTY

G.R.I. is one of a very small group of manufacturers who continue to offer their customers a lifetime warranty on their products. We have always felt that with this guarantee, we are showing the confidence G.R.I. has in our workmanship and quality of components used in manufacturing our contacts. To see the confidence level of other switch manufacturers, check out their warranty.

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### INDIVIDUAL PRIVATE LABELING

Private Labeling adds credibility to your Company and G.R.I. offers a variety of private labeling, including heat stamp, foil and mold insert. All surface mount switches, except the 50 and 50F series, are available for this service. First time heat stamp orders require a one-time set-up charge of \$30 - \$50, dependent upon the intricacy of the plate design, plus a \$.05 charge per case. Mold inserts require a special quote process. All requests for private labeling must be accompanied by camera ready art work and a minimum order of 100 sets of the contact you wish to be private labeled.

Foil colors available for private labeling are White, Gold, Red, Green, Blue, Silver and Black.

GEORGE RISK INDUSTRIES, INC.  
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KIMBALL, NE 69145



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(308) 235-4645

FAX (308) 235-3561

E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)

WEB SITE: [www.grisk.com](http://www.grisk.com)

# MAGNETIC CONTACTS WITH BUILT-IN E.O.L. RESISTORS AND RESISTOR PACKS



- ◆ Supervision For Open and Closed Loop Systems
- ◆ Eliminates Soldering on the Job
- ◆ Standard Switch Uses 1/8 or 1/4 Watt Resistors
- ◆ Closed Loop Switches Have Resistors In Series To Switch
- ◆ Open Loop Switches Have Resistors Parallel To Switch
- ◆ Resistor Only Packs Are Available For Retro-Fits
- ◆ Available In Standard Colors



29A W/1K



2020-12 W/5.6K



100-T W/1K



180-12 W/2K



PAC-2



Magnetic contacts with end of line resistors are available in most G.R.I. products where size restrictions permit.

Resistor only packs can be custom designed to your specifications using commonly available values. Available in, or without a case. Our very popular 6644 features 2 - 1K 1/8 watt 5% carbon film resistors in our 50R brown case with 2 blue and 2 black 12-inch leads.

The ideal position for the end of line resistor (E.O.L.) is at the farthest point from the panel in the zone loop. This will confirm the integrity of most, if not all, of the wiring between the panel and the last device installed on the zone loop, thus preventing any intentional or accidental compromise of the security zone loop. The closer the E.O.L. is mounted to the panel in the wiring loop, the greater the possibility of compromise of the unprotected loop wiring after the resistor position. Door and window contacts with built-in resistors are the absolute best and easiest way of placing the end of line resistor in that ideal position. Resistors are available in most all popular values in 1/8 or 1/4 watt depending on size constraints. Multi-resistor configurations in conjunction with built-in switches are offered, as well as resistor only packages. Most popular security panel resistor values available. Please state value when ordering. Contact factory for ordering information.

### Sample Part Numbers for G.R.I. Magnetic Contacts with End Of Line Resistors:

100-T-W W/1K  
180-12-B W/2K  
2020-12-W W/5.6K

20RS-T-W W/3.3K  
29A-W W/10K  
4532C W/33K

8080-T-W W/2-10K  
8240 (4400A W/1-360 OHM in series and 1 - 1.8K in parallel)

### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

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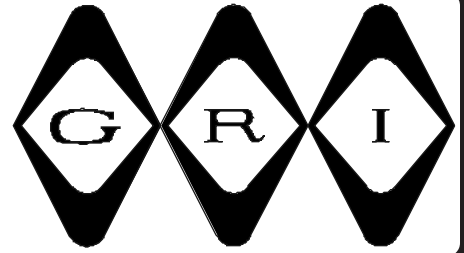
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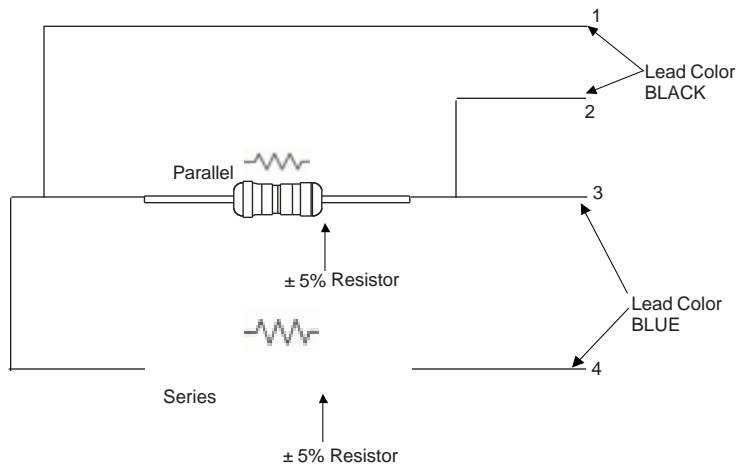
WEB SITE: [www.grisk.com](http://www.grisk.com)

# MAGNETIC CONTACTS WITH BUILT-IN E.O.L. RESISTORS AND RESISTOR PACKS

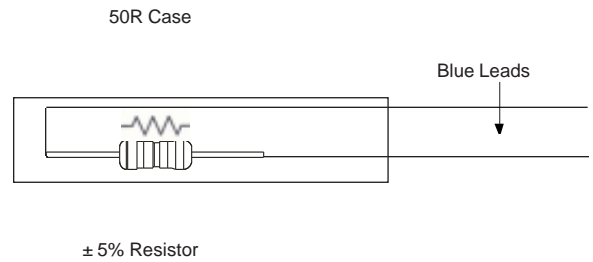


In addition to building switches with E.O.L. Resistors inside the switch case, GRI assembles just the resistors in convenient packages to help in the installation of E.O.L. loads and supervision needs. For 2 or more independent resistors in one case, call factory with specifications.

## RESISTOR PACKS:



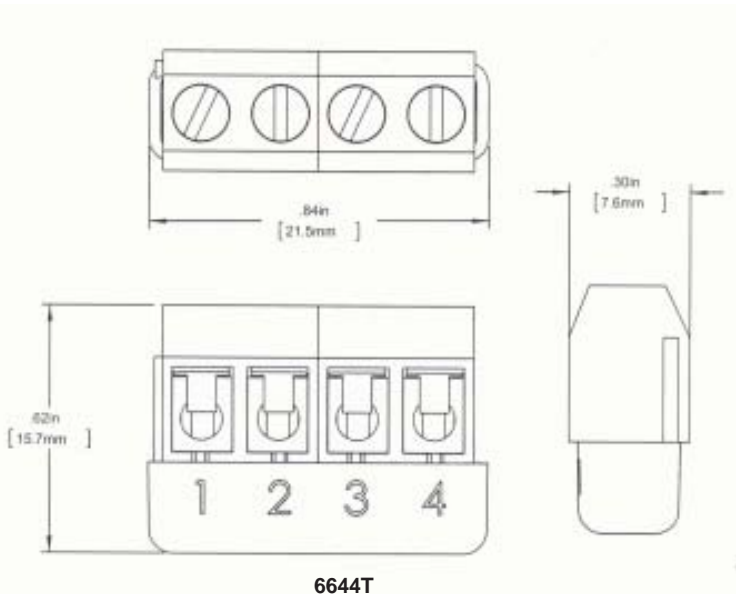
**R1: 1 Resistor.** Designate your value.



## Standard Series Parallel RESISTOR PACKS

| Part # | Switch or Trigger | Control Panel on Terminal | Resistor Reading $\pm 5\%$ |               |
|--------|-------------------|---------------------------|----------------------------|---------------|
|        |                   |                           | Switch Open                | Switch Closed |
| 6644T  | 1 & 2             | 3 & 4                     | 2K                         | 1K            |
| 8366-T | 3 & 4             | 1 & 2                     | 10K                        | 5K            |

Sampling of Resistor Packs & Part Numbers.  
Call G.R.I. for additional values and part numbers.



6644T

1 and 2 Switch/Trigger  
3 and 4 Panel/Device

Note: See Information in box.

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**GEORGE RISK INDUSTRIES, INC.**

802 S. ELM ST., KIMBALL, NEBRASKA 69145-1599  
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SECURITY SALES FAX # (308) 235-3561  
E-MAIL: grisales@megavision.com  
WEB SITE: www.grisk.com

**PRIVATE LABEL INFORMATION SHEET**

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

\_\_\_\_\_

SWITCHES YOU WOULD DESIRE TO USE FOR PRIVATE LABELING \_\_\_\_\_

\_\_\_\_\_

SKETCH OR DRAW THE PRIVATE LABEL LAYOUT BELOW. PLEASE INCLUDE CAMERA READY ART WORK.

EXACT WORDING FOR PRIVATE LABEL: \_\_\_\_\_

SPECIAL INSTRUCTIONS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

REQUESTED BY: \_\_\_\_\_

TITLE: \_\_\_\_\_

**IMPORTANT NOTE:**

Plates require at least two weeks to be engraved. Please fill out the above information, and return as soon as possible.

**FOR G.R.I. USE ONLY**

Date submitted: \_\_\_\_\_

Requested By: \_\_\_\_\_

Authorized By: \_\_\_\_\_



## GLOSSARY OF PART NUMBERS FOR SWITCHES AND ACCESSORIES

| <b>TERM</b> | <b>DESCRIPTION</b>                      | <b>EXAMPLE</b>                    |
|-------------|---|-----------------------------------|
| -A          | Armored Cable .....                     | 4400- <b>A</b>                    |
| A           | A Form Reed .....                       | 29 <b>A</b> -W                    |
| A-          | Adaptor .....                           | <b>A</b> -75-W                    |
| AA          | 2 A Form Reeds .....                    | <b>AA</b> 29P                     |
| AC          | 1 A Form Reed, 1 C Form Reed .....      | <b>AC</b> 29P                     |
| -AL         | Almond Color .....                      | 50F-12- <b>AL</b>                 |
| -B          | Brown Color .....                       | 20RS-12- <b>B</b>                 |
| B           | Biased Switch .....                     | <b>B</b> 70-12-W                  |
| B           | B Form Reed .....                       | 29 <b>B</b> -W                    |
| BA          | Break Away Flange .....                 | 50F-12-B- <b>BA</b>               |
| -BL         | Black Color .....                       | A-75- <b>BL</b>                   |
| C           | C Form Reed .....                       | 29 <b>C</b> -W                    |
| C-          | Cases .....                             | <b>C</b> -5-W                     |
| CB-         | Cat Butt (Wire Run Plug) .....          | <b>CB</b> -75-BL                  |
| CB-         | Call Button .....                       | <b>CB</b> -20                     |
| CBL-        | Call Button Latching .....              | <b>CBL</b> -20                    |
| CBM-        | Call Button Momentary .....             | <b>CBM</b> -01-B                  |
| CC-         | Current Controller .....                | <b>CC</b> -01                     |
| COM-        | Raceway Connector Combo Pack .....      | E-Z 58 <b>COM</b> -W              |
| CP-         | Child Proof Pool Alarm .....            | 289 <b>CP</b> -3                  |
| CS-         | Current Sensor .....                    | <b>CS</b> -1                      |
| DC-         | Raceway Drop Ceiling .....              | E-Z 58 <b>DC</b> -W               |
| DP-         | Dummy Plug.....                         | <b>DP</b> -75-W                   |
| DPA-        | Dumb Pool Alarm .....                   | <b>DPA</b> -10                    |
| DPP-        | Double Gang Plastic Plate .....         | <b>DPP</b> -22                    |
| DSP-        | Double Gang Stainless Steel Plate ..... | <b>DSP</b> -22                    |
| DS-         | Dome Switch .....                       | <b>DS</b> -01                     |
| EC-         | Raceway End Cap .....                   | E-Z 58 <b>EC</b> -W               |
| E-Z 58      | 5/8" x 1/2" Raceway .....               | <b>E-Z 58</b> 6-W                 |
| E-Z 75      | 5/8" x 1 1/4" Raceway .....             | <b>E-Z 75</b> 6-W                 |
| F-          | Flange.....                             | 50F-12-W- <b>BA</b>               |
| -G          | Gray Color .....                        | 20RS-12- <b>G</b>                 |
| -GEN        | Generic .....                           | 2020-12-W- <b>GEN</b>             |
| GT          | Gate Mount Pool Alarm .....             | <b>GT</b> 289-1                   |
| HD          | Heavy Duty .....                        | 200-36 <b>HD</b>                  |
| HD-         | Hold-Up Device .....                    | <b>HD</b> -1                      |
| HTP-        | High Temperature Probe .....            | <b>HTP</b> -1                     |
| IC-         | Raceway Inside Corner .....             | E-Z 58 <b>IC</b> -W               |
| -JC         | Jacketed Cable with Chain .....         | 4712- <b>JC</b>                   |
| M-          | Magnet .....                            | <b>M</b> -5-W                     |
| MC-         | Door or Window Channel Magnet.....      | <b>MC</b> -180-W or <b>MC</b> -25 |
| MM-         | Mighty Mag - Rare Earth Magnet .....    | <b>MM</b> -400                    |

|          |                                     |                             |
|----------|-------------------------------------|-----------------------------|
| N        | Rare Earth Switch Set .....         | <b>N2020-12</b>             |
| NSP-     | Narrow Gang Stainless Plate .....   | <b>NSP-17</b>               |
| OC-      | Raceway Outside Corner .....        | E-Z 58 <b>OC-W</b>          |
| OF       | Oval Flange .....                   | 20 <b>OF-12-W</b>           |
| P        | Pig Tail .....                      | 41 <b>P-G</b>               |
| PB-      | Push Button .....                   | <b>PB-100-B</b>             |
| PBF-     | Push Button With Flange .....       | <b>PBF-100-W</b>            |
| PL       | Private Logo .....                  | 29A-W( <b>PL</b> )          |
| PP-      | Single Gang Plastic Plate .....     | <b>PP-13</b>                |
| PRM-     | Programmable Relay Module .....     | <b>PRM-1</b>                |
| PW-      | Pre Wire Plug .....                 | <b>PW-375-W</b>             |
| R        | Recessed (Round) .....              | 50 <b>R-12-W</b>            |
| RA-      | Raceway Right Angle .....           | E-Z 58 <b>RA-W</b>          |
| RB-      | Roller Ball .....                   | <b>RB-01-W</b>              |
| RF       | Recessed (Round) With Flange .....  | 50 <b>RF-12-W</b>           |
| RS       | Recessed (Round) Short .....        | 50 <b>RS-12-W</b>           |
| R2       | Resistor Pack With 2 1.5K Resistors |                             |
| S        | Switch Only .....                   | <b>S20RS-12-W</b>           |
| S-       | Spacer or Bracket .....             | <b>S-28-B</b> or <b>S-9</b> |
| SB-      | Timed Electronic Shunt Switch ..... | <b>SB-2000</b>              |
| SG-      | Raceway Junction Box .....          | E-Z 58 <b>SG-W</b>          |
| SG-      | Shockguard .....                    | <b>SG-1</b>                 |
| SP-      | Raceway Splice .....                | E-Z 58 <b>SP-W</b>          |
| SP-      | Single Gang Steel Plate .....       | <b>SP-20</b>                |
| T        | Tape .....                          | <b>T-3/8</b>                |
| -T       | Terminal Switch .....               | 2020- <b>T-W</b>            |
| TEE-     | Raceway Tee Connector .....         | E-Z 58 <b>TEE-W</b>         |
| TP-      | Temperature Probe .....             | <b>TP-1</b>                 |
| TS-      | Tamper Switch .....                 | <b>TS-20</b>                |
| TSC-     | Tamper Switch With Clip .....       | <b>TSC-20</b>               |
| VS-      | Vent Switch .....                   | <b>VS-06</b>                |
| W        | White Color .....                   | 20 <b>RS-12-W</b>           |
| WB       | Alarmed Window Bar .....            | <b>WB-26-38</b>             |
| WG       | Wide Gap .....                      | 2020-12 <b>WG-W</b>         |
| XWG      | Extra Wide Gap .....                | 2020-12 <b>XWG-W</b>        |
| Z        | Zip Cord .....                      | <b>Z50-12-W</b>             |
| -12"-36" | Wire Length .....                   | 2020- <b>12/200-36</b>      |

#### CONTACT SPECIFICATIONS:

**Closed Loop** ..... Switch closed when magnet is in close proximity.

**Open Loop**..... Switch open when magnet is in close proximity.

**S.P.D.T.**..... Switch has common, open and closed sides.

**D.P.D.T.** ..... Two switches, each having common, open and closed sides.

# SWITCH AND CORRESPONDING MAGNET

Magnet Pairing Subject To Change Dependent Upon Availability & Configuration

| PRODUCT  | MAGNET   | PRODUCT   | MAGNET  |
|--|--|---|---|
| 120T-12WG<br>130T-12WG<br>140T-12WG<br>2020-12WG<br>2020-TWG<br>3030-12WG<br>3030-T<br>3030-TWG<br>4040-12WG<br>2120-12WG<br>2130-12WG<br>2140-12WG<br>20RS-12XWG<br>20RS-TXWG<br>30RS-12XWG<br>40RS-12XWG | <b>M-5</b><br>1/4" x 1"<br>M-12 Magnet<br>in Case    | 50F-12<br>50F-12WG<br>55F-12<br>55F-12WG<br>60F-12<br>60F-12WG<br>65F-12<br>65F-12WG<br>70F-12<br>70F-12WG<br>75F-12<br>75F-12WG  | <b>M-7F</b><br>3/16" x 1"<br>M-19 Magnet<br>in Case                     |
| 20F-12<br>20F-12WG<br>30F-12<br>30F-12WG<br>40F-12<br>40F-12WG   | <b>M-5F</b><br>1/4" x 1"<br>M-12 Magnet<br>in Case   | 28A<br>29A<br>29PA<br>28B<br>29B<br>29PB<br>28C<br>29C<br>29PC  | <b>M-8</b><br>.800" x .375"<br>x .420"<br>#7355 Magnet<br>in Case       |
| 20-OF-12<br>20-OF-12WG<br>30-OF-12<br>30-OF-12WG<br>40-OF-12<br>40-OF-12WG   | <b>M-5 OF</b><br>1/4" x 1"<br>M-12 Magnet<br>in Case | 28AWG<br>28AXWG<br>29AWG<br>29AXWG<br>29PAWG<br>29PAXWG<br>28BWG<br>28BXWG<br>29BWG<br>29BXWG<br>29PBWG<br>29PBXWG<br>28CWG<br>28CXWG<br>29CWG<br>29CXWG<br>29PCWG<br>29PCXWG<br>VSB-06<br>VSB-08 | <b>M-14</b><br>2 - .800" x .375"<br>x .420"<br>#7355 Magnets in<br>Case |
| 50-12<br>50-12WG<br>60-12<br>60-12WG<br>70-12<br>70-12WG   | <b>M-7</b><br>3/16" x 1"<br>M-19 Magnet<br>in Case   |   |   |

**PRODUCT****MAGNET****PRODUCT****MAGNET**

410WG  
410PWG  
411WG  
411PWG  
412WG  
412PWG

**M-15**  
3/8" x 2 9/16"  
#3938 Magnet  
in Case

410  
410P  
411  
411P  
412  
412P

**M-20**  
3/8" x 1 1/2"  
M-16 Magnet  
in Case

101-12  
102-12

**M-100**  
1/4" x 1"  
M-12 Magnet in Case

101-12WG  
101-TWG  
102-12WG

**M-100WG**  
1/4" x 1"  
M-12 Magnet in Case  
Printed "Magnet"

111-12  
112-12

**M-110**  
1/4" x 1"  
M-12 Magnet in Case

111-12WG  
111-TWG  
112-12WG

**M-110WG**  
1/4" x 1"  
M-12 Magnet in Case  
Printed "Magnet"

129A  
129AWG  
129B  
129BWG

**M-129**  
1/4" x 3/4"  
M-10 Magnet  
in Case

150-12WG  
150-TWG  
160-12WG  
170-12WG

**M-150**  
1/4" x 1"  
M-12 Magnet  
in Case

180-12  
185-12  
190-12  
8080-T  
8585-T

**M-180**  
1/4" x 1"  
M-12 Magnet  
in Case

180-12WG  
185-12WG  
190-12WG  
195-12  
8080-TWG  
8585-TWG

**M-180WG**  
3/8" x 1 1/2"  
M-16 Magnet  
in Case

180MC-12  
184MC-12  
185MC-12  
189MC-12  
190MC-12  
194MC-12  
195MC-12  
199MC-12  
8080-TMC  
8484-TMC  
8585-TMC  
8989-TMC

**MC-180**  
3/4" x .325"  
#6757 Magnet  
in Case

MC120T-12  
MC150-12  
MC150-T  
MC20RS-12  
MC20RS-T  
MC2020-T  
MC2020-12  
MC5065

**MC-25**  
1/4" x 1/4"  
x 1/8"  
#7665 Rare  
Earth Magnet  
in Case

184-12  
189-12  
194-12  
8484-T  
8989-T

**M-184**  
1/4" x 1"  
M-12 Magnet in  
Case

184-12WG  
189-12WG  
194-12WG  
199-12  
8484-TWG  
8989-TWG

**M-184WG**  
3/8" x 1 1/2"  
M-16 Magnet  
in Case

200-36  
250-36

**M-250**  
3/8" x 2 9/16"  
#3938 Magnet  
in Case

200-36HD  
200-36WG  
210-36  
220-36  
250-36HD  
250-36WG  
260-36  
270-36

**M-280**  
2 - 3/8" x 2 9/16"  
#3938 Magnets  
in Case

**PRODUCT**

**MAGNET**

**PRODUCT**

**MAGNET**

400  
401  
402

**M-401**  
3/8" x 1 1/2"  
M-16 Magnet  
in Case

400WG  
401WG  
402WG

**M-402**  
3/8" x 2 9/16"  
#3938 Magnet  
in Case

4400  
4400A  
4400AB  
4402  
4402A  
4402AB  
4405A

**M-4400**  
.450" x 2.50"  
#7547 Magnet  
in Case

4532  
4532C

**M4532**  
5 - .500" x .500"  
x .500"  
#7352 Magnet in  
Case

4704  
4704-A

**M-4704**  
3/8" x 1 1/2"  
M-16 Magnet  
in Case

4714  
4714-A  
4714-JC

**M-4714**  
3/16" x 1"  
M-19 Magnet  
in Case

150MF-12  
5088  
5088T  
5088RS  
5088RST  
5088WG  
5088-TWG  
5088RSWG  
5088RS-TWG

**MF-875**  
1/8" x 3/8"  
x 7/8"  
Bare Flat  
Magnet with  
Tape

4532L  
4532LB  
4532CL

**M-4532L**  
3/8" x 2 9/16"  
#3938 Magnet  
in 400 Case  
With S-12  
Bracket

50R-12  
50R-12WG  
50RF-12  
50RF-12WG  
50RS-12XWG  
60R-12  
60R-12WG  
60RF-12  
60RF-12WG  
60RS-12XWG  
70R-12  
70R-12WG  
70RF-12  
70RF-12WG  
70RS-12XWG

**M-12**  
1/4" x 1"  
Bare Magnet

120T-12XWG  
130T-12XWG  
140T-12XWG  
20F-12XWG  
20-OF-12XWG  
30F-12XWG  
30-OF-12XWG  
40F-12XWG  
40-OF-12XWG  
45F-12  
45F-12WG  
45F-12XWG  
45-OF-12  
45-OF-12WG  
45-OF-12XWG  
2020-12XWG  
2020-TXWG  
3030-12XWG  
3030-TXWG  
4040-12XWG  
4545-12WG

**M-16**  
3/8" x 1 1/2"  
Bare Magnet

50RS-12  
50RS-12WG  
60RS-12  
60RS-12WG  
70RS-12  
70RS-12WG

**M-17**  
1/4" x 5/8"  
Bare Magnet

**PRODUCT**

**MAGNET**

**PRODUCT**

**MAGNET**

1100A-12  
1100A-12WG  
1100B-12  
1100B-12WG  
1100C-12  
1100C-12WG  
VS-06  
VS-06T  
VS-08  
VS-08T

**M-1100**  
1/4" x 1 3/16"  
M-13 Magnet  
in Case

N120T-12WG  
N150-12WG  
N2020-12WG  
N2120-12WG  
N20RS-12WG  
N2020-TWG  
N20RS-TWG  
N4473WG  
N50R-12WG  
N50RF-12WG  
N50RS-12WG

**MM-600**  
5/8" x 1/8"  
Bare Rare  
Earth Magnet

500  
501  
502  
503

**M-500**  
1/4" x 1/4" x 3/4"  
#10083 Magnet  
in Case

150-12  
160-12  
170-12  
175-12  
150-T  
150RS-12  
160RS-12  
170RS-12  
150RS-T

**MM-150RS**  
1/4" x 1/2"  
MM-9 Rare  
Earth Magnet  
In Case

505  
505WG  
506  
506WG

**M-505**  
1/8" x .937"  
#5278 Magnet  
in Case

5065  
WB-26-36  
WB-26-46

**M-5065**  
1/4" x 1 3/16"  
M-13 Magnet in Case

5066

**M-5066**  
1/4" x 1 3/16"  
M-13 Magnet in Case

N120T-12  
N150-12  
N150RS-12  
N150RS-T  
N2020-12  
N2120-12  
N20RS-12  
N2020-T  
N20RS-T  
N4473  
N50R-12  
N50RF-12  
N50RS-12  
N5065

**MM-400**  
3/8" x 1/8"  
Bare Rare  
Earth Magnet

120T-12  
130T-12  
140T-12  
2020-12  
2020-T  
2120-12  
2130-12  
2140-12  
3030-12  
4040-12  
4545-12  
20RS-12  
20RS-T  
30RS-12  
40RS-12  
4473  
4834  
4834-T

**MM-9RS**  
1/4" x 1/2"  
MM-9 Rare  
Earth Magnet  
In Case

100-12  
100-T  
100-TC  
101-T

**MM-900**  
1/4" x 1/2"  
MM-9 Rare Earth  
Magnet In Case

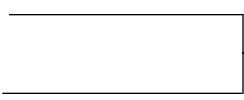
110-12  
110-T  
111-T

**MM-910**  
1/4" x 1/2"  
MM-9 Rare Earth  
Magnet In Case

**PRODUCT**

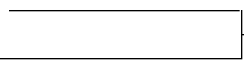
**MAGNET**

100-12WG  
100-TWG  
100-TCWG




**MM-100**  
1/4" x 3/4" MM-10  
Rare Earth Magnet  
In Case Printed WG

110-12WG  
110-TWG




**MM-110**  
1/4" x 3/4" MM-10  
Rare Earth Magnet  
In Case Printed WG

100-12 with resistors  
100-T with resistors  
100-TC with resistors




**M-100**  
1/4" x 1" M-12  
Magnet In Case

100-12WG with resistors  
100-TWG with resistors  
100-TCWG with resistors




**M-100WG**  
1/4" x 1" M-12  
Magnet in Case  
Printed "Magnet"

110-12 with resistors  
110-T with resistors  
111-12 with resistors  
111-T with resistors  
112-12 with resistors



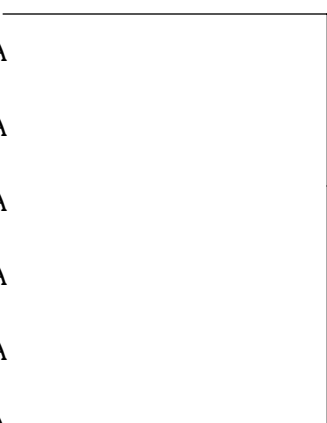
**M-110**  
1/4" x 1"  
M-12 Magnet  
In Case

110-12WG with resistors  
110-TWG with resistors




**M-110WG**  
1/4" x 1" M-12  
Magnet in Case  
Printed "Magnet"

4110  
4110A  
4112  
4112A  
4460  
4460A  
4461  
4461A  
4462  
4462A  
4463  
4463A



**M-4460**  
1/4" x 1 3/16"  
M-13 Magnet in  
Case

4510  
4612



**8540**  
1/2" x 3"  
Bare Magnet

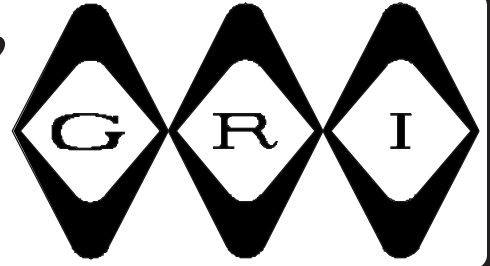


# RECESSED SWITCHES





# SUPER MINIATURE 1/4" RECESSED SWITCH SET



## 50RS-12 SERIES



- ◆ Just .562" Long, The 50RS-12 Super Mini Is Ideal For Thin Framed Doors & Windows
  - ◆ Open Loop and S.P.D.T. Configurations Are .810" In Length
    - ◆ Recessed Magnetic Contact
      - ◆ Press To Fit
      - ◆ 12" #22AWG Leads
  - ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
    - ◆ Hermetically Sealed
      - ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
    - ◆ Switches and Magnets Available Separately
      - ◆ Colors: White, Brown, Gray
        - ◆ Lifetime Warranty



**50RS-12**

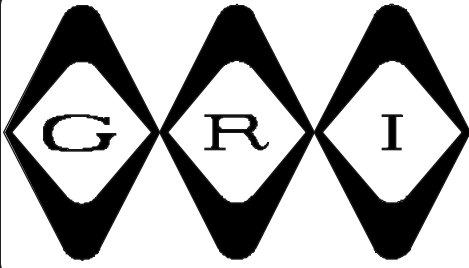
| <b>PART NUMBERS:</b>                | <b>Closed Loop</b> | <b>Open Loop</b> | <b>SPDT</b> |
|-------------------------------------|--------------------|------------------|-------------|
| Standard Gap 1/4" +                 | 50RS-12            | 60RS-12          | 70RS-12     |
| Wide Gap 1/2" +                     | 50RS-12WG          | 60RS-12WG        | 70RS-12WG   |
| Extra Wide Gap 3/4" +<br>70RS-12XWG |                    | 50RS-12XWG       | 60RS-12XWG  |

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G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

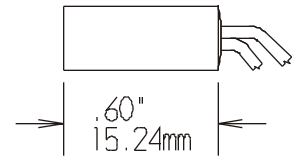
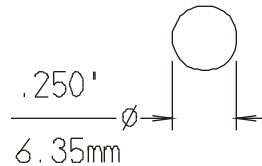
TOLL-FREE 1-800-445-5218  
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E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
WEB SITE: [www.grisk.com](http://www.grisk.com)



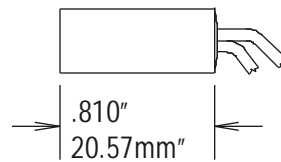
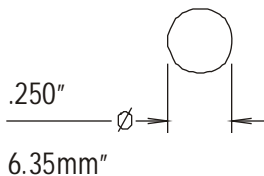
# SUPER MINIATURE 1/4" RECESSED SWITCH SET

## INSTALLATION APPLICATIONS:

The G.R.I. 50RS series is a 1/4" diameter switch set designed for applications where a miniature recessed is required. Only .562" in length, the switch is able to be recessed in places where a standard switch is too large. The 50RS series is also widely used in the manufacture of alarm screens.



**50RS-12**



**60RS-12/70RS-12**

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 50RS-12     | CLOSED      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 50RS-12WG   | CLOSED      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 50RS-12XWG  | CLOSED      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 60RS-12     | OPEN        | N/C                | B         | .140                                   | 5                          | 175                             | .250                          |
| 60RS-12WG   | OPEN        | N/C                | B         | .140                                   | 5                          | 175                             | .250                          |
| 60RS-12XWG  | OPEN        | N/C                | B         | .140                                   | 5                          | 175                             | .250                          |
| 70RS-12     | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175                             | .250                          |
| 70RS-12WG   | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175                             | .250                          |
| 70RS-12XWG  | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175                             | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145

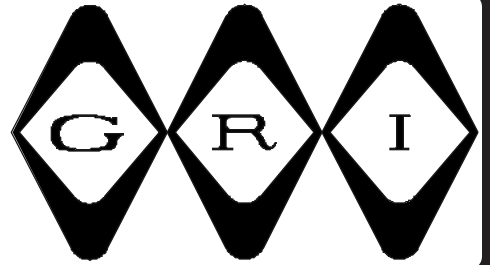


MADE IN U.S.A.

TOLL-FREE 1-800-445-5218  
TOLL-FREE 1-800-523-1227  
(308) 235-4645  
FAX (308) 235-3561

E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
WEB SITE: [www.grisk.com](http://www.grisk.com)

# MINIATURE 1/4" RECESSED SWITCH SET



## 50R & 50RF SERIES

- ◆ Ideally Suited For Residential and Light Commercial Applications  
Where Aesthetics Are A Requirement
- ◆ Recessed Magnetic Contact   ◆ Press To Fit or Flanged Styles
  - ◆ 12" #22 AWG Leads
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed   ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Built-in E.O.L. Resistors In Some Models Upon Request
    - ◆ Supervisory Loops In Some Models
    - ◆ Switches and Magnets Available Separately
- ◆ Colors: White, Brown, Gray   ◆ Lifetime Warranty



50R-12



50RF-12

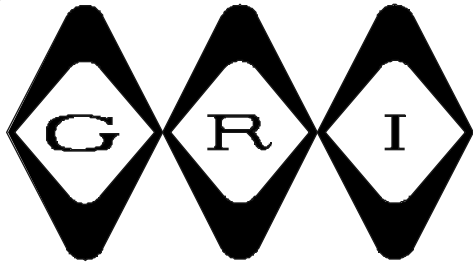
| <b>PART NUMBERS:</b> |                       |                       |                       |
|----------------------|-----------------------|-----------------------|-----------------------|
|                      | <b>Closed Loop</b>    | <b>Open Loop</b>      | <b>SPDT</b>           |
| Standard Gap 1/2" +  | 50R-12<br>50RF-12     | 60R-12<br>60RF-12     | 70R-12<br>70RF-12     |
| Wide Gap 3/4" +      | 50R-12WG<br>50RF-12WG | 60R-12WG<br>60RF-12WG | 70R-12WG<br>70RF-12WG |

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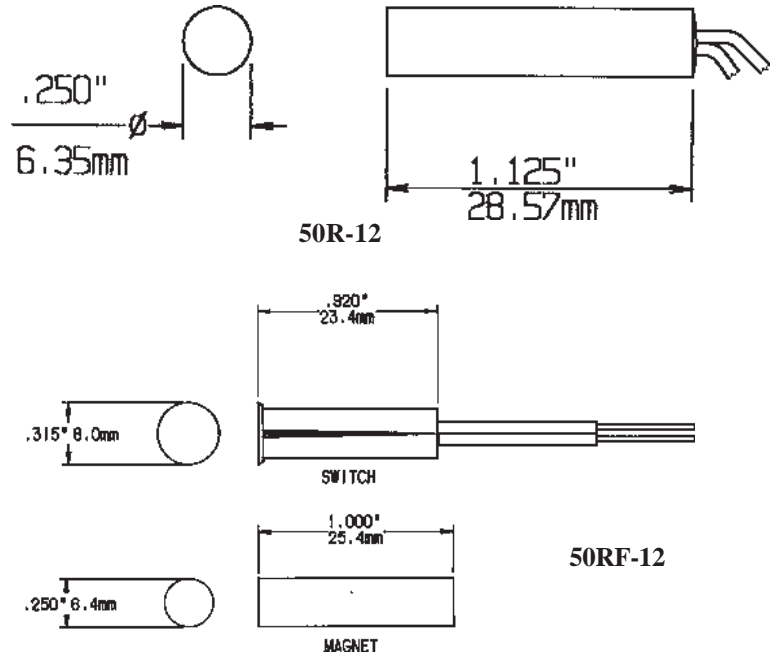
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WEB SITE: [www.grisk.com](http://www.grisk.com)



# MINIATURE 1/4" RECESSED SWITCH SET

## INSTALLATION APPLICATIONS:

The 50R and 50RF series are 1/4" diameter switch sets designed for applications where a small diameter recessed switch set is required. This makes the set desirable in residential installations where no sign of an alarm system should be seen or where there is not room to install a larger diameter recessed switch set. The 50R-12 is a straight cylindrical set for flush or counter sunk installations. The 50RF-12 set is flanged to prevent inadvertent pulling of the switch into the wall.



## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 50R-12      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 50R-12WG    | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 50RF-12     | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 50RF-12WG   | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 60R-12      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 60R-12WG    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 60RF-12     | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 60RF-12WG   | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 70R-12      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 70R-12WG    | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 70RF-12     | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 70RF-12WG   | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

GEORGERISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145

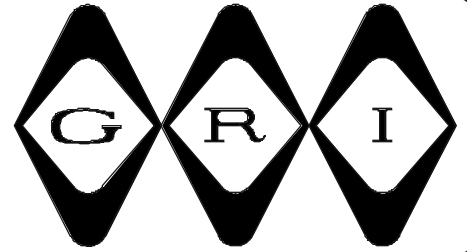


MADE IN U.S.A.

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# MC-25 WINDOW CHANNEL SERIES



- ◆ The MC-25 Is Designed To Be Mounted In The Track Of Aluminum Windows & Sliders
- ◆ Rare Earth Magnet
- ◆ Fits Most Aluminum Tracks
- ◆ Grippers Hold Magnet In Place
- ◆ No Drilling Required
- ◆ Arrow Marks Polarity



2020-12



MC-25



20RS-T



2120-12



150-12

## PART NUMBERS:

MC2020-12  
MC2020-T  
MC20RS-12  
MC20RS-T  
MC2120-12

## GAP

Up to 1/2"  
Up to 1/2"  
Up to 3/8"  
Up to 3/8"  
Up to 1/2"

## PART NUMBERS:

MC120T-12  
MC150-12  
MC150-T  
MC5065

## GAP

1/2" +  
1/2" +  
Up to 1/2"  
1/2" +

Other configurations available, please contact factory.

## WARRANTY:

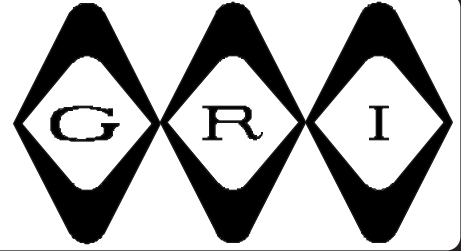
One year warranty against workmanship, material and factory defects.

GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



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# N SERIES SWITCH SETS



- ◆ Rare Earth Magnets Paired With Press To Fit Contacts
- ◆ Solves Problem Installs ◆ Time Saving Installations
- ◆ Nickel Plated To Protect From Chipping And Corrosion
- ◆ Use MM-600 With A Standard Gap Switch To Attain Wide Gap



N2120-12



N2020-TWG



N20RS-12

G.R.I.'s "Mighty Mag" contacts will assist in resolving the installer's problem of drilling into the new thinner vinyl windows. These rare earth magnets are less than 1/8" high and install fast and easily without worry about damage to the window itself. (Please see the Mighty Mag page in the accessories section of G.R.I.'s full line catalog for dimensions).

G.R.I.'s Mighty Magnets make use of a rare earth alloy which allows the size of the magnet to be significantly reduced while still retaining or improving the gap involved. These rare earth magnets can be mounted with the stainless steel mounting screws provided (MM-400 and MM-600) and/or double stick tape included in the bag, or may be glued into place.

**Note:** G.R.I. suggests using a silicone or clear nail polish sealant on the surface of installed rare earth magnets to prevent corrosion.

## PART NUMBERS:

|            |            |            |            |
|------------|------------|------------|------------|
| N120T-12   | N2020-T    | N2120-12   | N50RF-12   |
| N120T-12WG | N2020-TWG  | N2120-12WG | N50RF-12WG |
| N150-12    | N20RS-12   | N4473      | N50RS-12   |
| N150-12WG  | N20RS-12WG | N4473WG    | N50RS-12WG |
| N2020-12   | N20RS-T    | N50R-12    | N5065      |
| N2020-12WG | N20RS-TWG  | N50R-12WG  |            |

Other possible combinations including Open Loop and S.P.D.T. available or as Switch Only and Magnet Only.

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



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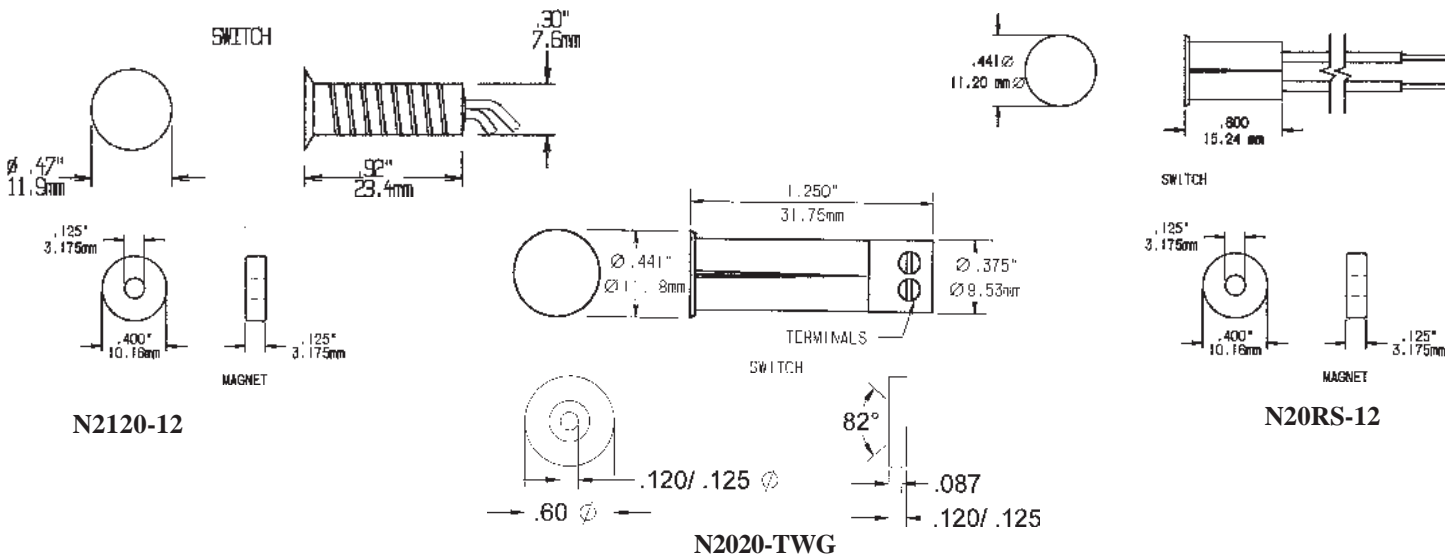


# SWITCHES WITH RARE EARTH MAGNETS

Pair Switch with Magnet to get the following gaps:

| Switch   | Description                    | MM-25      | MMR-25     | MM-375       | MM-10    | MM-400     | MM-600       | MMF-875 |
|----------|--------------------------------|------------|------------|--------------|----------|------------|--------------|---------|
| S120T-12 | 3/4" Press Fit/Leads           | 3/8"+      | 3/8"+      | 1"+          | Up to 1" | Up to 3/4" | 1"+          | 3/4"+   |
| S150-12  | 1/2" Press Fit/Leads           | 1/2"+      | 1/2"+      | 1 1/2"+      | Up to 1" | 3/4"+      | 1 1/2"+      | 1"+     |
| S2020-12 | 3/8" Press Fit/Leads           | Up to 1/2" | Up to 1/2" | 1"+          | Up to 1" | 1"+        | 1"+          | 1"      |
| S2020-T  | 3/8" Press Fit/Terminals       | 3/8"+      | 3/8"+      | 1"+          | Up to 1" | Up to 3/4" | 1"+          | 1/2"+   |
| S20RS-12 | 3/8" Short Press Fit/Leads     | Up to 3/8" | Up to 3/8" | 1"+          | 3/4"+    | Up to 3/4" | Up to 1"     | 3/4"    |
| S20RS-T  | 3/8" Short Press Fit/Terminals | 3/8"+      | 3/8"+      | 1"+          | 3/4"+    | Up to 3/4" | Up to 1"     | 3/4"    |
| S2120-12 | 3/8" Ribbed Press Fit/Leads    | 5/8"+      | 5/8"+      | 1"+          | Up to 1" | Up to 3/4" | 1"+          | 3/4"+   |
| S4473    | 3/4" Press Fit/Terminals       | Up to 1/2" | Up to 1/2" | 1 1/4"+      | Up to 1" | Up to 3/4" | 1"+          | 3/4"+   |
| S50R-12  | 1/4" Press Fit/Leads           | Up to 1/2" | Up to 1/2" | Up to 1 1/2" | 1"+      | 3/4"+      | Up to 1 1/4" | 3/4"+   |
| S50RF-12 | 1/4" Press Fit/Flanged/Leads   | Up to 1/2" | Up to 1/2" | Up to 1 1/2" | 1"+      | Up to 3/4" | Up to 1 1/4" | 1"      |
| S50RS-12 | 1/4" Short Press Fit/Leads     | Up to 3/8" | Up to 3/8" | 1"+          | 3/4"+    | Up to 1/2" | Up to 1 1/4" | 3/4"    |
| S5065    | 3/8" Press Fit/Leads           | 1/2"+      | 1/2"+      | 1"+          | 1"+      | Up to 1"   | Up to 1 1/4" | 1/2"+   |

Magnet orientation will affect operation of switch. Please confirm operation prior to installation.



**WARRANTY:**

Lifetime warranty against workmanship, material and factory defects.

**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

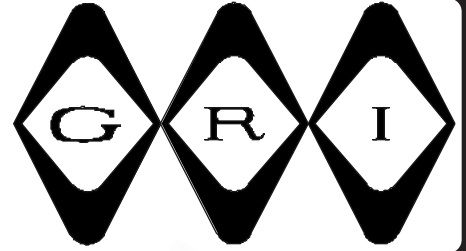
GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

TOLL-FREE 1-800-445-5218  
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WEB SITE: [www.grisk.com](http://www.grisk.com)

# MINIATURE 3/8" RECESSED SWITCH SET



## 20RS-12/20RS-T SERIES



- ◆ Ideal For Thin Framed Doors and Windows
- ◆ Recessed Magnetic Contact ◆ Press To Fit
- ◆ 12" #22AWG Leads or Screw Terminals
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed
- ◆ Plated Contacts Resist Sticking or Freezing
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
- ◆ Supervisory Loops Available Upon Request
- ◆ Switches and Magnets Available Separately
- ◆ Colors: White, Brown, Gray
- ◆ Lifetime Warranty



**20RS-12**  
.625" Length



**20RS-T**  
.930" Length



**30RS-12/40RS-12**  
.780" Length

| <b>PART NUMBERS:</b> | <b>Closed Loop</b>      | <b>Open Loop</b> | <b>SPDT</b> |
|----------------------|-------------------------|------------------|-------------|
| Standard Gap 1/2" +  | 20RS-12<br>20RS-T       | 30RS-12          | 40RS-12     |
| Extra Wide Gap 1" +  | 20RS-12XWG<br>20RS-TXWG | 30RS-12XWG       | 40RS-12XWG  |

### INSTALLATION APPLICATIONS:

The G.R.I. recessed "shortie" switch set is designed for applications where a 3/8" press to fit set is needed, but space limitations will not allow for a full length set to be installed. Just 5/8" long, the installer is able to protect openings with the 20RS-12 that otherwise would have to be secured with more visible surface mount configurations. Available in regular and extra wide gaps, the 20RS series provides an easy answer to the difficult, high dollar window problems every installer encounters.

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G.R.I. PLAZA  
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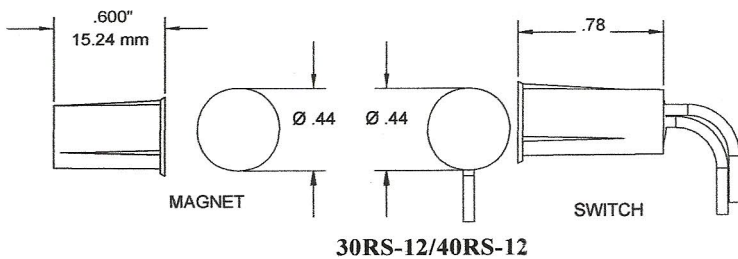
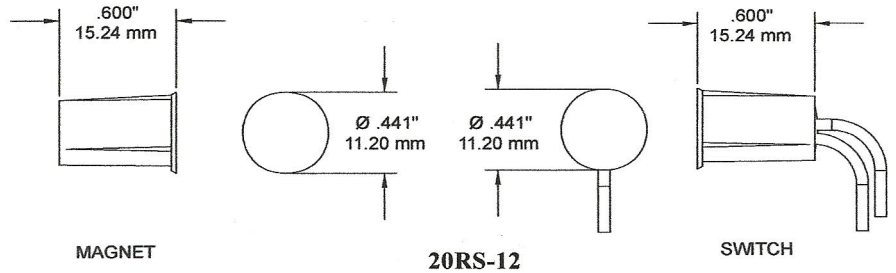
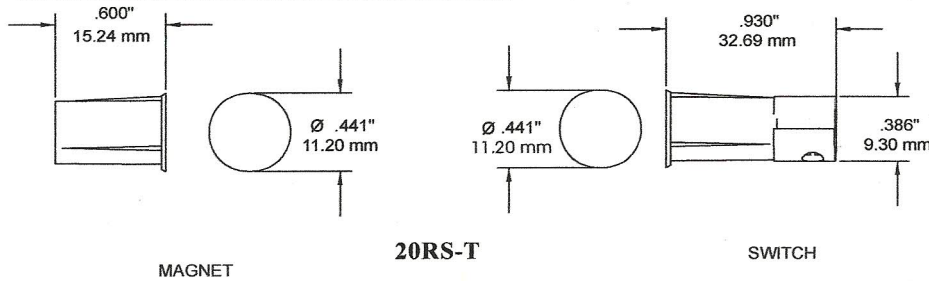
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WEB SITE: [www.grisk.com](http://www.grisk.com)





# MINIATURE 3/8" RECESSED SWITCH SET



**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 20RS-12     | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 20RS-12XWG  | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 20RS-T      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 20RS-TXWG   | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 30RS-12     | OPEN        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 30RS-12XWG  | OPEN        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 40RS-12     | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 40RS-12XWG  | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |

**WARRANTY:** Lifetime warranty against workmanship, material and factory defects.

**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

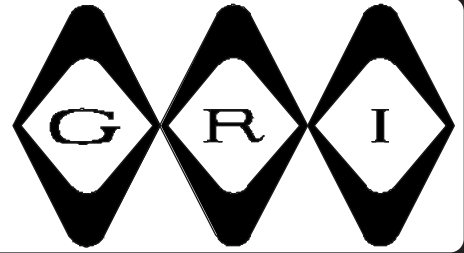
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WEB SITE: [www.grisk.com](http://www.grisk.com)

# 3/8" DIAMETER RECESSED SWITCH SET



## 2020-12/2020-T SERIES

- ◆ Recessed Magnetic Contacts ◆ Press To Fit
- ◆ 12" Leads #22 AWG Leads or Screw Terminals
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Supervisory Loops Available Upon Request
  - ◆ Switches and Magnets Available Separately
- ◆ Colors: White, Brown, Gray, Almond ◆ Lifetime Warranty



2020-12



2020-T

### PART NUMBERS:

|                         | <b>Closed Loop</b>      | <b>Open Loop</b>        | <b>SPDT</b> | <b>DPDT</b> |
|-------------------------|-------------------------|-------------------------|-------------|-------------|
| Standard Gap 1/2" +     | 2020-12<br>2020-T       | 3030-12<br>3030-T       | 4040-12     | 4545-12     |
| Wide Gap 1" +           | 2020-12WG<br>2020-TWG   | 3030-12WG<br>3030-TWG   | 4040-12WG   | 4545-12WG   |
| Extra Wide Gap 1 1/2" + | 2020-12XWG<br>2020-TXWG | 3030-12XWG<br>3030-TXWG | 4040-12XWG  |             |

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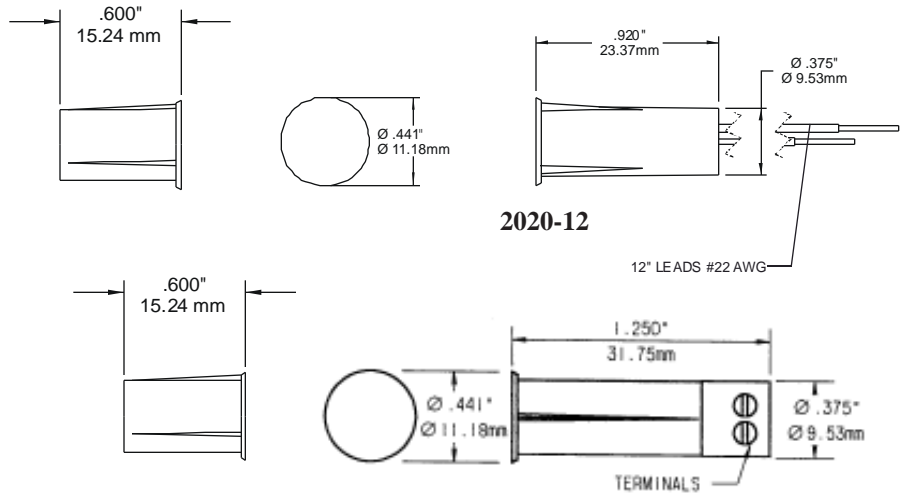


# 3/8" DIAMETER RECESSED SWITCH SET

## INSTALLATION APPLICATIONS:

G.R.I.'s 3/8" recessed press-to-fit contacts can be installed in many different positions to accommodate a variety of applications. The switch and magnet can be mounted end-to-end within an imaginary arc around the switch, or parallel to the switch. When the application calls for a wide gap switch, install the painted end of the bare magnet facing the switch as they are polarity sensitive. The switch and magnet should never form a "T" configuration when installed.

If this series is to be used in a steel door application, G.R.I.'s PA-75 adaptor should be used with a wide gap switch.



## GRI products meet or exceed these minimum general specifications:

2020-T

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 2020-12     | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 2020-12WG   | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .400                          |
| 2020-12XWG  | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .400                          |
| 2020-T      | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 2020-TWG    | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 2020-TXWG   | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 3030-12     | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 3030-12WG   | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 3030-12XWG  | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 3030-T      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 3030-TWG    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 3030-TXWG   | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4040-12     | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4040-12WG   | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4040-12XWG  | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4545-12     |             | DPDT               | C X 2     | .140                                   | 5                          | 175VDC                          | .250                          |
| 4545-12WG   |             | DPDT               | C X 2     | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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G.R.I. PLAZA  
KIMBALL, NE 69145



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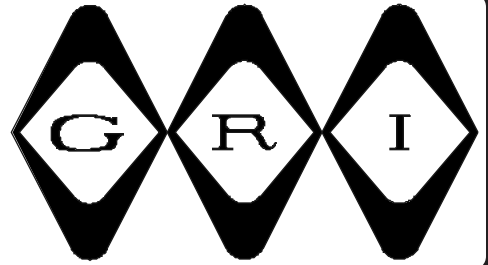
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(308) 235-4645

FAX (308) 235-3561

E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)

WEB SITE: [www.grisk.com](http://www.grisk.com)

# RECESSED 3/8" FLANGED SWITCH SET



## 20F/20 OF SERIES

- ◆ Recessed Magnetic Contact
- ◆ Round or Oval Screw Down Flange
- ◆ 12" Leads #22AWG Leads
  - ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed
- ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Mounting Hardware Included
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Switches and Magnets Available Separately
  - ◆ Colors: White, Brown, Gray, Black
  - ◆ Lifetime Warranty



20F-12



200F-12

### PART NUMBERS:

|                                | <b>Closed Loop</b>       | <b>Open Loop</b>         | <b>SPDT</b>              | <b>DPDT</b>              |
|--------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Standard<br>Gap 1/2" +         | 20F-12<br>20 OF-12       | 30F-12<br>30 OF-12       | 40F-12<br>40 OF-12       | 45F-12<br>45 OF-12       |
| Wide Gap<br>Gap 1" +           | 20F-12WG<br>20 OF-12WG   | 30F-12WG<br>30 OF-12WG   | 40F-12WG<br>40 OF-12WG   | 45F-12WG<br>45 OF-12WG   |
| Extra Wide Gap<br>Gap 1 1/2" + | 20F-12XWG<br>20 OF-12XWG | 30F-12XWG<br>30 OF-12XWG | 40F-12XWG<br>40 OF-12XWG | 45F-12XWG<br>45 OF-12XWG |

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KIMBALL, NE 69145



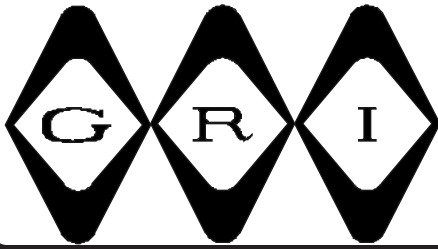
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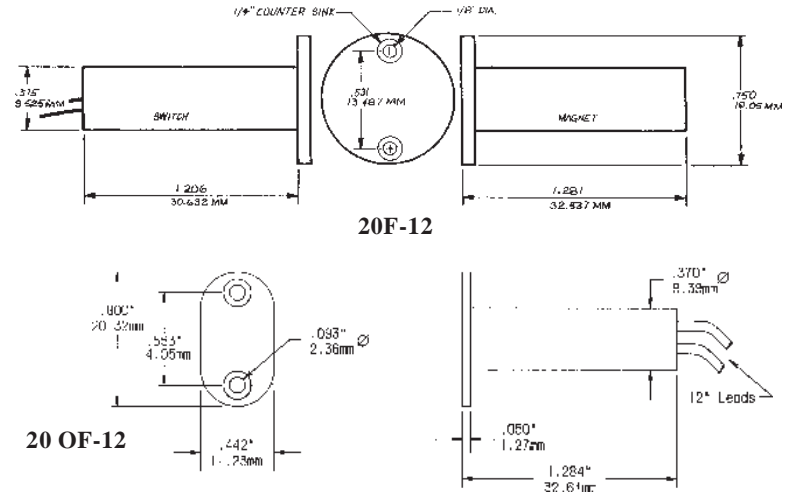
WEB SITE: [www.grisk.com](http://www.grisk.com)



# RECESSED 3/8" FLANGED SWITCH SET

## INSTALLATION APPLICATIONS:

The 20F and 20 OF series are a flush mount design that enable the installer to combine the security of a screw mount flanged switch with the concealment of a press fit switch. They have been used in hollow aluminum frames where inadequate material depth will not reliably retain a press fit switch and in holes that have been drilled or have somehow become slightly oversized. They are available in 1/2 inch to 1 1/2 inch gap and mounting hardware is provided.



## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 20F-12      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 20F-12WG    | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 20F-12XWG   | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 20 OF-12    | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 20 OF-12WG  | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 20 OF-12XWG | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 30F-12      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 30F-12WG    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 30F-12XWG   | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 30 OF-12    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 30 OF-12WG  | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 30 OF-12XWG | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 40F-12      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 40F-12WG    | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 40F-12XWG   | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 40 OF-12    | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 40 OF-12WG  | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 40 OF-12XWG | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 45F-12      | Open/Closed | DPDT               | Cx2       | .140                                   | 5                          | 175VDC                          | .250                          |
| 45F-12WG    | Open/Closed | DPDT               | Cx2       | .140                                   | 5                          | 175VDC                          | .250                          |
| 45 OF-12    | Open/Closed | DPDT               | Cx2       | .140                                   | 5                          | 175VDC                          | .250                          |
| 45 OF-12WG  | Open/Closed | DPDT               | Cx2       | .140                                   | 5                          | 175VDC                          | .250                          |
| 45 OF-12XWG | Open/Closed | DPDT               | Cx2       | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

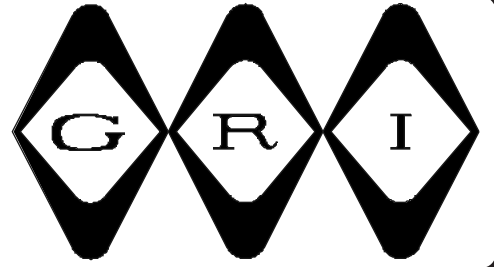
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KIMBALL, NE 69145



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WEB SITE: www.grisk.com

# RECESSED 3/8" RIBBED SWITCH SET



## 2120-12 Series

- ◆ Recessed Magnetic Contact
- ◆ Press To Fit     ◆ 12" #22AWG Leads
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed     ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Supervisory Loops Upon Request
  - ◆ Switches and Magnets Available Separately
- ◆ Color: White, Brown     ◆ Lifetime Warranty
- ◆ Protects Reed From Swelling Wood and Header Shift
  - ◆ Covers Over-drilled Holes     ◆ Self-centering
- ◆ Solves Angled Wire Path Problems     ◆ Ribbed Design Allows Secure Fit



2120-12

### PART NUMBERS

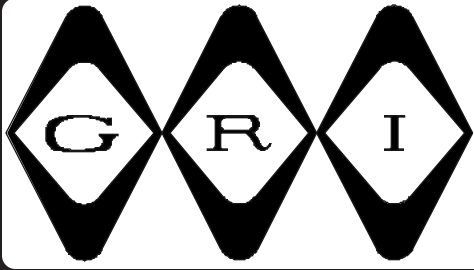
|                     | <b>Closed Loop</b> | <b>Open Loop</b> | <b>SPDT</b> |
|---------------------|--------------------|------------------|-------------|
| Standard Gap 1/2" + | 2120-12            | 2130-12          | 2140-12     |
| Wide Gap 1" +       | 2120-12WG          | 2130-12WG        | 2140-12WG   |

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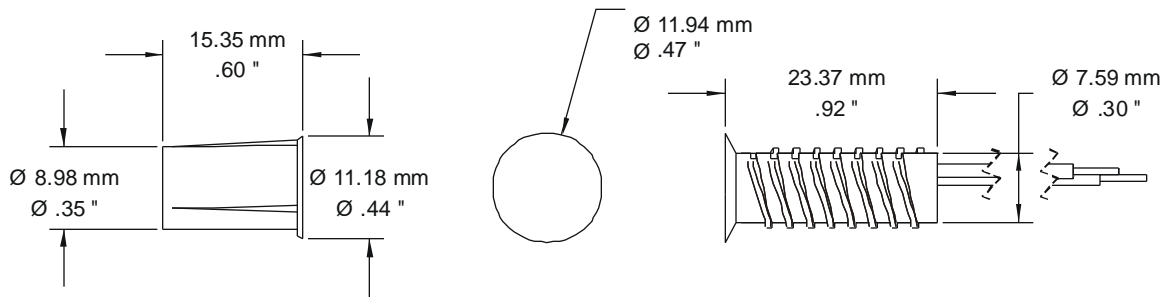
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# RECESSED 3/8" RIBBED SWITCH SET

## INSTALLATION APPLICATIONS:

The GRI 2120 Ribbed Switch, designed to complete a multi-task role, is a unique combination of special features and materials. The unusual ribbed outside diameter permits a secure mounting over a wide range of drilled hole sizes. The installer does not have to glue this recessed switch into a slightly oversized hole, as the flexible ribs conform as it is pressed into the wood. Self adjusting to fit the larger hole, the 2120 also centers itself to the coverage of the misdrilled hole. Picked especially for the 2120 Ribbed Switches, a new material with enhanced memory properties allows the ribbed "O" rings to flex enough to fit an undersized hole but still maintain a firm holding force in an oversized hole. This mix of features yields an additional bonus in that it provides a high degree of protection from crushing, such as that encountered when wood swells or headers shift. Finally, for installations utilizing an angled wire path away from the hole drilled for the switch barrel, the 2120 merely needs to be aligned with one flat side along the path drilled for the lead wire and press fit. The ribbed rings, not being continuous, simply adjust to the wire and allow for an easy and quick install.



2120-12

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | SWITCH ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|---------------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 2120-12     | Closed      | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| 2120-12WG   | Closed      | N/O                       | A         | .150                                   | 10                         | 200                             | .400                          |
| 2130-12     | Open        | N/C                       | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 2130-12WG   | Open        | N/C                       | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 2140-12     | Open/Closed | SPDT                      | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 2140-12WG   | Open/Closed | SPDT                      | C         | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

*Contact your GRI Distributor or call:*

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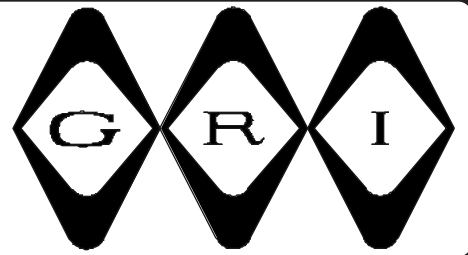
TOLL-FREE 1-800-445-5218  
TOLL-FREE 1-800-523-1227  
(308) 235-4645

FAX (308) 235-3561


E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)

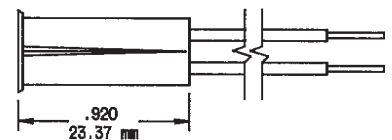
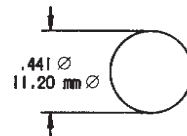
WEB SITE: [www.grisk.com](http://www.grisk.com)

# RECESSED 3/8" SWITCH SET

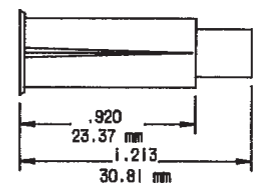
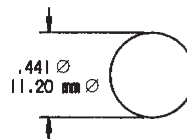


## 5065 SERIES

- ◆ One Inch Plus Standard Gap
- ◆ 3/8" Diameter Press Fit
- ◆ Standard 12" Leads #22 AWG
- ◆ Available in White (P/N 5065) 
- ◆ Available in Brown (P/N/ 5066)



SWITCH



MAGNET

**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | GAP  | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 5065        | CLOSED    | N/O                | 1" + | A         | .150                                   | 10                         | 200                             | .500                          |
| 5066        | CLOSED    | N/O                | 1" + | A         | .150                                   | 10                         | 200                             | .500                          |

### WARRANTY

Lifetime warranty against workmanship, material and factory defects.

**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

GEORGERISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

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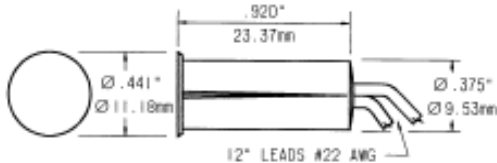
# RECESSED 3/8" SWITCH SET

## 5088/5088RS SERIES

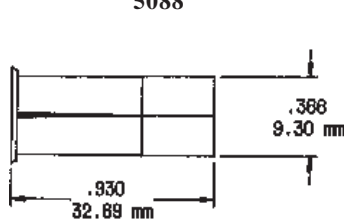
- ◆ Solves Problem Installs On Aluminum & Vinyl Windows
- ◆ 3/8" Diameter Press Fit
- ◆ 1/8" x 3/8" x 7/8" Flat Magnet
- ◆ Available in White, Brown Or Gray
- ◆ 12" Leads Or Terminal Blocks
- ◆ Also Available In GRI's "Stubby" 3/8" x 5/8" Case



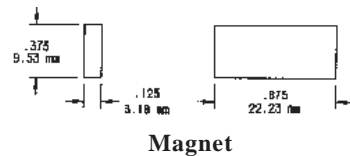
5088



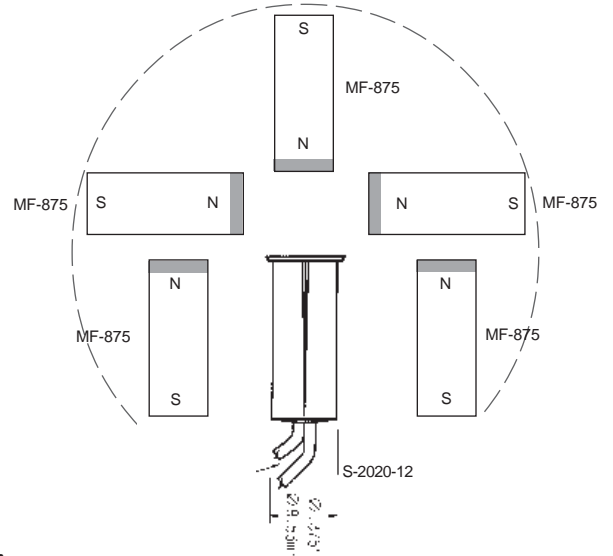
5088



5088RS-T



Magnet



### GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | GAP    | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE ( $\Omega$ ) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|--------|-----------|---|----------------------------|---------------------------------|-------------------------------|
| 5088        | CLOSED    | N/O                | 1/2" + | A         | .150  | 10                         | 200                             | .500                          |
| 5088WG      | CLOSED    | N/O                | 1" +   | A         | .150  | 10                         | 200                             | .500                          |
| 5088-T      | CLOSED    | N/O                | 1/2" + | A         | .150  | 10                         | 200                             | .500                          |
| 5088-TWG    | CLOSED    | N/O                | 1" +   | A         | .150  | 10                         | 200                             | .500                          |
| 5088RS      | CLOSED    | N/O                | 1/4" + | A         | .150  | 10                         | 200                             | .500                          |
| 5088RS-WG   | CLOSED    | N/O                | 1/2" + | A         | .150  | 10                         | 200                             | .500                          |
| 5088RS-T    | CLOSED    | N/O                | 1/4" + | A         | .150  | 10                         | 200                             | .500                          |
| 5088RS-TWG  | CLOSED    | N/O                | 1/2" + | A         | .150  | 10                         | 200                             | .500                          |

### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

### CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

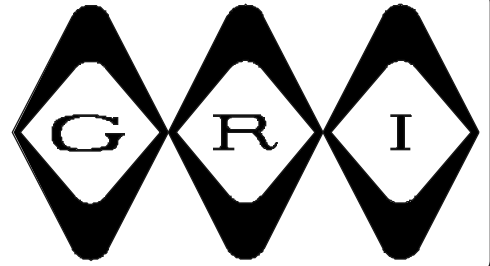
TOLL-FREE 1-800-445-5218  
TOLL-FREE 1-800-523-1227  
(308) 235-4645

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E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)

WEB SITE: [www.grisk.com](http://www.grisk.com)

# RECESSED 1/2" SHORT SWITCH SET

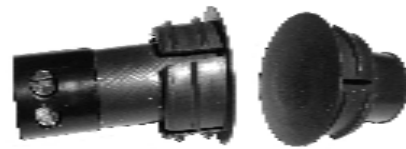


## 150RS SERIES

- ◆ 12" #22AWG Leads or Screw Terminals
- ◆ Designed For Hollow Core Doors & Windows
  - ◆ Hole Size Allows For Extra Wire, etc.
    - ◆ 1/2" + Standard Gap
- ◆ Installs Firmly In Wood, Vinyl And Aluminum
- ◆ Recessed Magnetic Contact ◆ Press or Snap Fit
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
    - ◆ Supervisory Loops Upon Request
  - ◆ Switches and Magnets Available Separately
  - ◆ Color: White & Brown ◆ Lifetime Warranty



150RS-12



150RS-T

### PART NUMBERS

|                   |                                |
|-------------------|--------------------------------|
| Standard Gap 1/2" | <b>Closed Loop</b><br>150RS-12 |
| Standard Gap 1/2" | 150RS-T                        |
| Standard Gap 1/2" | N150RS-12                      |
| Wide Gap 3/4"     | N150RS-12WG                    |
| Standard Gap 1/2" | N150RS-T                       |
| Wide Gap 3/4"     | N150RS-TWG                     |

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GR.I. PLAZA  
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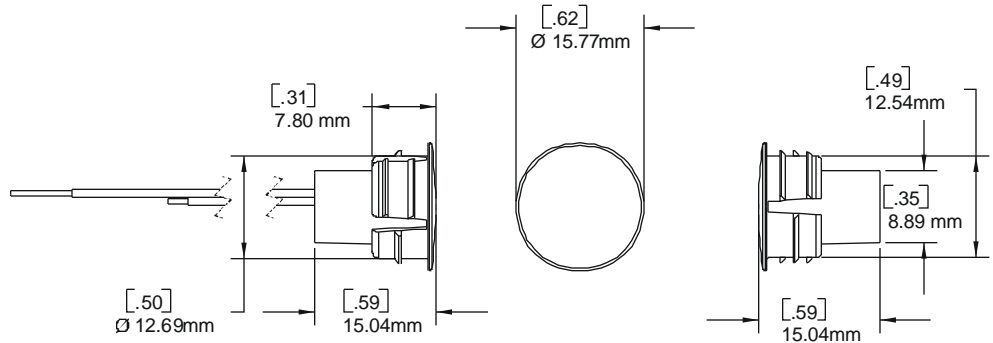
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(308) 235-4645 • FAX (308) 235-3561  
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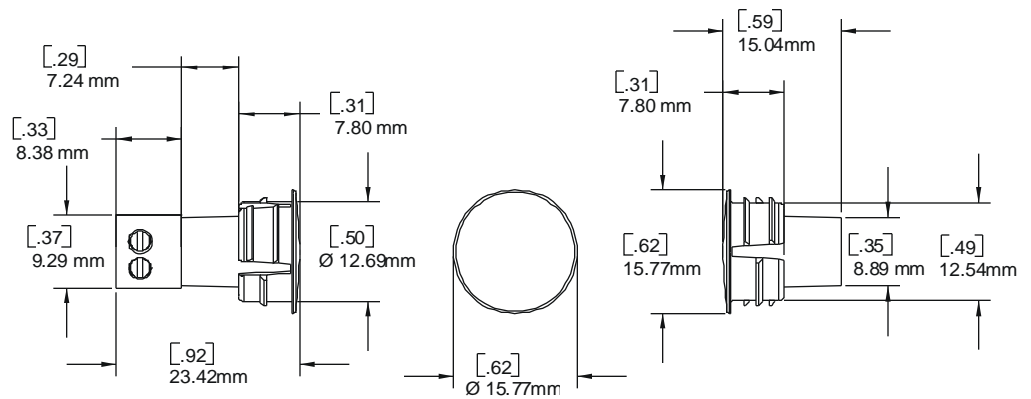
# RECESSED 1/2" SHORT SWITCH SET

Larger than 3/8" but smaller than 3/4", the GRI 150RS Series is a one-half inch diameter, flush mount contact. This 1/2" diameter design allows additional "working room" for extra wire, E.O.L. resistors, etc. Manufactured from a special polyvinyl material, the unique collar design will "press-fit" into hollow core aluminum or vinyl clad windows with a "snap-in" fit. The 150RS can be ordered with 12" leads or screw terminals.

The G.R.I. 150RS is paired with a matching 1/2" magnet case to offer the installer a 1/2" + gap. The 150RS switches can also be paired with any of the wide selection of G.R.I. magnets to help resolve difficult installation applications, including our MF-875. Patent Pending.



150RS-12



150RS-T

**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE | SWITCH ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|---------------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 150RS-12    | CLOSED    | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| 150RS-T     | CLOSED    | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| N150RS-12   | CLOSED    | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| N150RS-12WG | CLOSED    | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| N150RS-T    | CLOSED    | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| N150RS-TWG  | CLOSED    | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |

**WARRANTY:**

Lifetime warranty against workmanship, material and factory defects

**Contact your GRI Distributor or call:**

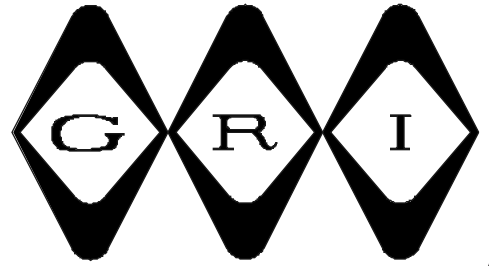
GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

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WEB SITE: [www.grisk.com](http://www.grisk.com)

# RECESSED 1/2" SWITCH SET



## 150 SERIES

- ◆ Designed For Hollow Core Doors & Windows
  - ◆ Hole Size Allows For Extra Wire, etc.
    - ◆ Up To One Inch Standard Gap
  - ◆ Installs Firmly In Wood, Vinyl And Aluminum
- ◆ Recessed Magnetic Contact ◆ Press or Snap Fit ◆ 12" #22AWG Leads
  - ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
    - ◆ Supervisory Loops Upon Request
  - ◆ Switches and Magnets Available Separately
  - ◆ Color: White & Brown ◆ Lifetime Warranty



150-12



150-T

### PART NUMBERS

|                       | <b>Closed Loop</b> | <b>Open Loop</b> | <b>SPDT</b> | <b>DPDT</b> |
|-----------------------|--------------------|------------------|-------------|-------------|
| Standard Gap Up To 1" | 150-12             | 160-12           | 170-12      | 175-12      |
| Standard Gap Up To 1" | 150-T              |                  |             |             |
| Wide Gap Up To 1 1/4" | 150-12WG           | 160-12WG         | 170-12WG    |             |
| Wide Gap Up To 1 1/4" | 150-TWG            |                  |             |             |
| Standard Gap 5/8" +   | 150MF-12           | 160MF-12         | 170MF-12    |             |
| Wide Gap 1" +         | 150MF-12WG         | 160MF-12WG       | 170MF-12WG  |             |

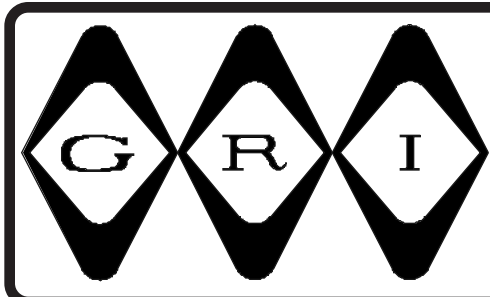
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KIMBALL, NE 69145



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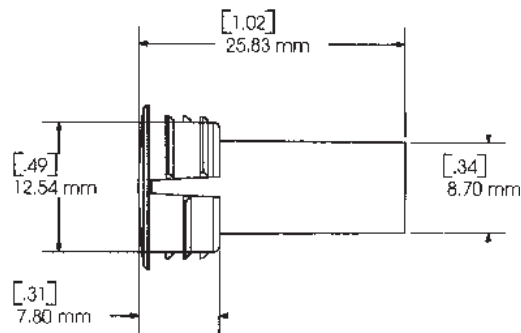
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WEB SITE: [www.grisk.com](http://www.grisk.com)

# RECESSED 1/2" SWITCH SET

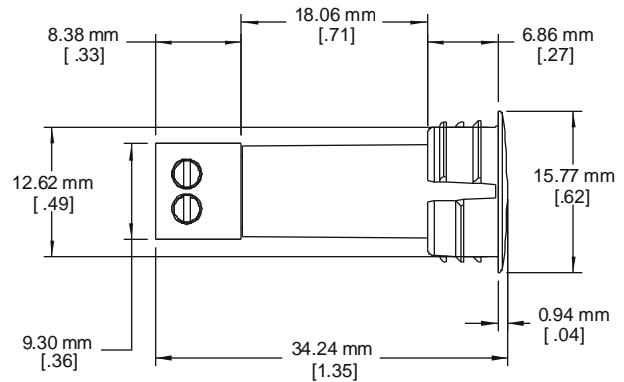


Larger than 3/8" but smaller than 3/4", G.R.I. introduces their newest innovative switch design, the one-half inch diameter, flush mount, 150-12. This new design is in response to requests from our customers for a switch that would give them additional "working room" for extra wire, E.O.L. resistors, etc., yet would more readily install in the increasingly popular hollow core windows. The G.R.I. 150-12 is a 1/2" diameter contact, manufactured from a special polyvinyl material with a unique collar design that will "press-fit" into wooden or vinyl clad windows with a "snap-in" fit for hollow core vinyl or aluminum windows.

The G.R.I. 150-12 is paired with a matching 1/2" magnet case to offer the installer up to a 1" gap. The 150 switch can also be paired with any of the wide selection of G.R.I. magnets to help resolve difficult installation applications, such as our MF-875. Patent Pending.



150-12



150-T

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | SWITCH ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|---------------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 150-12      | CLOSED      | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| 150-T       | CLOSED      | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| 150-12WG    | CLOSED      | N/O                       | A         | .150                                   | 10                         | 200                             | .400                          |
| 150-TWG     | CLOSED      | N/O                       | A         | .150                                   | 10                         | 200                             | .400                          |
| 150MF-12    | CLOSED      | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| 150MF-12WG  | CLOSED      | N/O                       | A         | .150                                   | 10                         | 200                             | .400                          |
| 160-12      | OPEN        | N/C                       | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 160-12WG    | OPEN        | N/C                       | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 160MF-12    | OPEN        | N/C                       | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 160MF-12WG  | OPEN        | N/C                       | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 170-12      | OPEN/CLOSED | SPDT                      | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 170-12WG    | OPEN/CLOSED | SPDT                      | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 170MF-12    | OPEN/CLOSED | SPDT                      | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 170MF-12WG  | OPEN/CLOSED | SPDT                      | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 175-12      | OPEN/CLOSED | DPDT                      | CX2       | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects

## Contact your GRI Distributor or call:

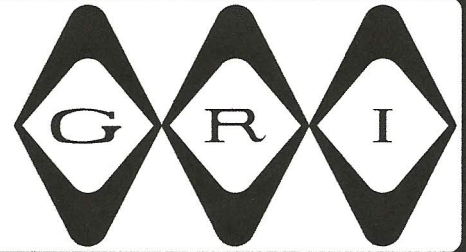
GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



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WEB SITE: [www.grisk.com](http://www.grisk.com)

# RECESSED 3/4" SWITCH SET

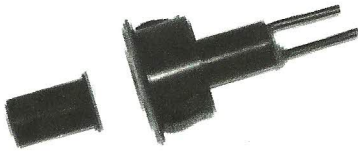


## 120T-12/4473 SERIES

**3/4" Switch, 3/8" Magnet For Wooden or Aluminum Door & Windows**



- ◆ Recessed Magnetic Contact
  - ◆ Press To Fit
  - ◆ Also Available in Stubby Version
  - ◆ 12" #22AWG Leads or Screw Terminals
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
  - ◆ Hermetically Sealed
  - ◆ Plated Contacts Resist Sticking or Freezing
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Supervisory Loops Upon Request
- ◆ Switches and Magnets Available Separately
  - ◆ Colors: White, Brown, Gray, Black
  - ◆ Lifetime Warranty



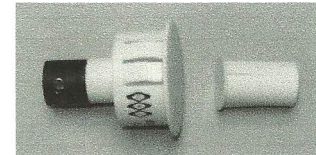
MM-9RS 120T-12



MM-9RS 4473



120RST-12



4473RS

### PART NUMBERS

|                         | <b>Closed Loop</b>                     | <b>Open Loop</b> | <b>SPDT</b> |
|-------------------------|--|------------------|-------------|
| Standard Gap 1/2" +     | 120T-12<br>120RST-12<br>4473<br>4473RS | 130T-12          | 140T-12     |
| Wide Gap 3/4" +         | 120T-12WG                              | 130T-12WG        | 140T-12WG   |
| Extra Wide Gap 1 1/2" + | 120T-12XWG                             | 130T-12XWG       | 140T-12XWG  |

GEORGERISK INDUSTRIES, INC.  
G.R.I. PLAZA  
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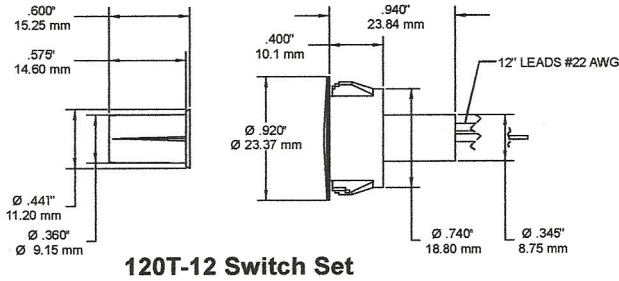
# RECESSED 3/4" SWITCH SET

## INSTALLATION INSTRUCTIONS:

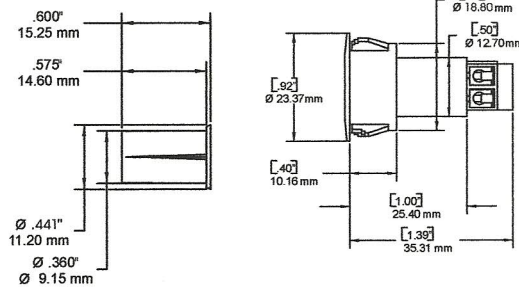
The 120T-12/4473 requires that a 3/4" hole be drilled for the switch and a 3/8" hole for the magnet. The 3/4" switch mounting is desirable since the extra wire and connections can be more easily inserted into the larger hole for concealment. Also, should the need arise for testing or replacement, it would be easy to pull the switch, extend the extra wire and access the original connections.

Installation is further enhanced by using a smaller 3/8" diameter magnet to avoid the need to center a larger hole in a 1" to 1 1/2" thick door or window. This will allow you to offset the magnet should it be required.

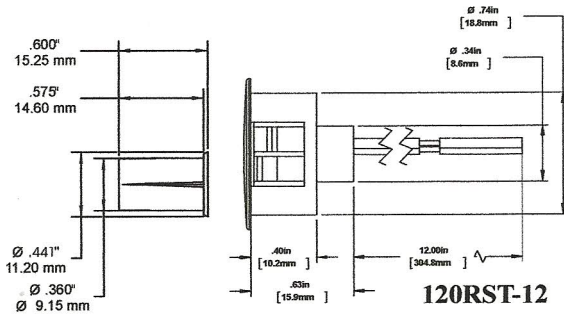
The 120T-12/4473 switch set was developed for and should only be used in openings with wooden or aluminum frames.



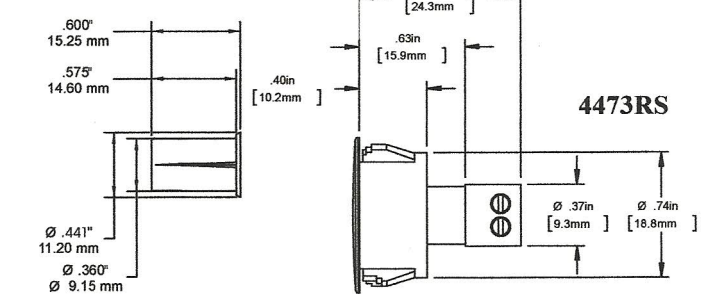
120T-12 Switch Set



4473 Switch Set



120RST-12



4473RS

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | SWITCH ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|---------------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 120T-12     | Closed      | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| 120RST-12   | Closed      | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| 120T-12WG   | Closed      | N/O                       | A         | .150                                   | 10                         | 200                             | .400                          |
| 120T-12XWG  | Closed      | N/O                       | A         | .150                                   | 10                         | 160                             | .400                          |
| 4473        | Closed      | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| 4473RS      | Closed      | N/O                       | A         | .150                                   | 10                         | 200                             | .500                          |
| 130T-12     | Open        | N/C                       | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 130T-12WG   | Open        | N/C                       | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 130T-12XWG  | Open        | N/C                       | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 140T-12     | Open/Closed | SPDT                      | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 140T-12WG   | Open/Closed | SPDT                      | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 140T-12XWG  | Open/Closed | SPDT                      | C         | .140                                   | 5                          | 175VDC                          | .250                          |

**WARRANTY:** Lifetime warranty against workmanship, material and factory defects

## Contact your GRI Distributor or call:

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



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WEB SITE: [www.grisk.com](http://www.grisk.com)

# DOOR CHANNEL MAGNET



## MC-180 SERIES

- ◆ The MC-180 is designed to be mounted in the top channel of a metal entry/exit door.
- ◆ Legs of the magnet case can be clipped to accommodate a more shallow channel.
- ◆  Indicates U.L. 10C Fire Rated




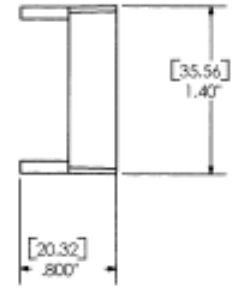
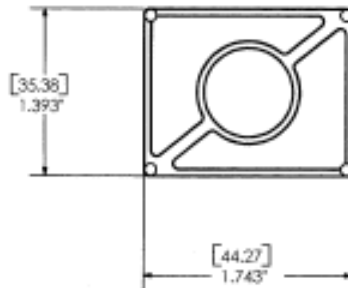
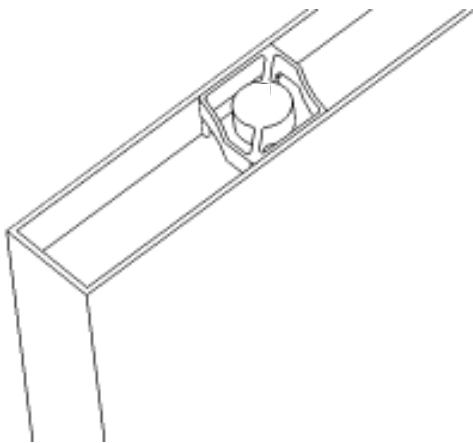
180MC-12 





8080-TMC



MC-180 



### PART NUMBERS:

|                                     |           | <b>Closed Loop</b> |  | <b>Open Loop</b> | <b>SPDT</b> | <b>DPDT</b> |
|-------------------------------------|-----------|--------------------|---|------------------|-------------|-------------|
| Standard Gap Up To 3/4"<br>On Steel | 3/4" Dia. | 180MC-12           |  | 185MC-12         | 190MC-12    | 195MC-12    |
|                                     | 1" Dia.   | 184MC-12           |   | 189MC-12         | 194MC-12    | 199MC-12    |
|                                     | 3/4" Dia. | 8080-TMC           |   | 8585-TMC         |             |             |
|                                     | 1" Dia.   | 8484-TMC           |   | 8989-TMC         |             |             |

### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

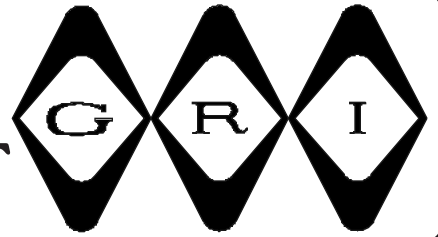
GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.




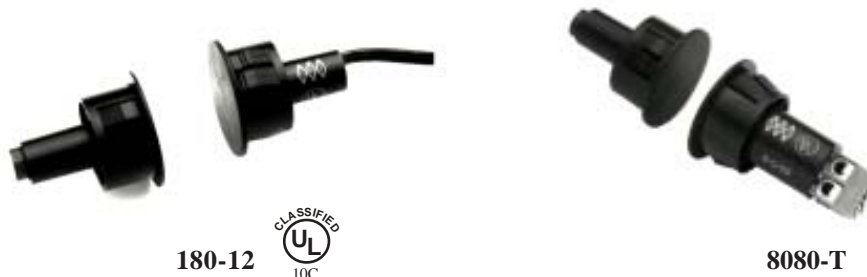
# RECESSED 3/4" & 1" STEEL DOOR SWITCH SET



## 180/184/8080-T SERIES



- ◆ Recessed Magnetic Contact
- ◆ 12" #22AWG Leads or Screw Terminals
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Supervisory Loops Upon Request
- ◆ Switches and Magnets Available Separately
  - ◆ Colors: White, Brown, Gray, Black
  - ◆  Indicates U.L. 10C Fire Rated





180-12



8080-T

### PART NUMBERS:

|                                      |           | Closed Loop |   | Open Loop | SPDT     | DPDT     |
|--------------------------------------|-----------|-------------|---|-----------|----------|----------|
| Standard Gap Up To 1/2"<br>On Steel* | 3/4" Dia. | 180-12      |  | 185-12    | 190-12   | 195-12   |
|                                      | 1" Dia.   | 184-12      |   | 189-12    | 194-12   | 199-12   |
|                                      | 3/4" Dia. | 8080-T      | 8585-T  |           |          |          |
|                                      | 1" Dia.   | 8484-T      | 8989-T  |           |          |          |
| Wide Gap 3/4" +<br>On Steel*         | 3/4" Dia. | 180-12WG    |  | 185-12WG  | 190-12WG | 195-12WG |
|                                      | 1" Dia.   | 184-12WG    |   | 189-12WG  | 194-12WG | 199-12WG |
|                                      | 3/4" Dia. | 8080-TWG    | 8585-TWG  |           |          |          |
|                                      | 1" Dia.   | 8484-TWG    | 8989-TWG  |           |          |          |

\*Gaps will increase substantially for installations other than steel

\*Gaps up to one inch on steel when paired with MC-180 Door Channel Magnet

7/8" Diameter Also Available. P/N 81-12 and 81-12WG. White or Black only. Please call factory.

### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

TOLL-FREE 1-800-445-5218

TOLL-FREE 1-800-523-1227

(308) 235-4645

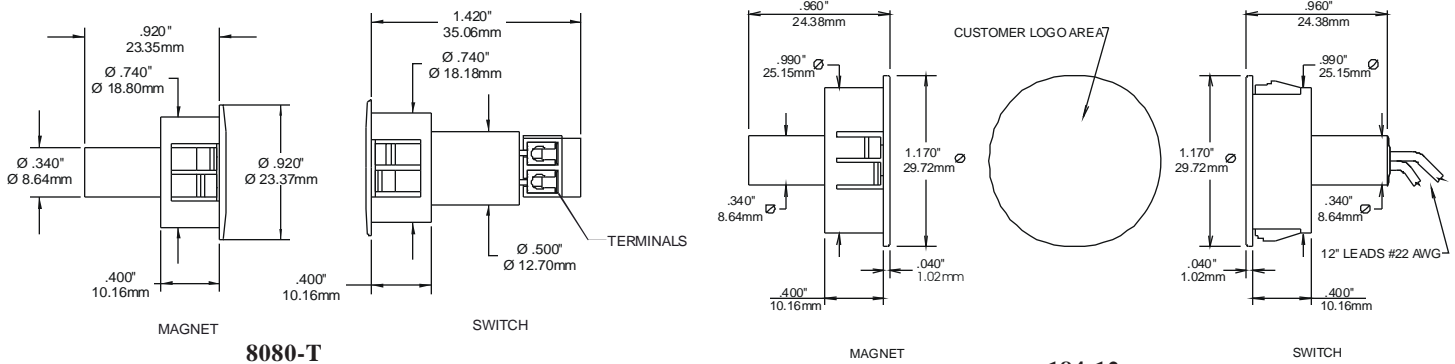
FAX (308) 235-3561

E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)

WEB SITE: [www.grisk.com](http://www.grisk.com)

# RECESSED 3/4" & 1" STEEL DOOR SWITCH SET

**INSTALLATION APPLICATIONS:** The G.R.I. 180-12 is the industry standard 3/4" diameter recessed steel door switch set with 12" leads. The innovative G.R.I. 8080-T series is a 3/4" diameter recessed switch set designed for residential, commercial and industrial steel doors and frames. The shorter length terminals makes the installation of the set quick and simple.



**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 180-12      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .400                          |
| 180-12WG    | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .400                          |
| 184-12      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .400                          |
| 184-12WG    | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .400                          |
| 8080-T      | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 8080-TWG    | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 8484-T      | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 8484-TWG    | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 185-12      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 185-12WG    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 189-12      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 189-12WG    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 8585-T      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 8585-TWG    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 8989-T      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 8989-TWG    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 190-12      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 190-12WG    | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 194-12      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 194-12WG    | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 195-12      |             | DPDT               | C X 2     | .140                                   | 5                          | 175VDC                          | .250                          |
| 195-12WG    |             | DPDT               | C X 2     | .140                                   | 5                          | 175VDC                          | .250                          |
| 199-12      |             | DPDT               | C X 2     | .140                                   | 5                          | 175VDC                          | .250                          |
| 199-12WG    |             | DPDT               | C X 2     | .140                                   | 5                          | 175VDC                          | .250                          |

**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

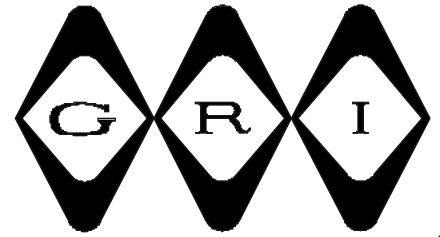
GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

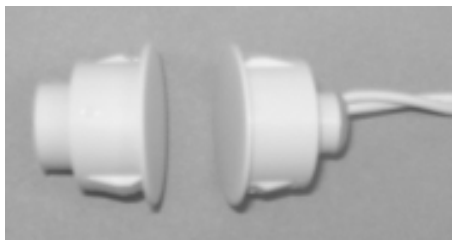
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TOLL-FREE 1-800-523-1227  
(308) 235-4645  
FAX (308) 235-3561  
E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
WEB SITE: [www.grisk.com](http://www.grisk.com)

# RECESSED 3/4" & 1" STUBBY STEEL DOOR SWITCH SET



## 180RS & 8080RS-T SERIES

- ◆ Recessed Magnetic Contact
- ◆ 12" #22AWG Leads or Screw Terminals
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
    - ◆ Supervisory Loops Upon Request
    - ◆ Colors: White, Brown, Gray, Black
    - ◆ Available Closed Loop Only



180RS-12



8484RS-T

### PART NUMBERS:

|                |           | <b>Closed Loop</b> |
|----------------|-----------|--------------------|
| Up To 5/8" Gap | 3/4" Dia. | 180RS-12           |
| On Steel*      | 1" Dia.   | 184RS-12           |
|                | 3/4" Dia. | 8080RS-T           |
|                | 1" Dia.   | 8484RS-T           |

\*Gaps will increase substantially for installations other than steel

### WARRANTY:

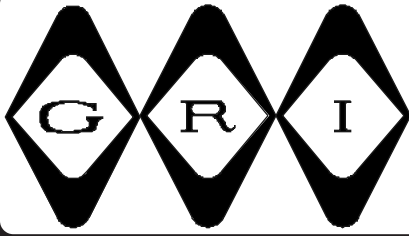
Lifetime warranty against workmanship, material and factory defects.

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145

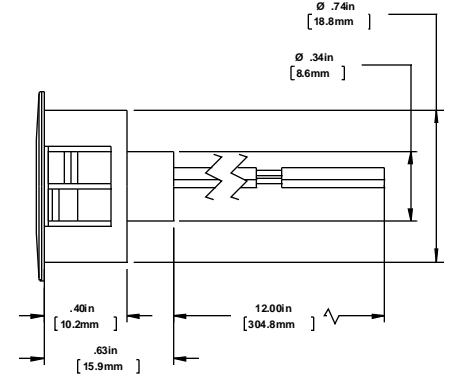
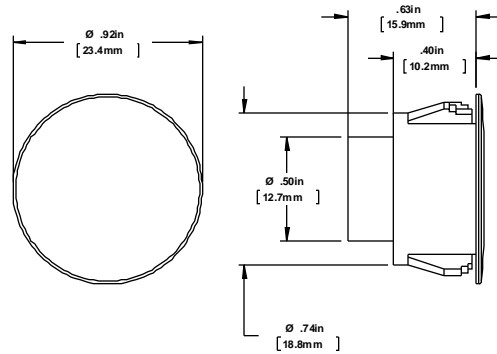


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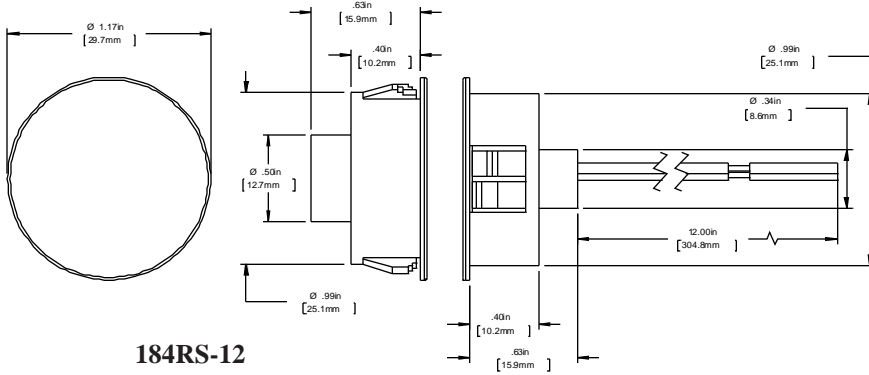
TOLL-FREE 1-800-445-5218  
TOLL-FREE 1-800-523-1227  
(308) 235-4645  
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E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
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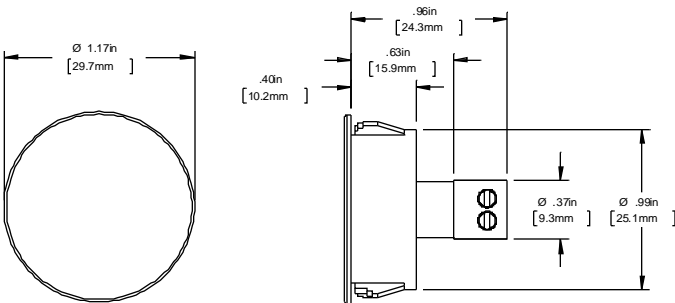
# RECESSED 3/4" & 1" STUBBY STEEL DOOR SWITCH SET



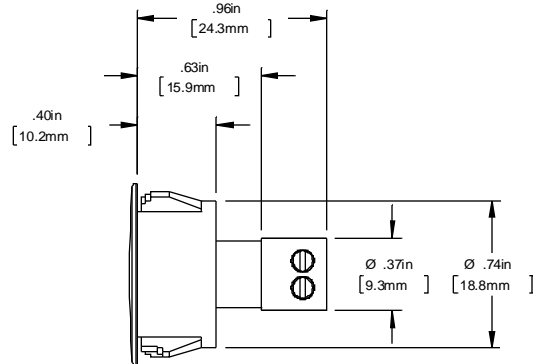
**180RS-12**



**184RS-12**



**8484RS-T**



**8080RS-T**

**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 180RS-12    | Closed    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 184RS-12    | Closed    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 8080RS-T    | Closed    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 8484RS-T    | Closed    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |

**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

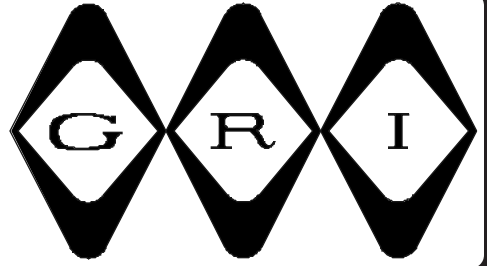
TOLL-FREE 1-800-445-52 • 1-800-523-1227  
(308) 235-4645 • FAX (308) 235-3561  
E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
WEB SITE: [www.grisk.com](http://www.grisk.com)



# ROLLER/PLUNGER SWITCHES



# 3/8" DIAMETER PLUNGER SWITCH



## PB/PBF-2020 Series

- ◆ Adjustable Screw Plunger
- ◆ 3/8" Diameter
- ◆ Single Drill Hole
- ◆ Press Fit or Flange
- ◆ Lifetime Warranty
- ◆ White, Brown and Gray
- ◆ 12" 22AWG Leads or Screw Terminals



PB-2020-T



PBF-2020

### Part Numbers:

|          |            |          |
|----------|------------|----------|
| PB-2020  | PB-2020-T  | PB-3030  |
| PBF-2020 | PBF-2020-T | PBF-3030 |

The 3/8" PB-2020 and PBF-2020 Switch Series is a unique switch package. Designed to incorporate a plunger, push-to-activate function, into the shortest - most compact package available! Promoted as a solution to securing the newest generation of vinyl extruded or custom type windows.

Available in press-to-fit or screw down flanges, the PB/PBF-2020 Series offers the installer a reed and magnet combination for more cost effective installs.

### GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| PB-2020     | CLOSED    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| PB-2020-T   | CLOSED    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| PBF-2020    | CLOSED    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| PBF-2020-T  | CLOSED    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| PB-3030     | OPEN      | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| PBF-3030    | OPEN      | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |

Travel: Total .250  
Pre Travel .110 ± .040

GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

TOLL-FREE 1-800-445-5218  
TOLL-FREE 1-800-523-1227  
(308) 235-4645  
FAX (308) 235-3561  
E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
WEB SITE: [www.grisk.com](http://www.grisk.com)



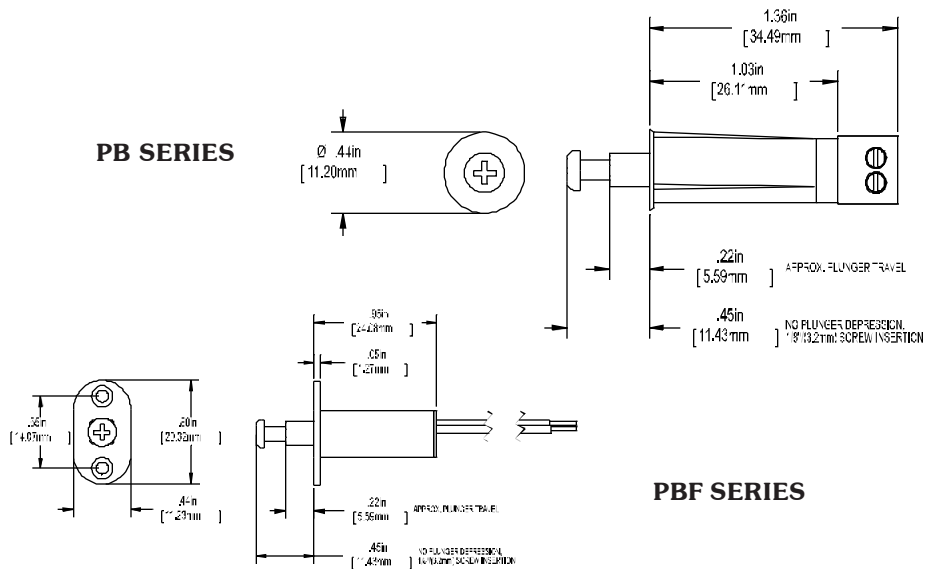
# 3/8" DIAMETER PLUNGER SWITCH

## INSTALLATION INSTRUCTIONS:

Installation requires that a single 3/8" hole be drilled, usually into the window frame, eliminating the troublesome and potentially costly hole in the window sash.

Make certain to properly adjust screw plunger prior to complete closing of window. Improper initial adjustment of screw could cause damage to the switch, resulting in a malfunction.

Available as a press fit or screw mount style with an adjustable length plunger. The PB/PBF Plunger Series may be the most versatile reed switch to date!



## PB SERIES

Measure gap from the mounting surface. Press plunger down on the switch and adjust screw so distance between top of screw and the mounting surface is 1/32" (.0312) less than gap. If gap is 3/16" or less, remove adjusting screw. Determine maximum plunger extension PRIOR to closing window or protected opening. Improper initial adjustment of screw could cause damage to the switch.

## PBF SERIES

Measure gap from the outside edge of the flange, not the mounting surface.



## CAUTION

For best performance, it is recommended that the installer slightly over drill the hole for the switch and make certain hole is free of debris. If the hole is too tight, it can interfere with operation of the switch. Do NOT paint the switch or spray or apply any lubricating material to this switch. Lubricants tend to collect dust, sand and other small items of debris. Any lubricant applied to the plunger switch will obstruct or at least hamper the performance. This switch is not recommended for the bottom track of windows or sliding doors.

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

GEORGERISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

TOLL-FREE 1-800-445-5218

TOLL-FREE 1-800-523-1227

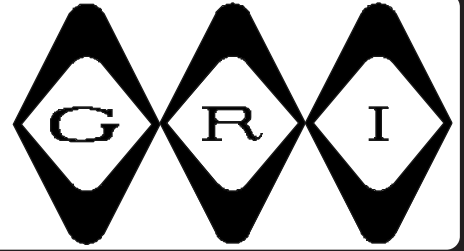
(308) 235-4645

FAX (308) 235-3561

E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)

WEB SITE: [www.grisk.com](http://www.grisk.com)

# PUSH BUTTON/ PLUNGER



## PB/PBF SERIES



- ◆ Recessed Magnetic Contact
- ◆ PB is 9/16" Press Fit    ◆ PBF is 3/4" x 1 1/2" With Screw Down Flange
  - ◆ 12" #22AWG Leads or Screw Terminals
  - ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed    ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Spacers and Mounting Hardware Included
- ◆ Built-in E.O.L Resistors and Diodes Upon Request
- ◆ Colors: White, Brown    ◆ Lifetime Warranty



**PB-100**



**PBF-100**



**PB-100T**



**PBF-100T**

**PART NUMBERS:**

|                | <b>Closed Loop</b>        | <b>Open Loop</b>    | <b>SPDT</b> |
|----------------|---------------------------|---------------------|-------------|
| Without Flange | PB-100<br>PB-100T         | PB-101<br>PB-101T   | PB-102      |
| With Flange    | PBF-100<br>PBF-100T       | PBF-101<br>PBF-101T | PBF-102     |
| Travel:        | Total        .270         |                     |             |
|                | Pre Travel    .090 ± .040 |                     |             |

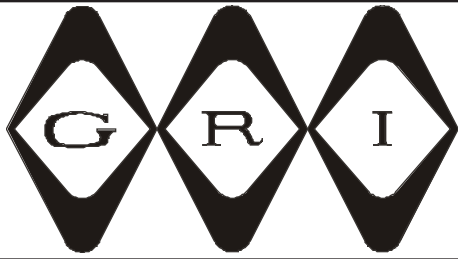
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G.R.I. PLAZA  
KIMBALL, NE 69145



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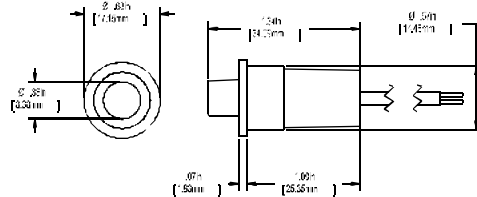


# PUSH BUTTON/ PLUNGER

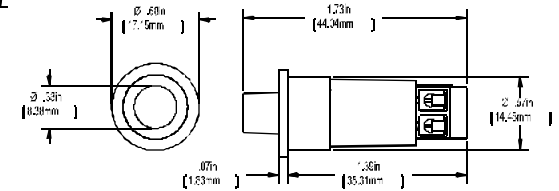
## INSTALLATION APPLICATIONS:

The Push Button or Plunger actuated PB series was developed as a direct replacement of an existing and problematic mechanical type contact. The PBF flange push button can be installed without re-drilling or redesigning the original installation. The sealed contacts of the reed switch insure a long service life. Plunger actuated reed switches have become so popular on new installations that many variations are now being produced. The PB-100 is a press fit design and eliminates the screw mounted flange. A terminal connection is offered on most models and this option can be added by including a T at the end of the part number — for example PB-100T.

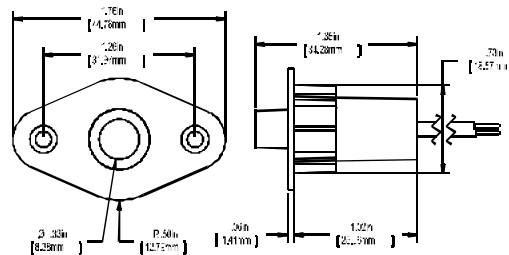
Important Note: G.R.I.'s push button contacts are not recommended for the bottom track of windows or doors.



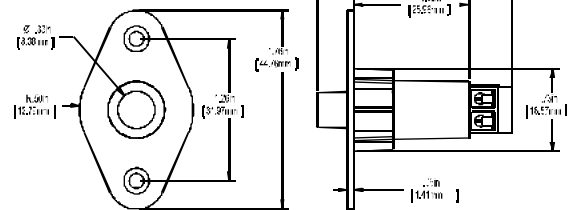
**PB-100**



**PB-100T**



**PBF-100**



## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| PB-100      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| PB-100T     | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| PBF-100     | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| PBF-100T    | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| PB-101      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| PB-101T     | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| PBF-101     | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| PBF-101T    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| PB-102      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| PBF-102     | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |

**PBF-100T**

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

TOLL-FREE 1-800-445-5218

TOLL-FREE 1-800-523-1227

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FAX (308) 235-3561

E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)

WEB SITE: [www.grisk.com](http://www.grisk.com)

# SHORT ROLLER BALL\*

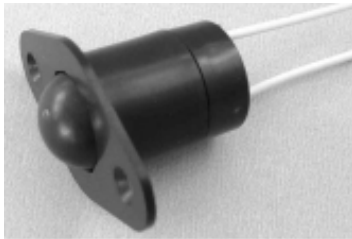


## DS-O1 SERIES



### \* Replaces the Dome Switch

- ◆ 360° of Ball Access, Provides Smooth Travel of the Plunger  
for Longer Life & Better Reliability
- ◆ Screw Down Flange ◆ 12" Wire Leads #22AWG or Screw Terminals
- ◆ Jacketed Cable, Zip Cord, Longer Leads Available On Request
- ◆ Hermetically Sealed ◆ Plated Contacts Resist Sticking and/or Freezing
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
- ◆ Spacer and Mounting Hardware Included ◆ Spacers Sold Separately
  - ◆ Supervisory Loops Upon Request
- ◆ Colors: White, Brown ◆ Lifetime Warranty



**DS-O1**



**DS-O1T**

#### PART NUMBERS:

|                | <b>Closed Loop</b> | <b>SPDT</b> |
|----------------|--------------------|-------------|
| 12" Wire Leads | DS-01              | DS-03       |
| Terminal Block | DS-01T             |             |
| Travel:        |                    |             |
| Total          | .200               |             |
| Pre Travel     | .080 ± .030        |             |

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

TOLL-FREE 1-800-445-5218  
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(308) 235-4645  
FAX (308) 235-3561  
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# SHORT ROLLER BALL

## INSTALLATION

### APPLICATION:

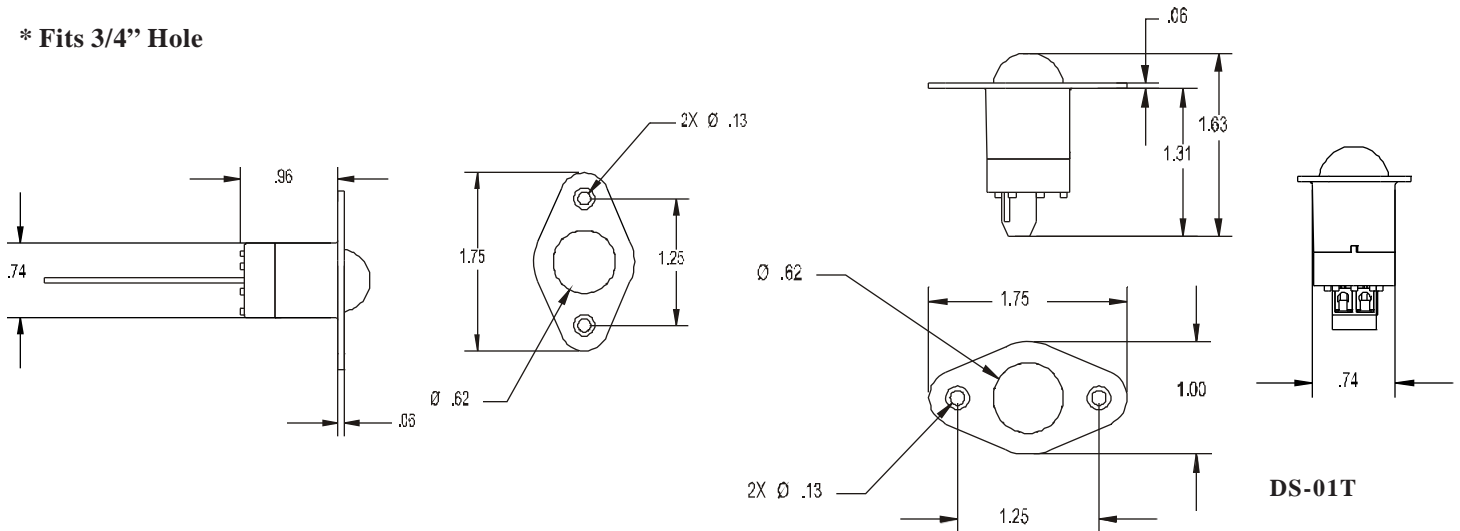
360° of ball access provides smooth travel of the ball downward resulting in longer life and better reliability. The shorter length of the body helps the installer by eliminating the need for a long, deep hole to allow for a switch housing. The collar is flanged to insure reliability with positioning and positive retention when the switch is installed.

GRI's creation of the new short roller ball style switch uses a magnetic reed with a rolling ball to control the magnet. The ball plunger can be activated from any direction.

Our improved Short Roller Ball Switch is actuated when the ball rolls into the switch rather than simply being forced into the housing.

**Important Note:** GRI's improved DS and RB Series of products are not recommended for the bottom or side track of windows and doors.

\* Fits 3/4" Hole



### GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| DS-01       | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| DS-01T      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| DS-03       | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |

### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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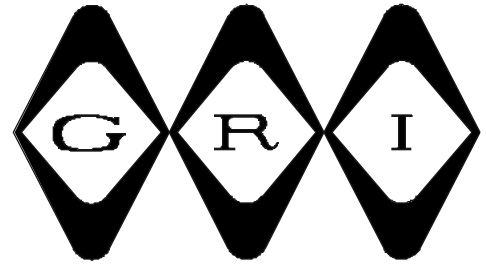
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# ROLLER BALL - PLUNGER CONTACT



## RB SERIES

- ◆ Works From All 360 Degree Directions
  - ◆ Screw Down Flange
  - ◆ 12" #22AWG Leads
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed    ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Spacers and Mounting Hardware Included
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Supervisory Loops Available Upon Request
  - ◆ Switches and Spacers Available Separately
- ◆ Colors: White, Brown    ◆ Lifetime Warranty
  - ◆ For Terminal Version Refer to DS-01T



**RB-01**

**PART NUMBERS:**

**Closed Loop**

RB-01

**Open Loop**

RB-02

**SPDT**

RB-03

|         |            |             |
|---------|------------|-------------|
| Travel: | Total      | .200        |
|         | Pre Travel | .080 ± .030 |

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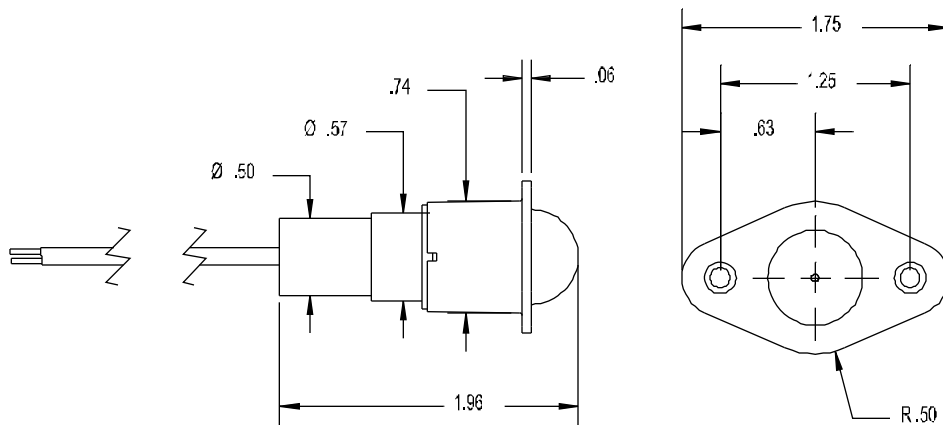
# ROLLER BALL - PLUNGER CONTACT

## INSTALLATION APPLICATIONS:

G.R.I.'s Roller Ball switch is a unique application of the magnetic reed, combining into a single package mechanical plunger action and the reliability of a hermetically sealed switch.

The ball plunger can be activated from any direction within 360 degrees, using a sliding motion such as that produced by the opening or closing of a door or window into its frame. But they also have been used very effectively as an interior trap device by mounting on a flat surface, such as a display table, and placing the protected object directly on the switch to conceal and actuate the roller ball. G.R.I. Roller Ball switches can work when nothing else will. Spacers and mounting hardware included with switch and also available separately. Not Recommended for the bottom track of doors or windows.

\* Fits 3/4" Hole



RB-01

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| RB-01       | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| RB-02       | Open        | N/C                | A         | .150                                   | 10                         | 200                             | .400VDC                       |
| RB-03       | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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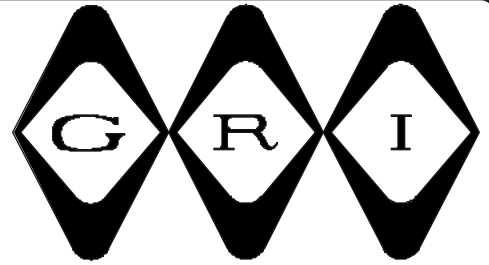


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# BOX TAMPER SWITCH



## TS-01 Box Tamper Series

- ◆ Environmentally Sealed Contacts
- ◆ Eliminates False Alarms and Nuisance Service Calls
- ◆ Magnetically Plunger Actuated
- ◆ No Blades To Corrode
- ◆ No More Switch Bounce
- ◆ Replaces Older Mechanical Tampers
- ◆ No Additional Hardware or Adapters Needed
- ◆ Longer Service Life
- ◆ Fits Most Bell, Siren and Control Panel Mounting Hole Patterns
- ◆ Use Indoors
- ◆ Vibration Free
- ◆ Install and Forget
- ◆ Available In Closed Loop, Open Loop and S.P.D.T.
- ◆ Available With Screw Terminals or Wire Leads
- ◆ Available With Built In Automatic Shunt Feature For System Servicing (gray); TS-01S/TSW-01S, or as a Non-Shunt Version: TS-01/TSW-01



**TS-01**  
Standard Available in Black  
With Shunt Available in Gray



**TSW-01**  
Standard Available in Black  
With Shunt Available in Gray

The shunt feature is activated by simply pulling on the plunger until it locks. In this position, the circuit is closed while the door is open to help make servicing easier.

When using the TS-01 series with the automatic service shunt it is important to **REMEMBER** to **fully depress (reset) the plunger prior to closing the cabinet/box door** and rearming that circuit. Failure to restore the plunger will cause the TS-01 to become erratic and not secure the zone circuit properly.

### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

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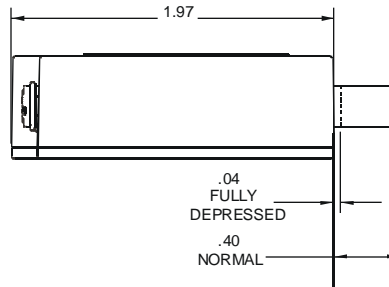
# BOX TAMPER SWITCH

### Installation Applications:

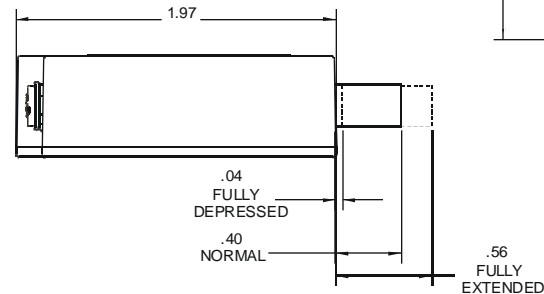
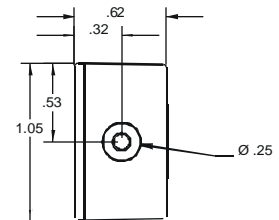
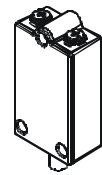
The TS-01 and TSW-01 magnetic reed, three hole box tamper switch is designed to fit almost all standard siren and panel boxes. Available with an adjustable plunger length, the TS-01 allows the installer to alarm the box to detect opening or prying to remove the box from its mounted position. Screw terminals or wire leads provide easy hook up.

Available in closed loop, open loop and S.P.D.T. Mounting hardware included.

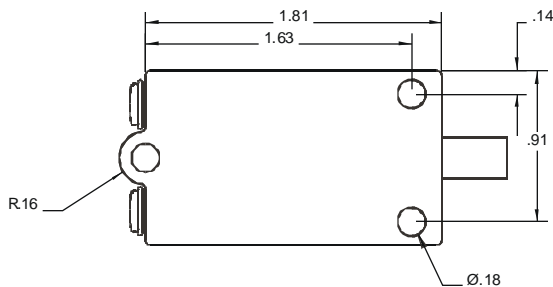
TSW-03 is available with leads only.



**All models without shunt  
(Leads not shown)**



**All models with shunt  
(Leads not shown)**



**Back - All models  
(Leads not shown)**

### GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| TS-01(S)    | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| TSW-01(S)   | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| TS-02(S)    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| TSW-02(S)   | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| TSW-03(S)   | Open/Closed | S.P.D.T.           | C         | .140                                   | 5                          | 175VDC                          | .250                          |

Approx. Total Travel: .415

Pre-Travel: Min .175 Max .240

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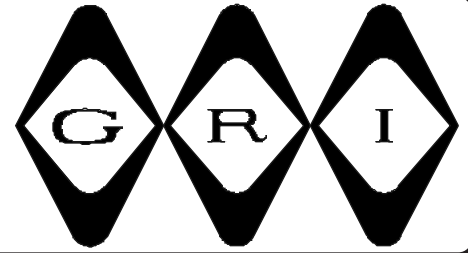
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WEB SITE: [www.grisk.com](http://www.grisk.com)

# TAMPER SWITCH



## TS-20 SERIES

- ◆ Recessed Adjustable Plunger (From 1/4" to 1/2")
- ◆ 3/8" Diameter (Smallest In The Industry)
- ◆ Easy To Install - Replaces Old Mechanical Tampers
- ◆ Strong Spring Action ◆ Press To Fit ◆ 12" #22AWG Leads
- ◆ Screw Down Flange on TS-20 For Positive Retention
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed ◆ Plated Contacts Resist Sticking or Freezing
- ◆ Mounting Hardware Included ◆ Supervisory Loops Upon Request
- ◆ Lifetime Warranty



**TS-20**  
**3/8" Drill Mount**



**TSC-20**  
**Clip Mounting**

| <b>PART NUMBERS:</b> |            | <b>Closed Loop</b> | <b>Open Loop</b> | <b>SPDT</b> |
|----------------------|------------|--------------------|------------------|-------------|
| Reed Plunger         |            | TS-20              | TS-30            | TS-40       |
| Screw Down Flange    |            |                    |                  |             |
| Reed Plunger         |            | TSC-20             | TSC-30           | TSC-40      |
| Clip Mounted         |            |                    |                  |             |
| Travel:              | Total      | .250               |                  |             |
|                      | Pre Travel | .105 ± .035        |                  |             |

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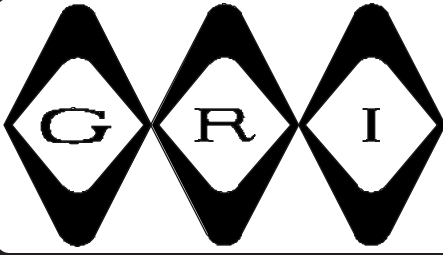


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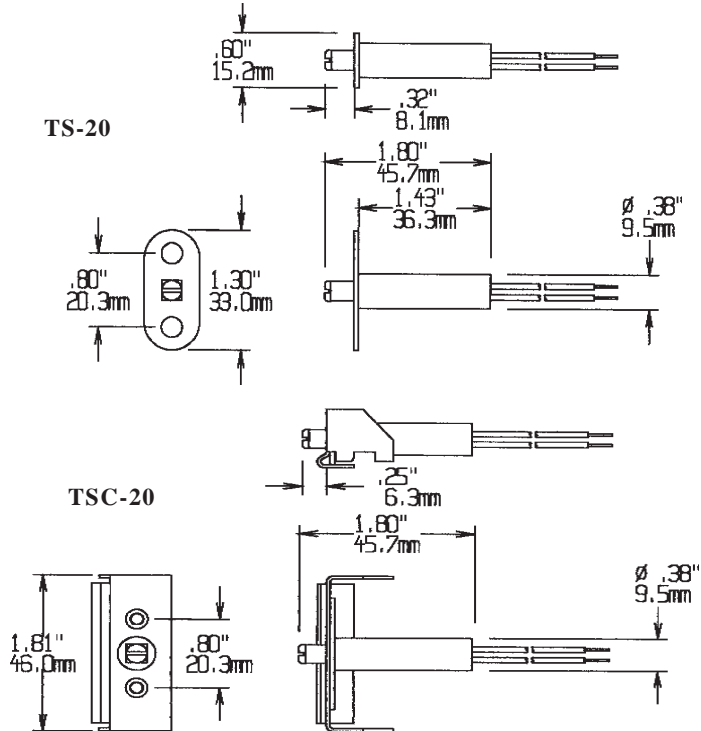




# TAMPER SWITCH

## INSTALLATION APPLICATIONS:

The adjustable plunger actuated TS series was developed to provide a tamper switch with a smaller diameter for applications where a normal plunger or roller ball type switch is too large. The 3/8" diameter is ideal for a variety of door and window applications. The oval flange allows the switch to be solidly anchored where needed. The design also resists locking problems caused by expansion or contraction. Available with a bracket for box tamper. Made of nylon for flexibility, the stainless steel spring and sealed contact insure a long service life.



## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| TS-20       | Closed      | N/O                | A         | .115                                   | 10                         | 200                             | .500                          |
| TSC-20      | Closed      | N/O                | A         | .115                                   | 10                         | 200                             | .500                          |
| TS-30       | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| TSC-30      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| TS-40       | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| TSC-40      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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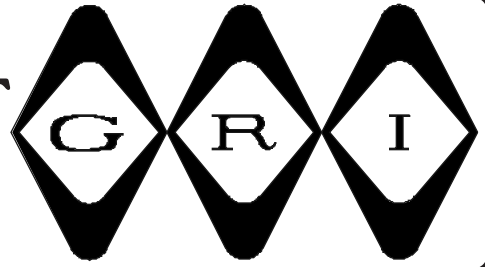
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# SURFACE MOUNT SWITCHES

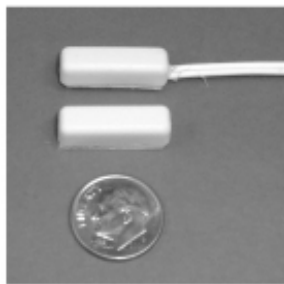


# MICRO SURFACE MOUNT SWITCH SET



## 500 SERIES

- ◆ Ideal For Residential Applications and Areas With Limited Space
  - ◆ Surface Mount Magnetic Contact
    - ◆ 12" #26AWG Leads
    - ◆ Longer Leads Upon Request
  - ◆ Plated Contacts Resist Sticking or Freezing
    - ◆ 3M Double Sided Tape Attached
- ◆ Switches and Magnets Available Separately
  - ◆ Colors: White, Brown
  - ◆ Lifetime Warranty



500



502

### PART NUMBERS:

|                     | Closed Loop |           | Open Loop |
|---------------------|-------------|-----------|-----------|
| Standard Gap 1/4" + | 500         | End Lead  | 501       |
|                     | 502         | Side Lead | 503       |

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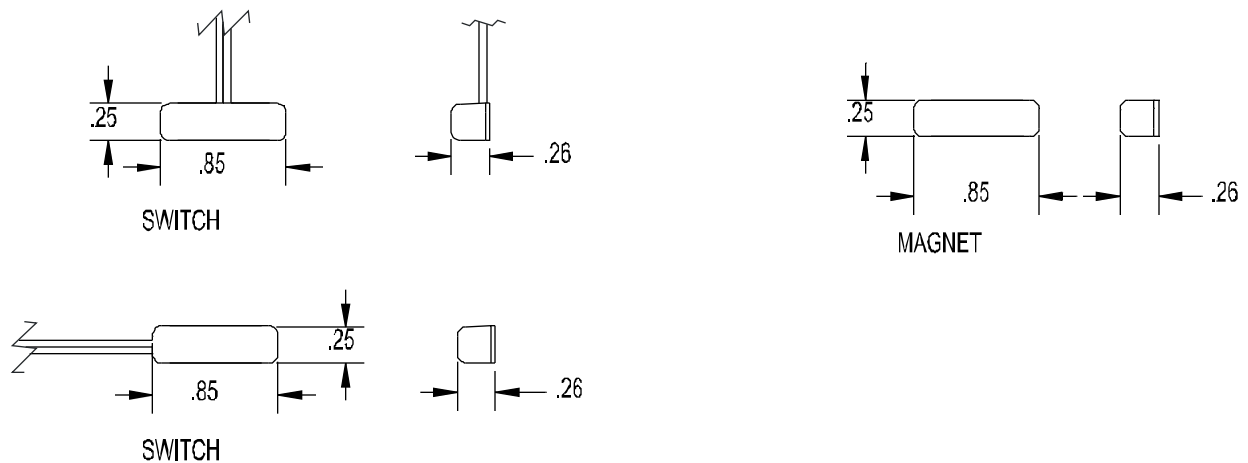
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WEB SITE: [www.grisk.com](http://www.grisk.com)



# MICRO SURFACE MOUNT SWITCH SET

## INSTALLATION APPLICATIONS:

The Micro 500 switch is aimed at residential applications where aesthetics and small size play a large consideration in the switch choice. It offers the installer alternative wire configurations, end or side leads and a choice of wire lengths. All help to make installations and connections quick and easy, saving you time and money. Available in regular gap of 1/4" +. The flexibility of its small overall size allow it to become part of the existing decor. It can be mounted and hidden, for example, in the track of a sliding door or crank out window. Offered in white or brown, with 3M double sided tape attached. Also available as switch only or magnet only.



500

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 500         | CLOSED    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 502         | CLOSED    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 501         | OPEN      | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 503         | OPEN      | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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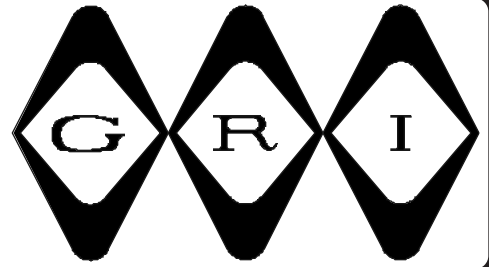
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# SUPER MINIATURE SURFACE MOUNT SWITCH SET



## 505 SERIES

- ◆ When a Surface Mount is a Must - 505 Is The Answer
- ◆ Ideal For Residential Applications and Areas With Limited Space
  - ◆ Surface Mount Magnetic Contact
    - ◆ 12" #22AWG Leads
    - ◆ Longer Leads, or Zip Cord Upon Request
    - ◆ Hermetically Sealed
    - ◆ Plated Contacts Resist Sticking or Freezing
- ◆ Mounting Brads and Die Cut Double Sided Tape Included
  - ◆ Switches and Magnets Available Separately
    - ◆ Colors: White, Brown
    - ◆ Lifetime Warranty



505

### PART NUMBERS:

Standard Gap 1/2" +

Wide Gap 3/4" +



#### Closed Loop

505

505WG



#### Open Loop

506

506WG

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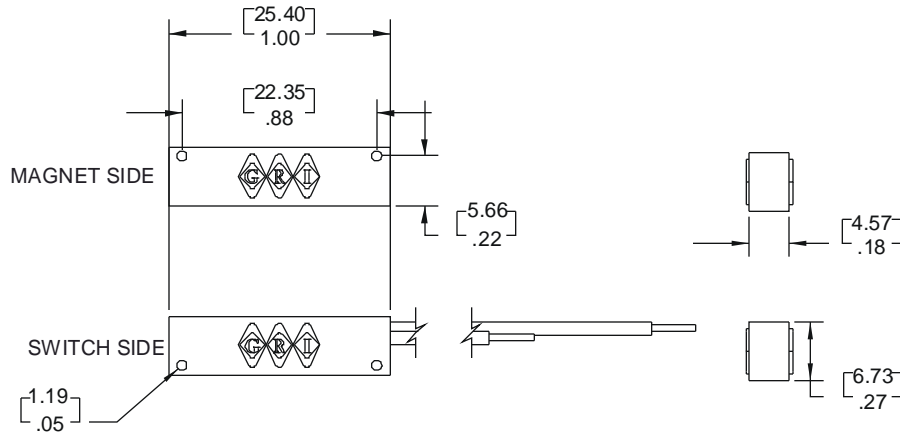
WEB SITE: [www.grisk.com](http://www.grisk.com)



# SUPER MINIATURE SURFACE MOUNT SWITCH SET

## INSTALLATION APPLICATIONS:

The 505 super miniature switch is aimed at residential applications where aesthetics and small size play a large consideration in the switch choice. It offers the installer two methods of mounting, alternative cable types (flying leads or zip cord) and a choice of cable lengths. All help to make installations and connections quick and easy, saving you time and money. Available in regular gap of 1/2" + and a 3/4" + wide gap version. The flexibility of its small overall size allow it to become part of the existing decor. It can be mounted and hidden, for example, in the track of a sliding door or crank out window. The brad holes in both switch and magnet should be opposing to achieve correct installation. Offered in a white or brown, with mounting brads and die cut double sided tape included with switch sets. Also available as switch only or magnet only.



505

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 505         | CLOSED    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 505WG       | CLOSED    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 506         | OPEN      | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 506WG       | OPEN      | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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GRI PLAZA  
KIMBALL, NE 69145

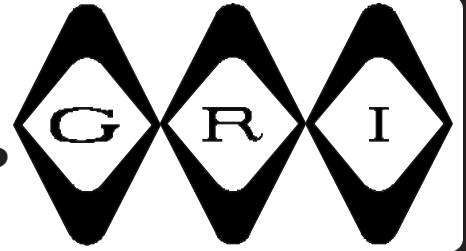


MADE IN U.S.A.

TOLL-FREE 1-800-445-5218  
TOLL-FREE 1-800-523-1227  
(308) 235-4645  
FAX (308) 235-3561

E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
WEB SITE: [www.grisk.com](http://www.grisk.com)

# CAPPED MINIATURE SURFACE MOUNT SWITCH SET, WIDE GAP



## 700 Series

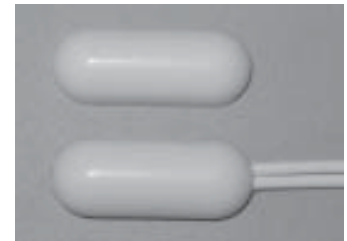
- ◆ Ideal For Residential Applications and Areas With Limited Space
  - ◆ No Drilling Into Window Frames
- ◆ Available With Terminal Connection, End Leads and Center Leads
  - ◆ 3/4" Gap
    - ◆ 12" #22AWG Leads
    - ◆ Longer Leads Upon Request
    - ◆ 3M Double Sided Tape Attached
  - ◆ Plated Contacts Resist Sticking or Freezing
- ◆ Switches and Magnets Available Separately
  - ◆ Colors: White and Brown
  - ◆ Lifetime Warranty



700-T



700CL-12



700EL-12

### PART NUMBERS:

|              | <b>Closed Loop</b> | <b>Open Loop</b> |
|--------------|--------------------|------------------|
| Standard Gap | 700-T              |                  |
| 3/4"         | 700EL-12           | 701EL-12         |
|              | 700CL-12           | 701CL-12         |

### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

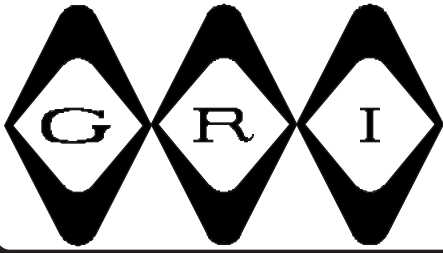
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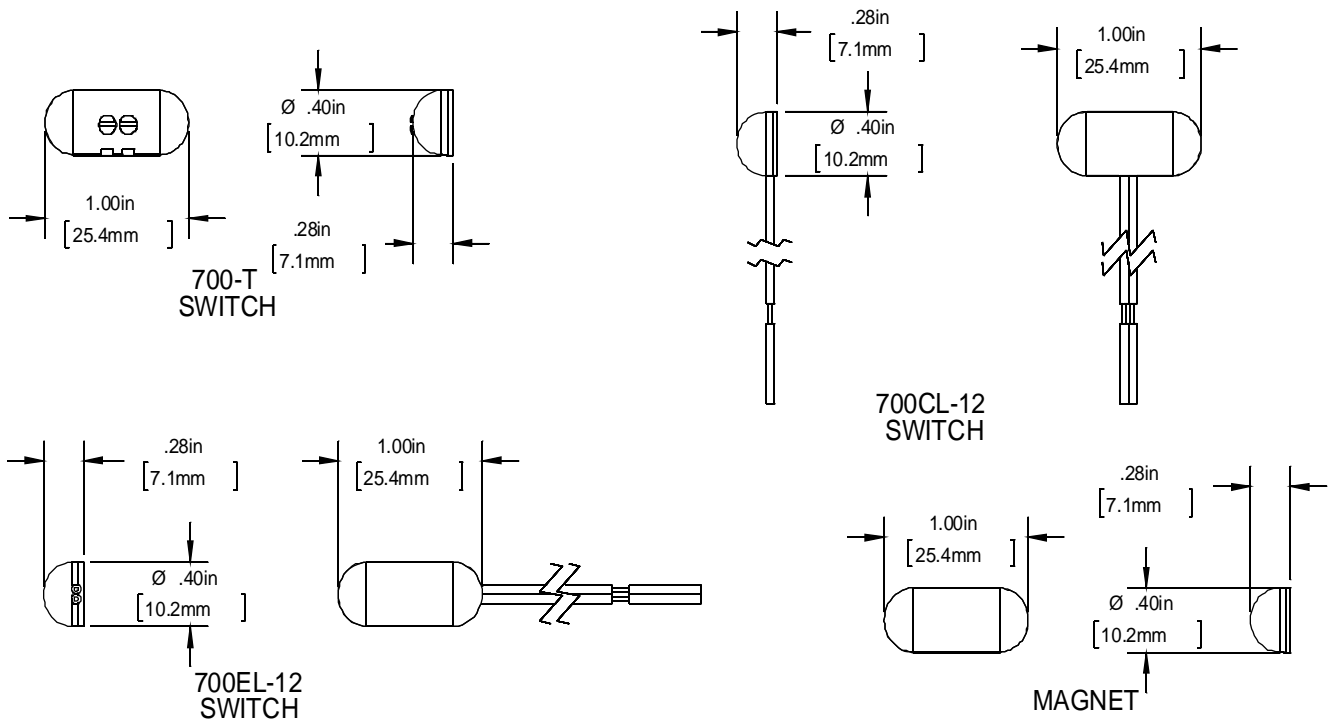
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# CAPPED MINIATURE SURFACE MOUNT SWITCH SET, WIDE GAP

## INSTALLATION APPLICATIONS:

The 700 Series switch is aimed at residential applications where aesthetics and small size play a large consideration in the switch choice. It offers the installer alternative wire configurations; terminal connections, end or center leads and a choice of wire lengths. All help to make installations and connections quick and easy, saving you time and money. Available in regular gap of 3/4". The flexibility of its small overall size allow it to become part of the existing decor without drilling into the window frame. Offered in white or brown, with 3M double sided tape attached. Also available as switch only or magnet only.



## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 700-T       | Closed    | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 700EL-12    | Closed    | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 700CL-12    | Closed    | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 701EL-12    | Open      | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 701CL-12    | Open      | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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KIMBALL, NE 69145



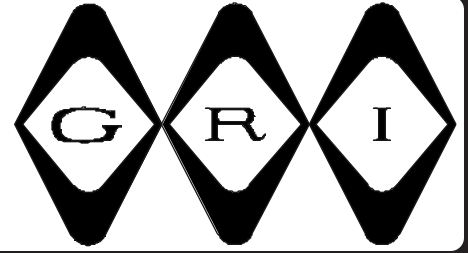
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# MINIATURE SURFACE MOUNT SWITCH SET



## 50, 50F & 55F SERIES

- ◆ Excellent For Residential Applications
  - ◆ Surface Mount Magnetic Contact
- ◆ Self Stick or Breakaway Screw Down Flange
  - ◆ Center or End 12" #22AWG Leads
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed    ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Mounting Hardware Included
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Supervisory Loops Upon Request
- ◆ Switches and Magnets Available Separately
- ◆ Colors: White, Brown, Gray, Almond    ◆ Lifetime Warranty



**50-12**



**50F-12**



**55F-12**

### PART NUMBERS:

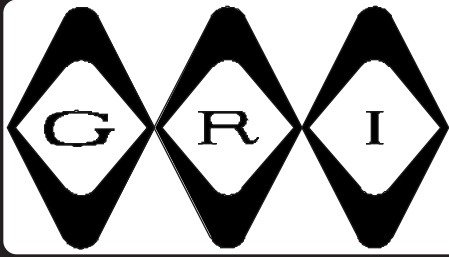
|                     | <b>Closed Loop</b>              | <b>Open Loop</b>                | <b>SPDT</b>                     |
|---------------------|---------------------------------|---------------------------------|---------------------------------|
| Standard Gap 1/2" + | 50-12<br>50F-12<br>55F-12       | 60-12<br>60F-12<br>65F-12       | 70-12<br>70F-12<br>75F-12       |
| Wide Gap 3/4" +     | 50-12WG<br>50F-12WG<br>55F-12WG | 60-12WG<br>60F-12WG<br>65F-12WG | 70-12WG<br>70F-12WG<br>75F-12WG |

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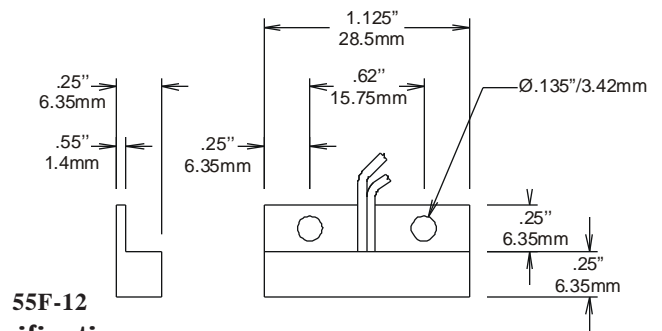
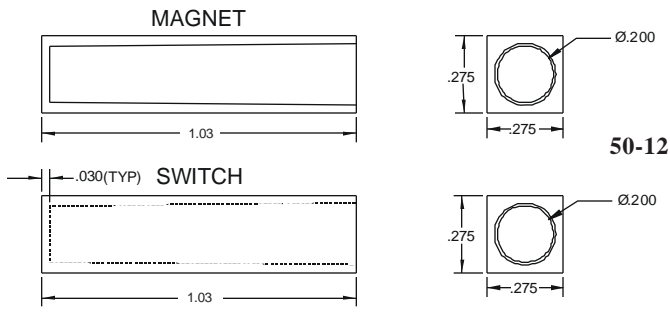
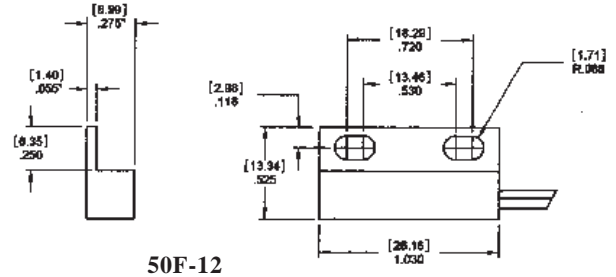
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# MINIATURE SURFACE MOUNT SWITCH SET

**INSTALLATION APPLICATIONS:** The G.R.I. 50, 50F and 55F series switch sets are the most chosen configurations for residential installations. Low profile and self adhesive 3M tape make installing the sets quick and simple. The 50F and 55F come with a breakaway flange for applications where screw mounts are advisable. The 50 type is self adhesive only. The 50 and 50F have 12" leads exiting the case on the end. The 55F has 12" leads exiting from the middle of the case. Available in open loop, closed loop and SPDT, regular and wide gap, White, Brown, Gray and Almond. All mounting hardware included.



**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 50-12       | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 50-12WG     | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 50F-12      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 50F-12WG    | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 55F-12      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 55F-12WG    | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 60-12       | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 60-12WG     | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 60F-12      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 60F-12WG    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 65F-12      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 65F-12WG    | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 70-12       | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 70-12WG     | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 70F-12      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 70F-12WG    | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 75F-12      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 75F-12WG    | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |

**WARRANTY:**

Lifetime warranty against workmanship, material and factory defects.

**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

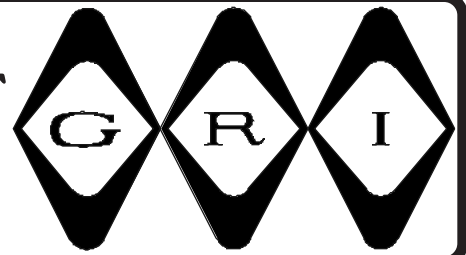
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# MINIATURE SURFACE MOUNT SWITCH SET



## 100/110 SERIES

- ◆ Miniature Profile Makes This Series Ideal For Residential and Light Commercial Applications
  - ◆ Surface Mount Magnetic Contact
- ◆ Screw Down Flange or Self Stick    ◆ 12" #22AWG Leads or Screw Terminals
  - ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed    ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Covers and Mounting Hardware Included
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Supervisory Loops Upon Request
  - ◆ Switches and Magnets Available Separately
- ◆ Colors: White, Brown, Gray, Almond    ◆ Lifetime Warranty
  - ◆ Private Labeling Upon Request



100-12



100-T



100-TC



110-12



110-T

### PART NUMBERS:

|                       | <b>Closed Loop</b> | <b>Open Loop</b> | <b>SPDT</b> |
|-----------------------|--------------------|------------------|-------------|
| Standard Gap Up To 1" | 100-12             | 101-12           | 102-12      |
|                       | 100-T              | 101-T            |             |
|                       | 100-TC             | 101-TC           |             |
|                       | 110-12             | 111-12           | 112-12      |
|                       | 110-T              | 111-T            |             |
| Wide Gap Up To 1 1/4" | 100-12WG           | 101-12WG         | 102-12WG    |
|                       | 100-TWG            | 101-TWG          |             |
|                       | 100-TCWG           | 101-TCWG         |             |
|                       | 110-12WG           | 111-12WG         | 112-12WG    |
|                       | 110-TWG            | 111-TWG          |             |

### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

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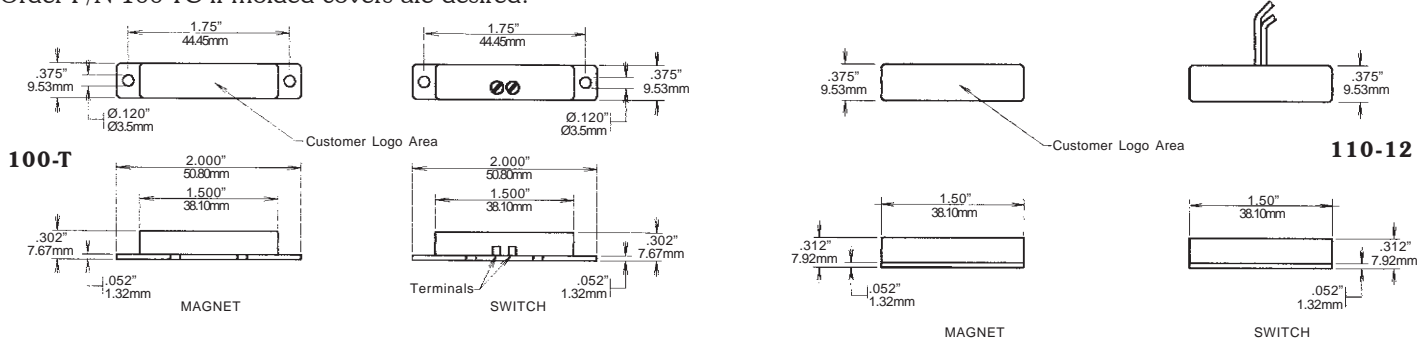
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# MINIATURE SURFACE MOUNT SWITCH SET

## INSTALLATION APPLICATIONS:

The G.R.I. 100 style switch is one of our most popular miniature surface mount switches. Available in both flanged: 100-12; and without flanges: 110-12; this low profile series is perfect for residential and commercial use where a larger configuration is not appropriate. Available in regular and wide gap, the set incorporates into most decor requirements without being noticeable. The 100-12 comes with mounting screws. Both the 100 and the 110 are furnished with 3M adhesive tape for proper mounting on aluminium, wood or vinyl. Spacers, switch only, magnet only and additional 3M adhesive tape are also available separately. Order P/N 100-TC if molded covers are desired.



## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE<br>(Ω) | MAXIMUM CONTACT RATING<br>(W) | MAXIMUM SWITCHING VOLTAGE<br>(VDC) | MAXIMUM SWITCHING CURRENT<br>(A) |
|-------------|-------------|--------------------|-----------|---|-------------------------------|------------------------------------|----------------------------------|
| 100-12      | Closed      | N/O                | A         | .150                                      | 10                            | 200                                | .500                             |
| 100-12WG    | Closed      | N/O                | A         | .150                                      | 10                            | 200                                | .500                             |
| 100-T       | Closed      | N/O                | A         | .150                                      | 10                            | 160                                | .400                             |
| 100-TWG     | Closed      | N/O                | A         | .150                                      | 10                            | 160                                | .400                             |
| 100-TC      | Closed      | N/O                | A         | .150                                      | 10                            | 160                                | .400                             |
| 100-TCWG    | Closed      | N/O                | A         | .150                                      | 10                            | 160                                | .400                             |
| 110-12      | Closed      | N/O                | A         | .150                                      | 10                            | 200                                | .500                             |
| 110-12WG    | Closed      | N/O                | A         | .150                                      | 10                            | 200                                | .500                             |
| 110-T       | Closed      | N/O                | A         | .150                                      | 10                            | 160                                | .400                             |
| 110-TWG     | Closed      | N/O                | A         | .150                                      | 10                            | 160                                | .400                             |
| 101-12      | Open        | N/C                | B         | .140                                      | 5                             | 175VDC                             | .250                             |
| 101-12WG    | Open        | N/C                | B         | .140                                      | 5                             | 175VDC                             | .250                             |
| 101-T       | Open        | N/C                | B         | .140                                      | 5                             | 175VDC                             | .250                             |
| 101-TC      | Open        | N/C                | B         | .140                                      | 5                             | 175VDC                             | .250                             |
| 101-TCWG    | Open        | N/C                | B         | .140                                      | 5                             | 175VDC                             | .250                             |
| 101-TWG     | Open        | N/C                | B         | .140                                      | 5                             | 175VDC                             | .250                             |
| 111-12      | Open        | N/C                | B         | .140                                      | 5                             | 175VDC                             | .250                             |
| 111-12WG    | Open        | N/C                | B         | .140                                      | 5                             | 175VDC                             | .250                             |
| 111-T       | Open        | N/C                | B         | .140                                      | 5                             | 175VDC                             | .250                             |
| 111-TWG     | Open        | N/C                | B         | .140                                      | 5                             | 175VDC                             | .250                             |
| 102-12      | Open/Closed | SPDT               | C         | .140                                      | 5                             | 175VDC                             | .250                             |
| 102-12WG    | Open/Closed | SPDT               | C         | .140                                      | 5                             | 175VDC                             | .250                             |
| 112-12      | Open/Closed | SPDT               | C         | .140                                      | 5                             | 175VDC                             | .250                             |
| 112-12WG    | Open/Closed | SPDT               | C         | .140                                      | 5                             | 175VDC                             | .250                             |

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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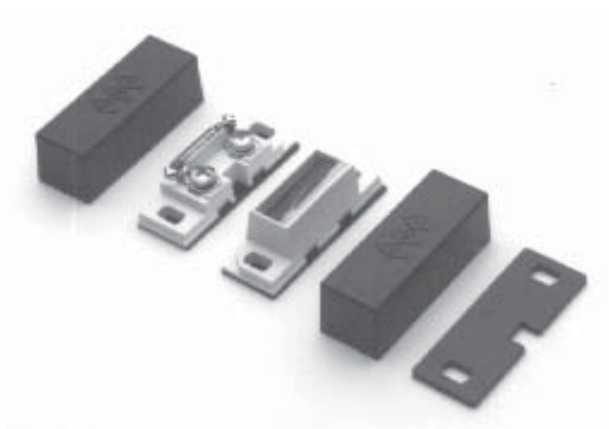
# MINIATURE SURFACE MOUNT SWITCH SET



## 129 SERIES



- ◆ Perfect For Residential and Light Commercial Applications
  - ◆ Small Size is 1/2" x 1/2" x 1 1/2"
  - ◆ Tamper Proof
  - ◆ Surface Mount Magnetic Contact
  - ◆ Screw Terminals   ◆ Hermetically Sealed
  - ◆ Plated Contacts Resist Sticking or Freezing
- ◆ Covers, Spacers and Mounting Hardware Included
  - ◆ Switches and Magnets Available Separately
    - ◆ Colors: White, Brown, Gray
    - ◆ Lifetime Warranty
    - ◆ Private Labeling Available



### PART NUMBERS:

|                     | <b>Closed Loop</b> | <b>Open Loop</b> |
|---------------------|--------------------|------------------|
| Standard Gap 1/2" + | 129A               | 129B             |
| Wide Gap 1" +       | 129AWG             | 129BWG           |

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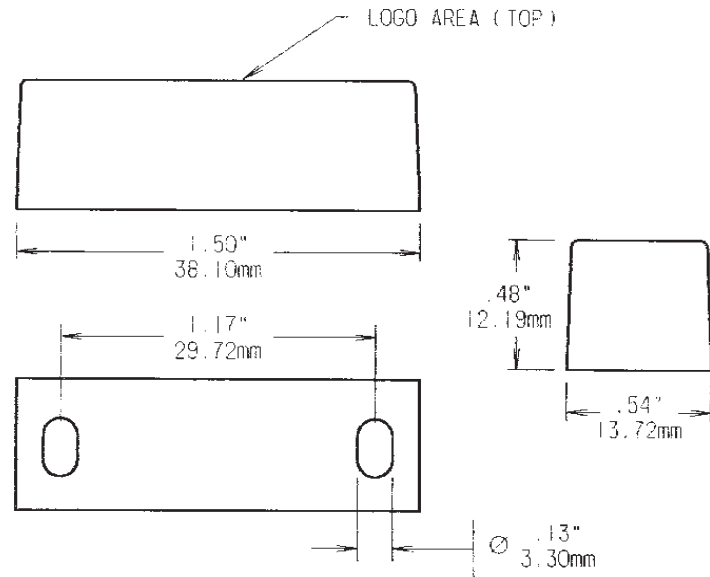
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# MINIATURE SURFACE MOUNT SWITCH SET

## INSTALLATION APPLICATIONS:

The G.R.I. 129A style switch set is designed for those installations where a more aesthetic profile is required. The attractive snap-on cover makes the 129A perfect for residential and light commercial applications. The cover also comes with knockout points if the wiring requires surface mount, and the base is designed for taking the wire out directly into the wall if needed. Available in standard and wide gaps, White, Brown or Gray, the 129A set comes in closed and open loop with all mounting hardware included.



Switch and Magnet

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 129A        | CLOSED    | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 129AWG      | CLOSED    | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 129B        | OPEN      | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 129BWG      | OPEN      | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

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# MINIATURE SURFACE MOUNT SWITCH SET



## 1100 SERIES

- ◆ One Inch Plus Standard Gap
- ◆ Surface Mount Magnetic Contact For Residential and Light Commercial Applications
- ◆ Screw Mount ◆ 12" #22AWG Leads
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Hermetically Sealed ◆ Plated Contacts Resist Sticking or Freezing
- ◆ Attractive Covers, Spacers, Double Stick Tape and Mounting Hardware Included
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
- ◆ Supervisory Loops Upon Request ◆ Switches & Magnets Available Separately
  - ◆ Private Labeling Upon Request ◆ Colors: White, Brown, Gray
  - ◆ Lifetime Warranty



| <b>PART NUMBERS:</b> | <b>Closed Loop</b> | <b>Open Loop</b> | <b>SPDT</b> |
|----------------------|--------------------|------------------|-------------|
| Standard Gap 1" +    | 1100A              | 1100B            | 1100C       |
| Wide Gap 1 1/2" +    | 1100A-WG           | 1100B-WG         | 1100C-WG    |

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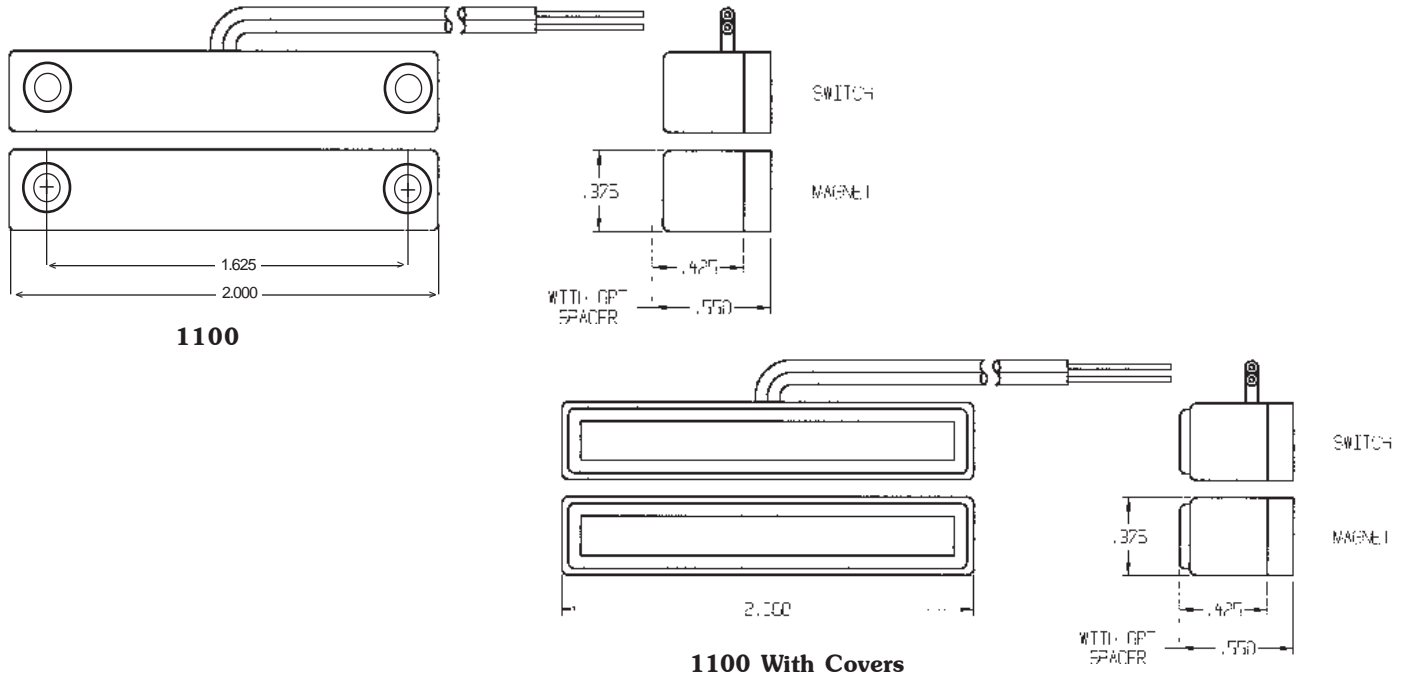
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# MINIATURE SURFACE MOUNT SWITCH SET

## INSTALLATION APPLICATIONS:

G.R.I.'s 1100 series offers the installer convenience and versatility with its smaller size and attractive design allowing it to be used in both residential or commercial applications. With its standard gap of over 1" and a wide gap of 1 1/2" +, the 1100 gives even more options for usage. Packaged with covers, spacers and applicable mounting hardware.



## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 1100A       | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 1100AWG     | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 1100B       | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 1100BWG     | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 1100C       | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 1100CWG     | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

GEORGERISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145

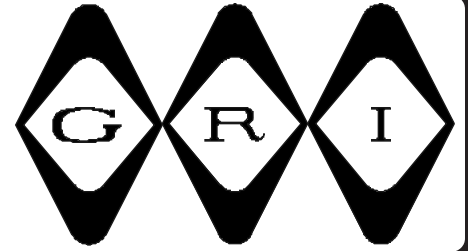


MADE IN U.S.A.

TOLL-FREE 1-800-445-5218  
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(308) 235-4645  
FAX (308) 235-3561  
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# SURFACE MOUNT SWITCH SET

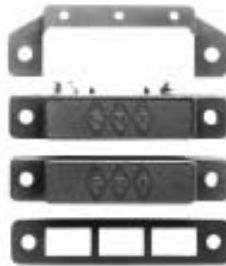


## 28/29 & 29P SERIES

- ◆ This Versatile Series Sets The Industry Standard For Commercial and Light Industrial Applications
- ◆ Surface Mount Magnetic Contacts ◆ Screw Down Flanges
- ◆ 24" #22AWG 2 Conductor Jacketed Lead on 29PA Series
- ◆ Concealed Screw Terminals on 28 Series
- ◆ Side Screw Terminals on 29 Series ◆ Longer Leads on 29PA Upon Request
- ◆ Hermetically Sealed ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Covers, Spacers and Mounting Hardware Included
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
- ◆ Supervisory Loops and Dummy Terminals Upon Request
  - ◆ Switches and Magnets Available Separately
- ◆ Colors: White, Brown, Gray ◆ Private Labeling Upon Request
- ◆ Lifetime Warranty



28A



29A



29PA

### PART NUMBERS:

|                                | <b>Closed Loop</b> | <b>Open Loop</b> | <b>SPDT</b> | <b>DPDT</b> |
|--------------------------------|--------------------|------------------|-------------|-------------|
| Standard Gap                   | 28A                | 28B              | 28C         |             |
| Up To 1",<br>5/8" On Steel     | 29A                | 29B              | 29C         |             |
|                                | 29PA               | 29PB             | 29PC        | 29PD        |
| Wide Gap                       | 28AWG              | 28BWG            | 28CWG       |             |
| Up To 1 1/2",<br>3/4" On Steel | 29AWG              | 29BWG            | 29CWG       |             |
|                                | 29PAWG             | 29PBWG           | 29PCWG      | 29PDWG      |
| Extra Wide Gap                 | 28AXWG             | 28BXWG           | 28CXWG      |             |
| Up To 2",<br>1" On Steel       | 29AXWG             | 29BXWG           | 29CXWG      |             |
|                                | 29PAXWG            | 29PBXWG          | 29PCXWG     |             |

### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

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G.R.I. PLAZA  
KIMBALL, NE 69145



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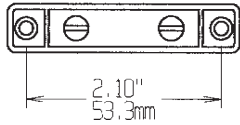
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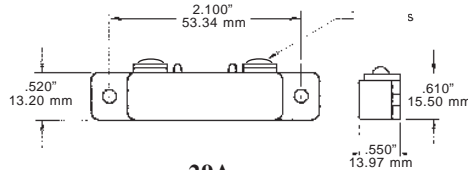
# SURFACE MOUNT SWITCH SET

## INSTALLATION APPLICATIONS:

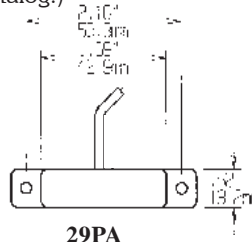
This series offers a standard gap of 1 inch, a wide gap of up to 1 1/2" and an extra wide gap of 2 inches and can be installed on a steel surface with a minimum gap penalty. The "P" style is a pre-wired switch with 2 feet of conductor cable. A broad range of mounting brackets are also available. (See spec sheet in accessory section of the G.R.I. full line catalog.)



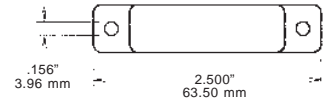
28A



29A



29PA



Magnet

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 28A         | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 28AWG       | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 28AXWG      | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 29A         | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 29AWG       | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 29AXWG      | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 29PA        | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 29PAWG      | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 29PAXWG     | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 28B         | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 28BWG       | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 28BXWG      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29B         | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29BWG       | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29BXWG      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29PB        | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29PBWG      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29PBXWG     | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 28C         | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 28CWG       | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 28CXWG      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29C         | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29CWG       | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29CXWG      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29PC        | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29PCWG      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29PCXWG     | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 29PD        |             | DPDT               | CX2       | .140                                   | 5                          | 175VDC                          | .250                          |
| 29PDWG      |             | DPDT               | CX2       | .140                                   | 5                          | 175VDC                          | .250                          |

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145

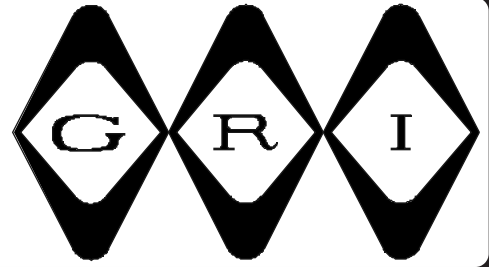


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WEB SITE: [www.grisk.com](http://www.grisk.com)

# INDUSTRIAL SURFACE MOUNT SWITCH SET



## 400/410 & 410P SERIES

- ◆ Surface Mount Screw Down Magnetic Contact
  - ◆ 400 Has Concealed Terminals
  - ◆ 410 Has Standard Terminals On Side of Contact
- ◆ 410P Has 36" 2 Conductor Vinyl Jacketed Cable
  - ◆ Spacers & Mounting Hardware Included
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
- ◆ Colors: White, Brown, Gray ◆ Lifetime Warranty
- ◆ Private Labeling Upon Request ◆  Indicates U.L. 10C Fire Rated



410P 



400   



410  



**8299-G Mounting Kit**  
Includes S412P-G,  
M-402, Brackets  
and Hardware

### PART NUMBERS:

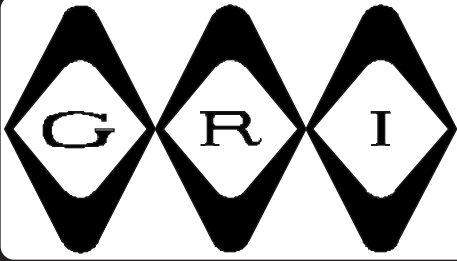
|                           | Closed Loop | Open Loop | SPDT   | DPDT   |
|---------------------------|-------------|-----------|--------|--------|
| Standard Gap Up To 1 1/2" | 400         | 401       | 402    |        |
|                           | 410         | 411       | 412    |        |
|                           | 410P        | 411P      | 412P   | 413P   |
| Wide Gap Up To 3 1/4"     | 400WG       | 401WG     | 402WG  |        |
|                           | 410WG       | 411WG     | 412WG  |        |
|                           | 410PWG      | 411PWG    | 412PWG | 413PWG |

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KIMBALL, NE 69145



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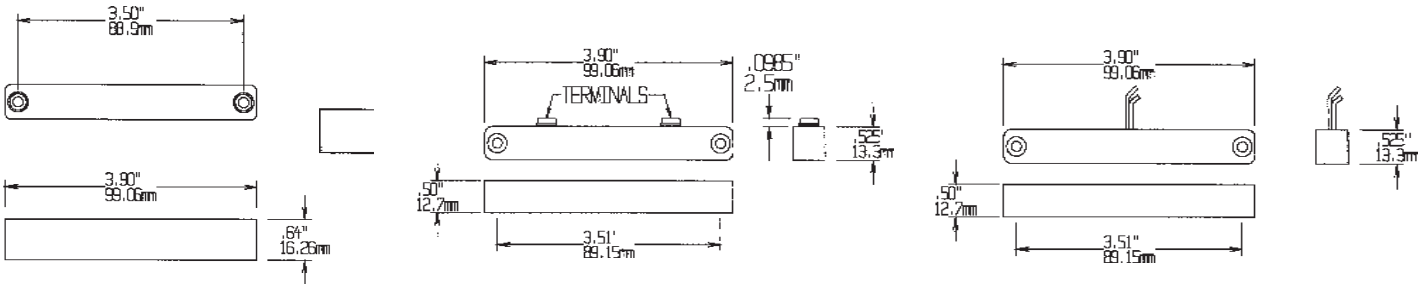
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WEB SITE: [www.grisk.com](http://www.grisk.com)



# INDUSTRIAL SURFACE MOUNT SWITCH SET

## INSTALLATION APPLICATIONS:

The G.R.I. series of commercial and industrial switch sets offers the installer two choices: The 400 series incorporates hidden terminals, inset into the recessed back to provide tamper resistant installations. The 410 series has the standard terminals located on the side of the switch. Both options give the installer a regular gap of 1 1/2" while the wide gap version is 3", which cover the various types of steel door and frame conditions found at every commercial and industrial site. Spacers and mounting hardware are included with the set. The 410P version offers two feet of vinyl jacketed 2 conductor cable. A mounting bracket kit, PN #8299-G is also available. The kit includes a S412P-G w/M-402-G, S-200 & 4175 brackets and mounting hardware.



400

410

410P

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 400         | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 400WG       | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 410         | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 410WG       | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 410P        | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 410PWG      | Closed      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| 401         | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 401WG       | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 411         | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 411WG       | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 411P        | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 411PWG      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 402         | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 402WG       | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 412         | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 412WG       | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 412P        | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 412PWG      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 413P        |             | DPDT               | CX2       | .140                                   | 5                          | 175VDC                          | .250                          |
| 413PWG      |             | DPDT               | CX2       | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

GEORGERISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145

TOLL-FREE 1-800-445-5218  
TOLL-FREE 1-800-523-1227  
(308) 235-4645  
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WEB SITE: [www.grisk.com](http://www.grisk.com)

MADE IN U.S.A.



# COMMERCIAL & INDUSTRIAL



# MINIATURE ALUMINUM COMMERCIAL SWITCH SET



## 4460 SERIES

- ◆ Wide Gap Standard at 1" Plus
- ◆ Miniature Size 1.5" L x 5/8" W
- ◆ Heavy Duty Extruded Aluminum
- ◆ Available With 18" Jacketed Or Armored Cable
- ◆ Custom Lead Lengths Available
- ◆ Closed Loop, Open Loop, SPDT, & DPDT
- ◆ Recommended For Institutional Use

The G.R.I. 4460 Series is a compact, nice looking and extremely rugged switch set offered with or without armored cable that looks like it belongs when installed and not added as an after thought.

The 4460 Series switch sets are resistant to nuisance vandalism and will blend in to the friendlier and more decorative atmosphere of today's institution whether it be health care or an educational facility.

A robust working gap and mounting versatility make the G.R.I. 4460 a top choice where good looks and adaptation to a rough environment are required.



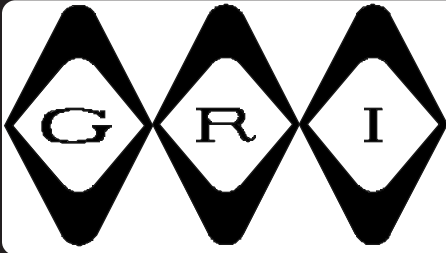
4460A

| <b>PART NUMBERS:</b> | <b>Closed Loop</b> | <b>Open Loop</b> | <b>SPDT</b>   | <b>DPDT</b>   |
|----------------------|--------------------|------------------|---------------|---------------|
| Standard Gap 1"      | 4460<br>4460A      |                  | 4462<br>4462A | 4463<br>4463A |
| Standard Gap 3/4" +  |                    | 4461<br>4461A    |               |               |

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G.R.I. PLAZA  
KIMBALL, NE 69145



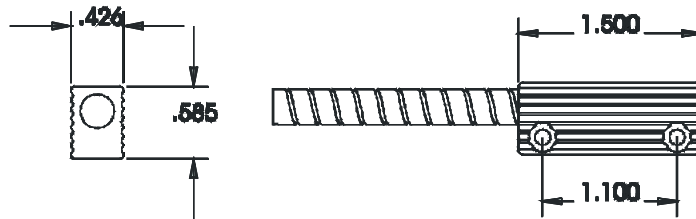
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WEB SITE: [www.grisk.com](http://www.grisk.com)



# MINIATURE ALUMINUM COMMERCIAL SWITCH SET

## APPLICATION:

The G.R.I. 4460 series of contacts are miniature, low profile, extruded aluminum switches intended for installations in commercial and industrial applications where a rugged, encapsulated wide gap contact is required. Ideal for institutional use such as hospitals, schools, minimum detention facilities, etc. The 4460 and 4460A both offer the installer a 1" + working gap for loose fitting doors, gates, etc. Available in Closed Loop, Open Loop, SPDT and DPDT, this series of contacts can be purchased with 18" of jacketed wire leads or armored cable. Since the 4460 series is polarity sensitive, the poles are printed on the magnet case to indicate mounting direction. Mounting hardware and spacers provided with switch set. Optional S-44 mounting bracket sold separately.



4460A

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 4460        | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 4460A       | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 4461        | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4461A       | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4462        | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4462A       | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4463        | Open/Closed | DPDT               | Cx2       | .140                                   | 5                          | 175VDC                          | .250                          |
| 4463A       | Open/Closed | DPDT               | Cx2       | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

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GRI PLAZA  
KIMBALL, NE 69145



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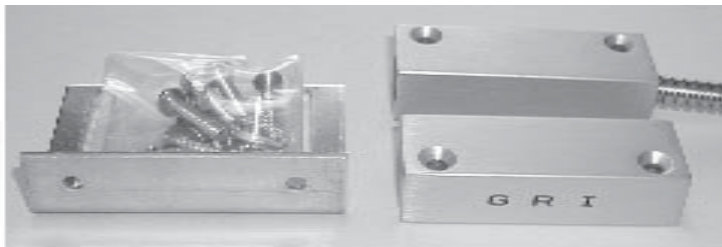
# ALUMINUM INDUSTRIAL WIDE GAP SWITCH SET



## 4400 SERIES



- ◆ Ideal For Securing Chain Link Gates, Overhead Garage Doors, Safes & Walk-In Freezer Doors (Note: Can operate within range of 257°F to -40°F)
- ◆ Spacer is PN 5226
- ◆ Weather Resistant Rugged Aluminum Housing
- ◆ 36" 2 Conductor Vinyl Jacketed Cable 4400
- ◆ 36" Armored Cable 4400-A
- ◆ Mounting Hardware Included
- ◆ A Variety of Optional Mounting Brackets Available
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
- ◆ Supervisory Loops Available Upon Request
- ◆ Switches and Magnets Available Separately
- ◆ Lifetime Warranty



4400-A



**8450-3 Gate Mounting Kit  
Includes 4402-A Switch Set,  
Brackets and Hardware**

### PART NUMBERS:

|              | Closed Loop | SPDT   | DPDT   |
|--------------|-------------|--------|--------|
| Standard Gap | 4400        | 4402   |        |
| 2 1/2" +     | 4400-A      | 4402-A | 4405-A |

**Other  
Mounting Kits  
Available.  
Call Factory  
for Information.**

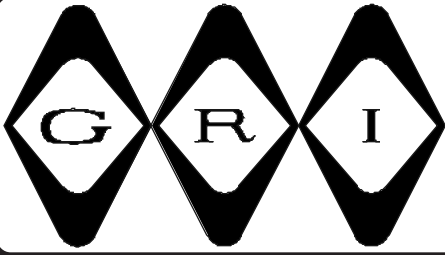
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GRI PLAZA  
KIMBALL, NE 69145



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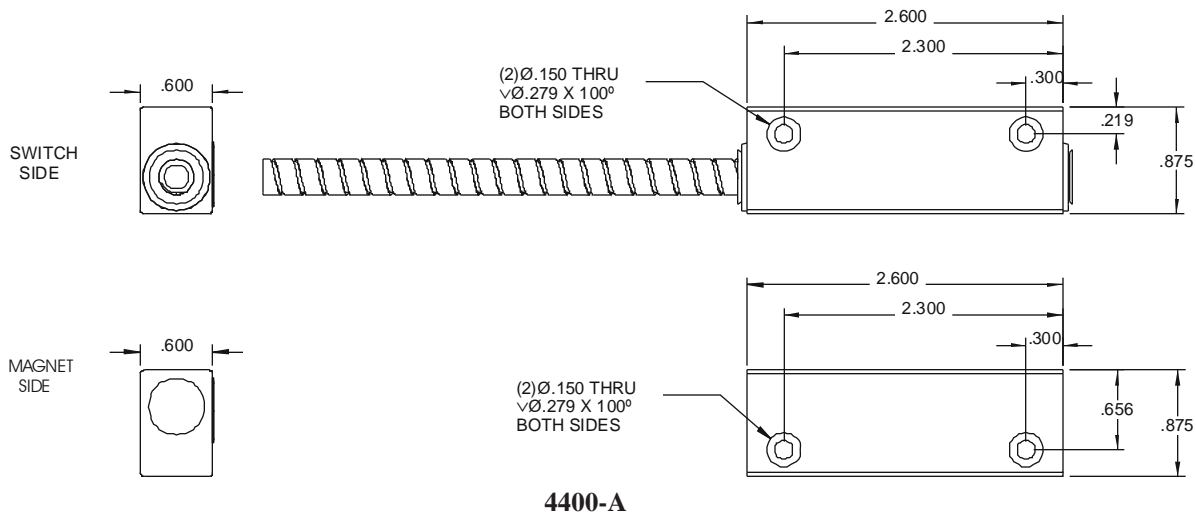


# ALUMINUM INDUSTRIAL WIDE GAP SWITCH SET

## INSTALLATION APPLICATIONS:

G.R.I.'s 4400 switch series is a heavy duty surface mounted industrial grade contact. A weather resistant rugged aluminum housing and a variety of optional mounting brackets make it ideal for securing chain link gates, overhead garage doors, safes or walk-in freezer doors.

A standard 3 foot length of stainless steel cable is offered as is a vinyl jacketed CL-2 type cable. Custom cable lengths of either type are available by special request. A case spacer PN #5226 can also be ordered as a separate mounting accessory. Switch sets include all other mounting hardware. A mounting kit PN #8297 is also available for garage door track mounting. The kit includes a 4402-A switch set, brackets and mounting hardware.



## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 4400        | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 4400-A      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 4402        | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4402-A      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4405-A      | Open/Closed | DPDT               | CX2       | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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G.R.I. PLAZA  
KIMBALL, NE 69145



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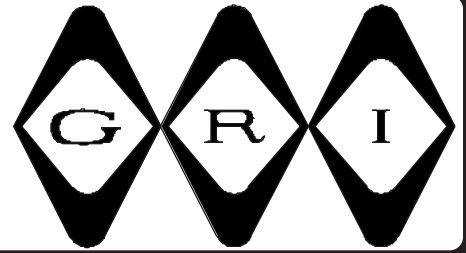
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FAX (308) 235-3561

E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)

WEB SITE: [www.grisk.com](http://www.grisk.com)

# SPECIAL PURPOSE PULL APART SWITCH SET



## 4704/4714 SERIES

- ◆ Pull Apart Surface Mount Reed Switch
- ◆ Great For Marinas - Truck Docks - Any Portable Merchandise
  - ◆ Heavy Duty 4714 Series For Improved Durability
  - ◆ 3 Foot Jacketed or Armored Cable Standard
- ◆ Custom Lead Lengths Available Upon Request   ◆ Mounting Hardware Included
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Supervisory Loops Upon Request
- ◆ Armored Disconnect Cable Available See Specialty Section
  - ◆ Available With PVC Coated Stainless Cable
  - ◆ Available in Gray   ◆ Lifetime Warranty



4714-JC



4704-A



4714-A

### APPLICATIONS:

The G.R.I. 4704/4714 Series has been designed for the problem security application where the free movement of the object in question would make it impossible to utilize a standard magnetic proximity device. The 4704-A consists of three major parts — an actuating magnet housing, the switch probe and the probe receptacle. The 4704-A can be used in place of standard surface mount switches to protect badly worn or ill fitting roll up doors, swinging gates or expanding metal curtains. Also excellent for vehicle protection to prevent unauthorized movement, operation or theft of any mobile object that can be towed, driven or otherwise moved such as tractor truck trailers, motor boats or recreation vehicles.

The new G.R.I. 4714 Series Heavy Duty Pull Apart switch set has the same features and options as our 4704 Series. The switch has been moved into the mounted side of the unit which will stop breakage and improve durability. The actuation magnet is now in the probe along with a supervisory loop. The supervisory loop which consists of 2 conductor wire, is placed through 1/4" armored cable or woven through the links of a 3/16" chain. Both options are available in custom lead and supervisory loop lengths.

The G.R.I. 4704 and 4714 Series Pull Apart Switch Sets are designed to protect any equipment, merchandise or object that is stored where it is impossible to secure utilizing conventional devices, such as outside. Examples would be golf carts, tires, lawn equipment, motorcycles and ATV's, rental equipment.

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



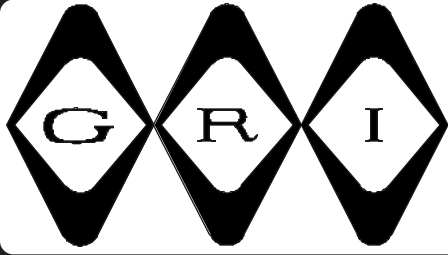
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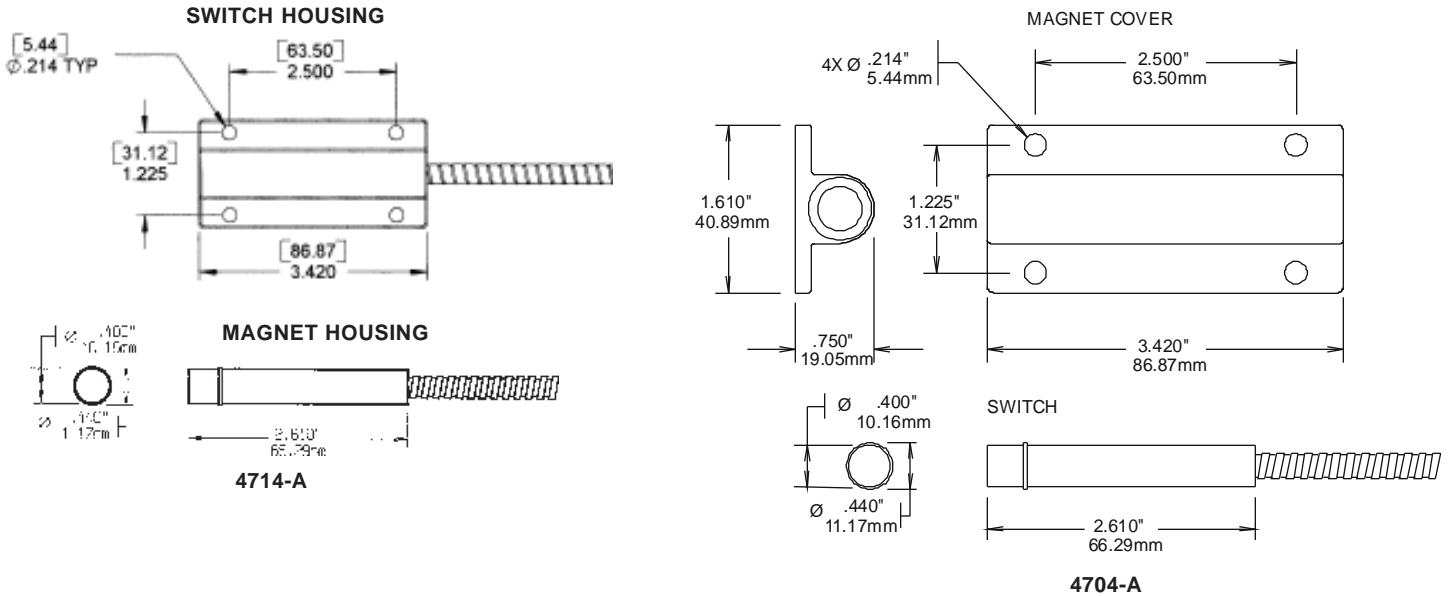
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# SPECIAL PURPOSE PULL APART SWITCH SET



## PART NUMBERS

|                        | SPDT             |
|------------------------|------------------|
| Jacketed Cable         | 4704<br>4714     |
| Jacketed Cable w/Chain | 4714-JC          |
| Armored Cable          | 4704-A<br>4714-A |

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 4704        | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4704-A      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4714        | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4714-A      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4714-JC     | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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 G.R.I. PLAZA  
 KIMBALL, NE 69145



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# ARMORED DISCONNECT CABLE



## Armored Cable Extensions With Connectors

- ◆ Quick Connect/Disconnect Feature
- ◆ For Use With G.R.I. Pull Apart Switch Sets
- ◆ Saves Time And Labor



**8230-25**

The G.R.I. Armored Cable Extensions with Connectors were designed for use with the G.R.I. Pull Apart switch sets, but can be used with a variety of our industrial and overhead contacts.

For applications where a longer cable run is necessary, the 25' extensions offer a clean and simple solution. The G.R.I. 8235-3 and 8231-3 together make a complete security loop with armored cable.

By putting the G.R.I. 8230-25 extensions between the 8235-3 and 8231-3, the overall length increases in 25' lengths, and allows a disconnect close to the piece of equipment you wish to remove rather than pulling cable through every item and stringing back again. For a bicycle display, golf carts, lawn equipment, truck docks or any moveable merchandise, run the cable in a manner that secures the products and wire to a zone on the security panel. Thread the cable through spokes, wheels and other natural openings to secure the products.

When the alarm zone is armed and there is a compromise in the line either by cutting, disconnecting or pulling apart, an alarm condition will exist.

### **WARRANTY:**

90 day warranty against workmanship, material and factory defects

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G.R.I. PLAZA  
KIMBALL, NE 69145



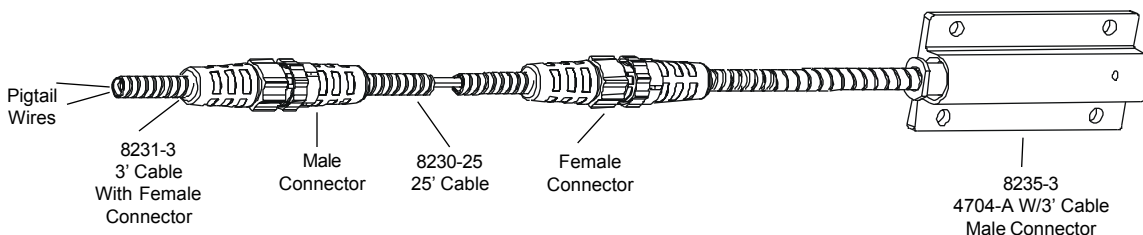
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# ARMORED DISCONNECT CABLE



| Part Numbers: |  |
|---------------|--|
| 8235-3        | 4704A w/3' #5702 armored cable w/male connector                |
| 8237-3        | 3' #5702 armored w/male connector                              |
| 8230-25       | 25' #5702 armored cable w/1 male and 1 female connector        |
| 8231-3        | 3' #5702 armored cable w/female connector                      |
| 8307-3        | 4704A w/3' #8278 coated armored cable w/male connector         |
| 8316-3        | 3' #8278 coated armored cable w/male connector                 |
| 8310-25       | 25' #8278 coated armored cable w/1 male and 1 female connector |
| 8311-3        | 3' #8278 coated armored cable w/female connector               |

## Armored Cable Accessories

| Part Numbers: |  |
|---------------|--|
| 8868          | Water Resistant Armored Cable Electrical Knock-out Junction Box Connector. |
| 8979          | Water Resistant Armored Cable Electrical Junction Box Connector.           |
| 8949          | Steel Cable Clamp - .25 Diameter   |
| 8950          | Steel Cable Clamp - .312 Diameter  |
| 8681          | Nylon Cable Clamp - 1/4" Diameter  |
| 7412          | Nylon Cable Clamp - 5/16" Diameter   |



**8868/8979**



**Steel Cable Clamp**  
8949 - .25 dia.  
8950 - .312 dia.



**Nylon Cable Clamp**  
8681 - 1/4" dia.  
7412 - 5/16" dia.

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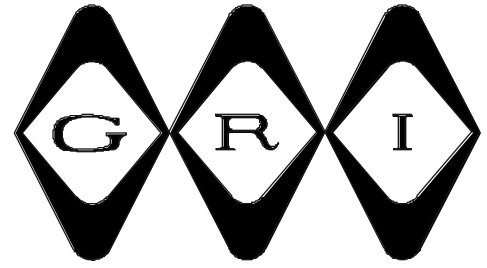


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BA-210 Rev H 4/09/2007

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# EXTREME DUTY ARMORED DISCONNECT CABLE



## Armored Cable Extensions With Connectors

- ◆ Quick Connect/Disconnect Feature
- ◆ For Use With G.R.I. Pull Apart Switch Sets
- ◆ Saves Time And Labor
- ◆ Extreme Duty For Harsh Applications



8775-26

The G.R.I. Extreme Duty Armored Cable Extensions with Connectors were designed for use with the G.R.I. Pull Apart switch sets, but can be used with a variety of our industrial and overhead contacts.

For applications where a longer cable run is necessary, the 26' extensions offer a clean and simple solution. The G.R.I. MS8774 (Magnasphere technology switch - higher security switch with more durability) and 8776 together make a complete security loop with armored cable.

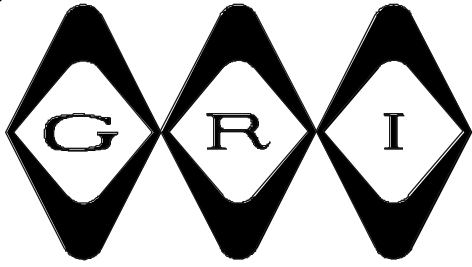
By putting the G.R.I. 8775-26 extensions between the MS8774 and 8776, the overall length increases in 26' lengths, and allows a disconnect close to the piece of equipment you wish to remove rather than pulling cable through every item and stringing back again. For a bicycle display, golf carts, lawn equipment, truck docks or any moveable merchandise, run the cable in a manner that secures the products and wire to a zone on the security panel. Thread the cable through spokes, wheels and other natural openings to secure the products.

When the alarm zone is armed and there is a compromise in the line either by cutting, disconnecting or pulling apart, an alarm condition will exist.

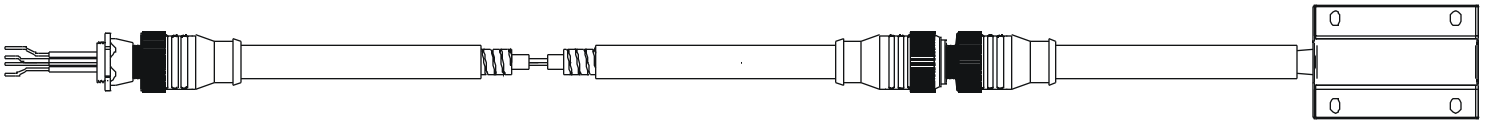
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# EXTREME DUTY ARMORED DISCONNECT CABLE



## Part Numbers:

|         |  |
|---------|--|
| MS8774  | MS4702 w/15" extreme duty armored cable w/male connector       |
| 8775-26 | 26' extreme duty armored cable w/1 male and 1 female connector |
| 8776    | Female connector with pigtails                                 |

## WARRANTY:

3 year warranty against workmanship, material and factory defects

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GRI PLAZA  
KIMBALL, NE 69145

BA-229 4/14/06



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# OVERHEAD DOOR





# MINIATURE OVERHEAD DOOR SWITCH SET



## 4532/4532L SERIES

- ◆ Low Cost ◆ Miniature Floor Mount
- ◆ Universal Magnet For Flexibility In Mounting
- ◆ Cast Aluminum Casings For Harsh Environments
- ◆ Two Foot Armored Cable ◆ Longer Leads Upon Request
- ◆ For Loose Overheads ◆ Optional "L" Bracket
- ◆ Hermetically Sealed ◆ Plated Contacts Resist Sticking or Freezing
  - ◆ Mounting Hardware Included
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Supervisory Loops Upon Request
- ◆ Switches and Magnets Available Separately
- ◆ Lifetime Warranty



4532



4532L

### PART NUMBERS:

|                  | Closed Loop | Open Loop | SPDT   | DPDT      |
|------------------|-------------|-----------|--------|-----------|
| Gap Up To 2 1/2" | 4532        | 4532B     | 4532C  | 4532D-36  |
| Gap Up To 2 1/2" | 4532L       | 4532LB    | 4532CL | 4532DL-36 |

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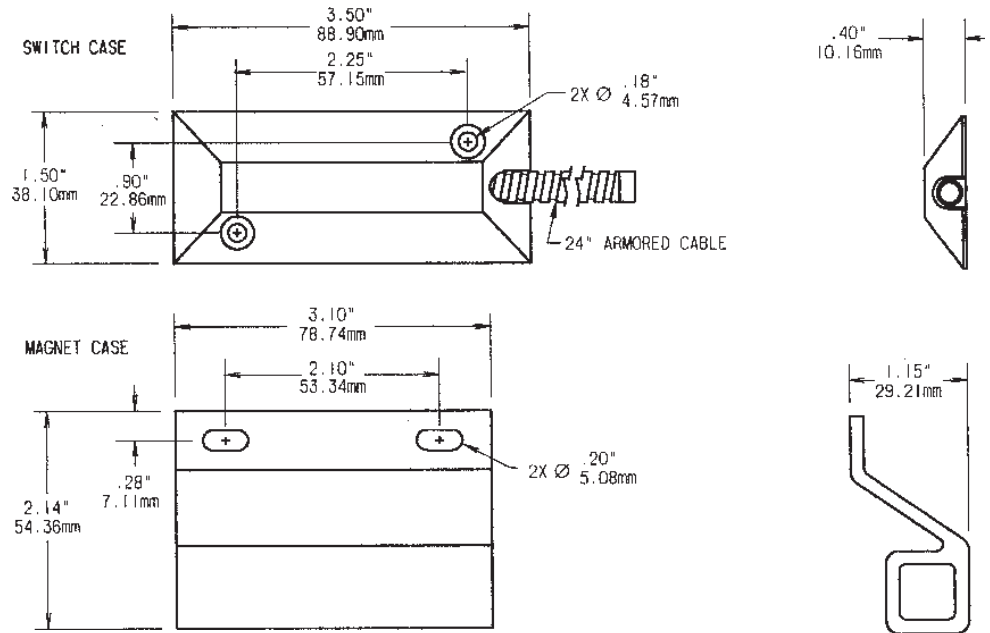
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# MINIATURE OVERHEAD DOOR SWITCH SET

## INSTALLATION APPLICATIONS:

The 4532 is a miniature, low-profile reed switch in cast aluminum for durability in harsh environments. The 4532 features a wide working gap of up to 3" with two feet of heavy-duty armored cable for protection from the elements and a versatile universal magnet which can be mounted at various angles for those difficult installations. The 4532 is also available with an optional "L" bracket. Order part number 4532L for this option. The 4532 is shipped as a set but can be packaged separately. A 1/4" masonry bit is required for lead anchor installation.



## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 4532        | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 4532L       | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 4532B       | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4532LB      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4532C       | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4532CL      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4532D-36    |             | DPDT               | CX2       | .140                                   | 5                          | 175VDC                          | .250                          |
| 4532DL-36   |             | DPDT               | CX2       | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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G.R.I. PLAZA  
KIMBALL, NE 69145

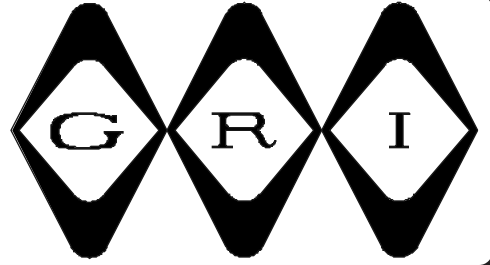


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WEB SITE: [www.grisk.com](http://www.grisk.com)

# INDUSTRIAL OVERHEAD DOOR SWITCH SET



## 200/250 SERIES

- ◆ Extruded Aluminum Floor or Wall Mount Switch
- ◆ Screw Mount ◆ #22AWG In 36" Stainless Steel Armored Cable
- ◆ Longer Leads Upon Request ◆ Hermetically Sealed
  - ◆ Plated Contacts Resist Sticking or Freezing
- ◆ Magnet, Bracket and Mounting Hardware Included
  - ◆ Built-in E.O.L. Resistors Upon Request
  - ◆ Supervisory Loops Available Upon Request
  - ◆ Switches and Magnets Available Separately
  - ◆ Lifetime Warranty



**200-36**



**250-36**

### PART NUMBERS:

|             | Gap          | Closed Loop        | Open Loop | SPDT   | DPDT   |
|-------------|--------------|--------------------|-----------|--------|--------|
| Floor Mount | 2 1/2"<br>3" | 200-36<br>200-36HD | 210-36    | 220-36 | 230-36 |
| Wall Mount  | 2 1/2"<br>3" | 250-36<br>250-36HD | 260-36    | 270-36 | 280-36 |

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GRI. PLAZA  
KIMBALL, NE 69145



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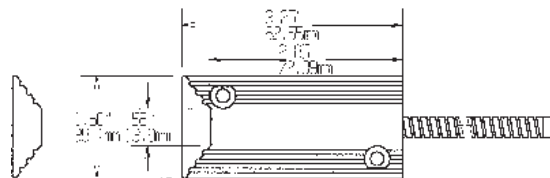
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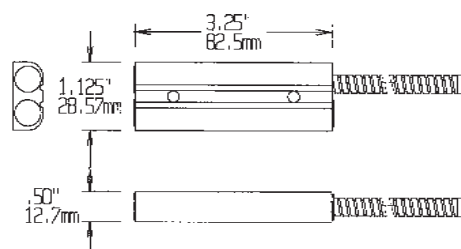
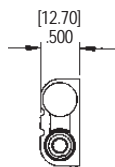
# INDUSTRIAL OVERHEAD DOOR SWITCH SET

## INSTALLATION APPLICATIONS:

The G.R.I. 200 series is referenced and produced as an industrial grade floor mount switch. Primarily used for the protection of overhead doors where the operation of heavy motorized traffic would make it impossible to use any type of a plastic encapsulated switch. The 200 housing is extruded from a 6063 T5 aluminum material and tested to withstand a crushing force of 20,000 pounds or 10 tons without harming or causing failure of the delicate reed switch. All mounting hardware including lead anchors are provided as well as a mounting bracket for the actuating magnet. A 1/4" masonry bit is required for lead anchor installation.



**Floor Mount  
200-36**



**Wall Mount  
250-36**

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 200-36      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 200-36HD    | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 250-36      | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 250-36HD    | Closed      | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 210-36      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 260-36      | Open        | N/C                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 220-36      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 270-36      | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 230-36      |             | DPDT               | CX2       | .140                                   | 5                          | 175VDC                          | .250                          |
| 280-36      |             | DPDT               | CX2       | .140                                   | 5                          | 175VDC                          | .250                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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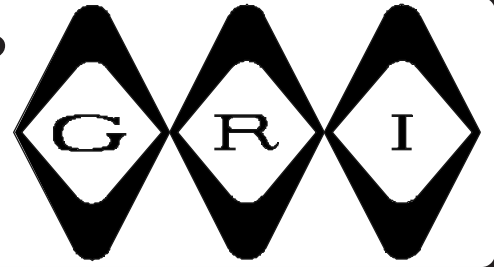
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# INDUSTRIAL EXTENDED GAP OVERHEAD DOOR SWITCH SET



## 200WG/250WG SERIES

- ◆ Extruded Aluminum Floor or Wall Mount Switch
  - ◆ 7 1/2" Switch Length Standard
- ◆ #22AWG In 36" Stainless Steel Armored Cable Standard
  - ◆ Custom Switch And Lead Lengths Available
    - ◆ Screw Mount
    - ◆ Hermetically Sealed
    - ◆ Plated Contacts Resist Sticking or Freezing
- ◆ Magnet, Brackets and Mounting Hardware Included
  - ◆ Built-in E.O.L. Resistors Upon Request
  - ◆ Supervisory Loops Available Upon Request
- ◆ Switches and Magnets Available Separately
- ◆ Lifetime Warranty

### PART NUMBERS:

|                    | <b>Closed Loop</b> |
|--------------------|--------------------|
| Floor Mount        | 200-36WG           |
| Wall Mount         | 250-36WG           |
| Up to 6.25" Travel |                    |
| Up to 3.25" Gap    |                    |



**250-36WG**

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G.R.I. PLAZA  
KIMBALL, NE 69145



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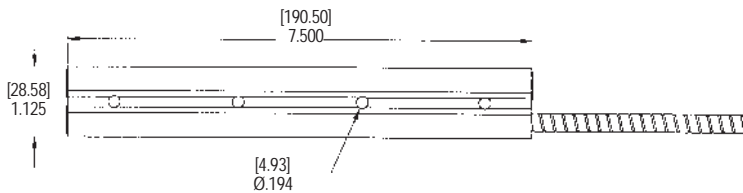
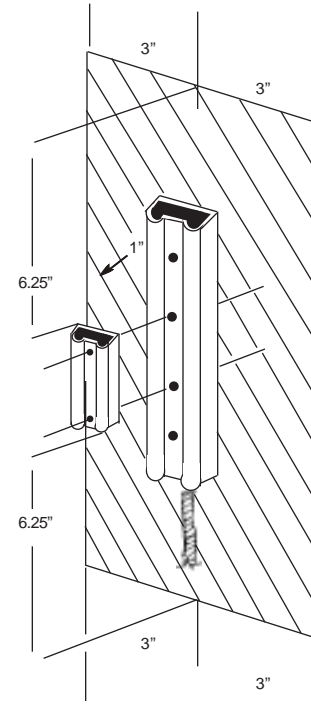
# INDUSTRIAL EXTENDED GAP OVERHEAD DOOR SWITCH SET

## INSTALLATION APPLICATIONS:

The new G.R.I. extended gap series was specifically developed in response to installer request for a magnetic contact that would work on loose fitting, worn, or damaged overhead doors. The G.R.I. 250WG has an expanded area of activation which was designed for doors that don't return to the exact or approximate position upon closure.

Ideally, the installer should determine total travel from left to right and from front to back. Locating the center position in both directions should determine the best placement of the switch.

Standard switch length is 7 1/2" with a 36" armored cable lead, but switch and lead can be custom ordered in any length required. All mounting hardware including lead anchors is provided as well as 1 S-12 mounting bracket for the actuating magnet. A 1/4" masonry bit is required for lead anchor installation.



**Extended Gap  
250-36WG**

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 200-36WG    | Closed    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |
| 250-36WG    | Closed    | N/O                | A         | .150                                   | 10                         | 200                             | .500                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)

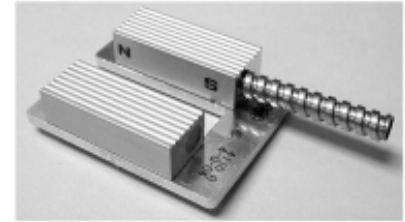
WEB SITE: [www.grisk.com](http://www.grisk.com)

# COMMERCIAL OVERHEAD DOOR SWITCH



- ◆ Latch Type Door Protection
- ◆ Vane Switch Shunt
- ◆ Cost Effective
- ◆ Easy Installation
- ◆ Armored Cable or Jacketed

**4110A**  
2.25" x 1.75" x .55"



**4482A**  
4.5" x 2.75" x .75"



The G.R.I. 4110 Series is basically a "vane" switch for use on storage units with overhead doors and latch type locks. Intended to be mounted on a roll up type door channel, the 4110 will not allow the alarm system to arm unless the bolt or latch, which serves as a "shunt" between the reed switch and magnet, is in a locked position. Removal or tampering of the bolt or latch removes the shunting effect and an alarm will be activated when the circuit is opened.

Installation notes: Remember, this is a switch that operates on the principles of magnetism. Things with iron will affect how the switch operates. The majority of overhead doors have iron or particles of iron in them. Non-ferrous (no iron) based spacers must be used to insulate the switch from the rail. Isolate (insulate) the 4110 at least 1/4 inch from the mounting rail, the GRI S-41 mounting bracket is suggested. Not doing so will create an unstable environment for the switch and may generate false alarms and other erratic signals. GRI 4110 is to be installed on the slotted channel (side rail) in such a way that when the door is locked, the sliding bolt will pass directly between the uprights of the switch. The locking bolt must have iron in it in order to "block" the magnetic path on the door switch.

The 4110 series is available with 18" stainless steel armored cable (4110A) or 18" jacketed cable (4110). It is a low profile, extruded aluminum switch mounted on an aluminum plate. Optional mounting kit available. All necessary mounting hardware is also provided.

For door applications with larger tracks, G.R.I. now offers a larger heavy duty vane switch. The 4482 has 36" jacketed cable and the 4482A has 36" armored cable. Overall dimensions for the 4482 are 4.5" x 2.75" x .75". Mounting plate and hardware provided.

**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP CONFIG. | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|--------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 4110        | CLOSED       | N/O                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4110A       | CLOSED       | N/O                | B         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4112        | Open/Closed  | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4112A       | Open/Closed  | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4482        | Open/Closed  | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4482A       | Open/Closed  | SPDT               | C         | .140                                   | 5                          | 175VDC                          | .250                          |

GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



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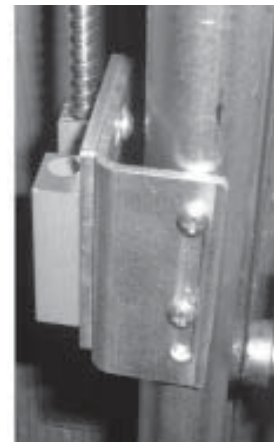
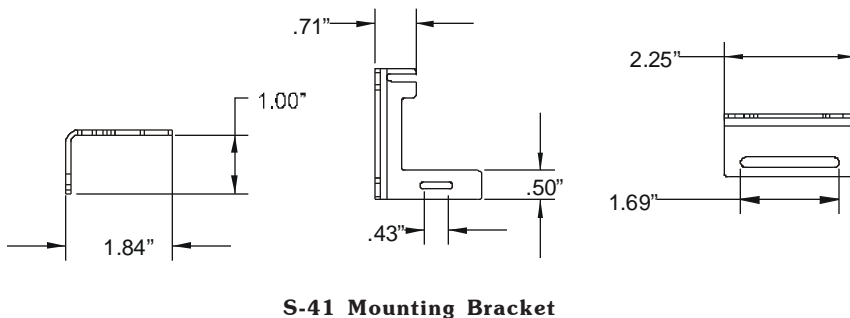
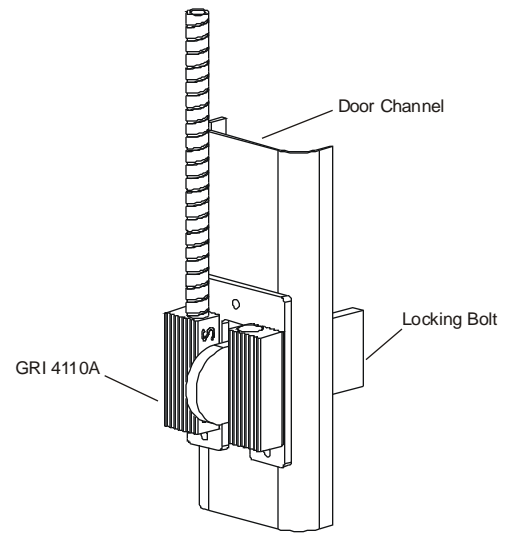
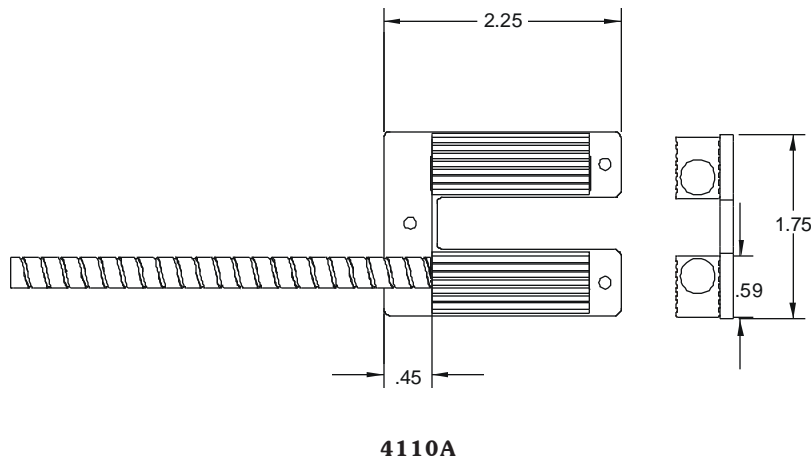
# COMMERCIAL OVERHEAD DOOR SWITCH

## Installation Notes:

Now you can confirm the locking bolt position on a roll up or other overhead door. The GRI 4110 uses a simple magnetic blocking principal in this specialized security switch. Doors using a latching type flat bolt, which extends through a slot in the channel on the doors edge, can now both lock the door **and** verify to the alarm panel that the door is locked in the closed position.

The GRI 4110 is to be installed on the slotted channel in such a way that when the door is locked, the bolt will pass between the uprights of the switch (see illustration).

**Note:** Mounting screws are installed from the inside of the track and will not interfere with the wheels.



**4110-KIT  
4110A-KIT  
Include  
S-41 Bracket  
and mounting  
hardware**

## WARRANTY:

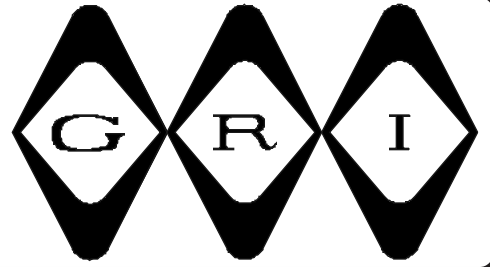
Lifetime warranty against workmanship, material and factory defects.

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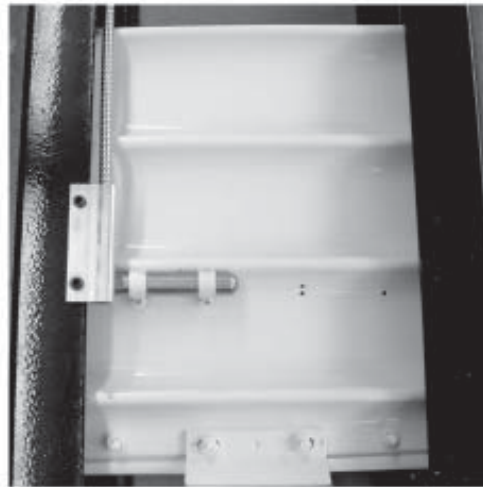


# MINI CURTAIN DOOR SWITCH



## 4612 Curtain Door Series

- ◆ Adjustable Travel
- ◆ Reversible Probe Assembly
- ◆ Left Or Right Installation
- ◆ Install Probe Top Or Bottom
- ◆ 3' Armored Cable Standard
- ◆ Magnet Mounts In Door Channel
- ◆ Mounting Hardware Included



### Application Notes:

G.R.I. has solved the curtain door installation problem with the 4612 Curtain Door Series. The 4612 resolves the left or right side installation problem and gives the installer the ability to be quite clever with making this switch and magnet suitable for the installation. G.R.I.'s unique probe design allows the switch to be inserted either from the top of the switch or the bottom allowing access determined by the application.

### Parts Notes:

Replacement nylon cable clamps .437 x .525 x .375 x .140 (GRI part number 7548) and screws are socket set 1/4-20 x 3/8 knurled cup point (GRI part number 7704).

| PART NUMBERS: |                            |                     |
|---------------|----------------------------|---------------------|
| Up To 2" Gap  | <b>Closed Loop</b><br>4612 | <b>SPDT</b><br>4613 |

GEORGERISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

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# MINI CURTAIN DOOR SWITCH

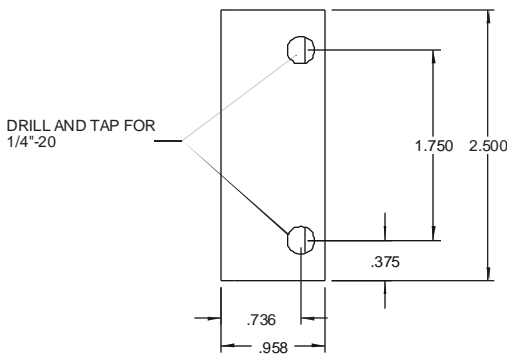
**GRI Tech Note** For best performance and operation of this product, the magnet must be positioned at one end or other of the switch. Do **not** position the magnet in the middle of the switch.

**INSTALLATION INSTRUCTIONS:**

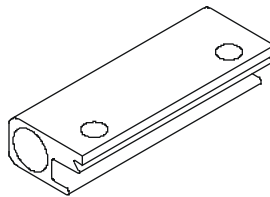
The GRI Mini Curtain Door Switch should be mounted as close to the edge of the curtain door as possible. Mount the switch on the door rail channel. Pay close attention to the operation of the contact and allow for adequate gap and travel for your particular installation.

Close the door. Temporarily mount the magnet with tape in one of the door indentations. Now slowly roll the door up completely to make sure the magnet does not hinder the doors' operation in any way. Close the door while again checking for interference. Now you can adjust the magnet for travel and gap. You can alter how much opening distance is required to trigger the alarm by moving this powerful magnet closer to or further away from the switch. This flexible installation technique solves a host of problems ranging from the new, tightly tuned doors to loose fitting, worn or damaged doors. When the magnet is placed properly, permanently mount the magnet by using the plastic clamps and screws that are provided or use rivets.

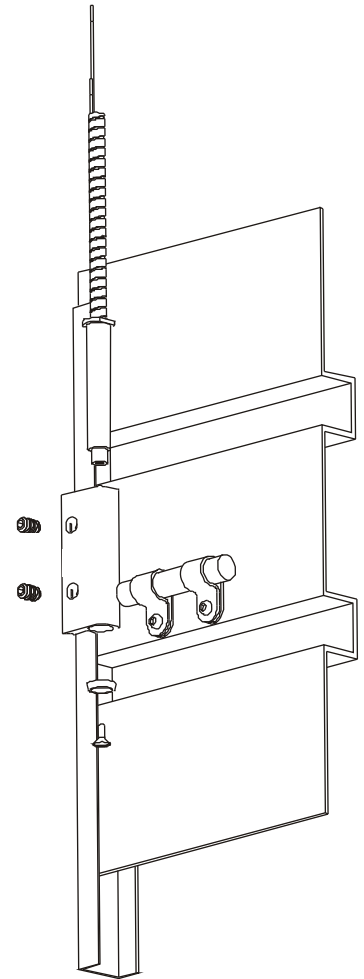
Attach wires and test again by opening/closing the door. If cable guides are necessary GRI suggests using the empty switch case for the 4612, part number C-4612.



4612



Cable Guide



Preferred Installation

**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 4612        | CLOSED      | N/O                | A         | 0.150                                  | 10                         | 160                             | 0.400                         |
| 4613        | OPEN/CLOSED | SPDT               | C         | 0.140                                  | 5                          | 175VDC                          | 0.250                         |

**Warranty:**

Lifetime warranty against workmanship, material and factory defects.

GEORGERISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

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WEB SITE: [www.grisk.com](http://www.grisk.com)

# CONCRETE CONCEALED SWITCH



- ◆ Switch Protected From Heavy Equipment
  - ◆ Two Alnico Magnet Styles
- ◆ 3' Stainless Steel Armored Cable
- ◆ Mounting Hardware Included



4510A



4510AU

Perhaps the best way to protect overhead door contacts from industrial motorized traffic like forklifts and large trucks is to recess or bury them into the concrete floor, allowing vehicles of this type to safely pass over them totally unaffected.

The G.R.I. 4510 switch series has been designed from the ground up, so to speak, for just such an application. The 4510 series features all stainless steel construction for maximum resistance to corrosion and has a wide working gap for those loose or badly worn overhead doors.

## SPECIFICATIONS:

|        |            |          |
|--------|------------|----------|
| 4510A  | 3 1/2" Gap | S.P.D.T. |
| 4510AU | 3 1/2" Gap | S.P.D.T. |

## WARRANTY:

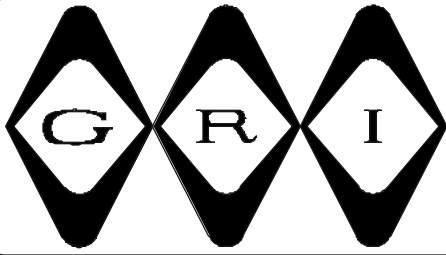
Lifetime warranty against workmanship, material and factory defects.

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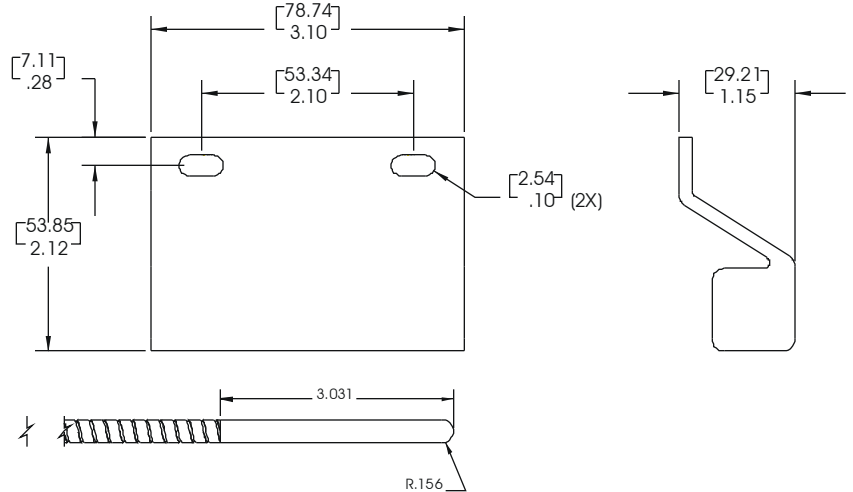
# CONCRETE CONCEALED SWITCH

## Installation Notes:

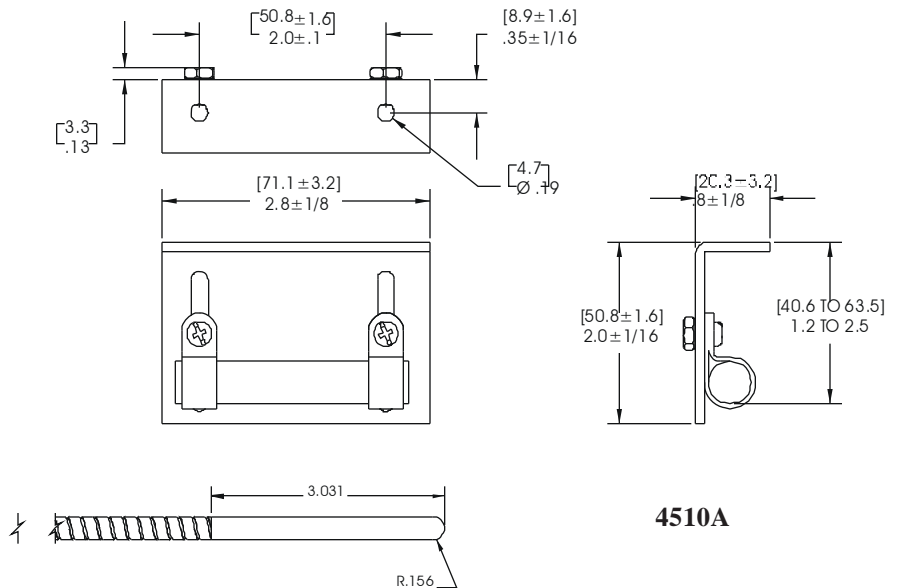
To best visualize the installation process, it is recommended we temporarily mount the magnet to the door. Remember to choose a mounting point that will require a minimum amount of concrete removal.

Place switch on floor, testing the position of the switch to magnet. It is recommended that 1" to 1 1/4" be used as the operational distance. Marking this switch position with a felt tip marker, we can now begin chipping out concrete.

A channel approximately 1/2" to 3/4" deep and 1/2" wide will be sufficient. Place the switch in the opening and retest to confirm adequate gap. Apply concrete patch to contain and cover magnetic door switch and cable. Retest for positive operation by opening and closing the overhead door.



4510AU



4510A

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 4510A       | Open/Closed | S.P.D.T.           | C         | .140                                   | 5                          | 175VDC                          | .250                          |
| 4510AU      | Open/Closed | S.P.D.T.           | C         | .140                                   | 5                          | 175VDC                          | .250                          |

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KIMBALL, NE 69145



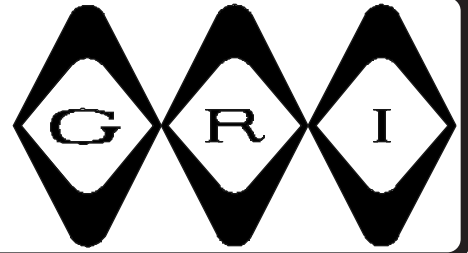
MADE IN U.S.A.

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# INDUSTRIAL TRACK MOUNT SWITCH SET



## 4700-A SERIES

- ◆ Reversible Probe Assembly
- ◆ Left or Right Installation
- ◆ Reversible Cable Exit
- ◆ 3 ft. Armored Cable Standard
- ◆ Multi Position Adjustable Magnet Bracket
- ◆ Closed Loop or SPDT
- ◆ Hinge Design for Tighter Clamping to Track
- ◆ Up to 3" Gap
- ◆ Fits Channels from 1.75" up to 4".
- ◆ Self Drilling Screws Included For Easy Installation
- ◆ Contacts are on the Channel and not where they can get damaged on the floor
- ◆ No Special Tools Required for Installation



4700-A

### DESCRIPTION:

The G.R.I. 4700-A Series Industrial Track Mount Switches are designed to eliminate false alarms from standard floor switches getting damaged by fork lifts and other equipment. The contacts are moved up onto the track and out of the way of equipment.

The 4700-A Series switches are designed to be easy to install and very adjustable. They can attach to a wide range of track sizes and only require tightening one or two screws to install the contacts. It can be installed on either side of the door and the cable exit can be reversed to simplify installation.

An adjustable magnet bracket extends the reach on particularly difficult installations and self drilling screws shorten installations times. Also with a gap of up to 3 inches, doors that wear and get misaligned are not a problem.

#### PART NUMBERS:

| Track Size     | Closed Loop | SPDT     |
|----------------|-------------|----------|
| 1.75" to 2.75" | 4700-A      | 4701-A   |
| 2.5" to 4"     | 4700-AXL    | 4701-AXL |
| Gap Up To 3"   |             |          |

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KIMBALL, NE 69145



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# INDUSTRIAL TRACK MOUNT SWITCH SET

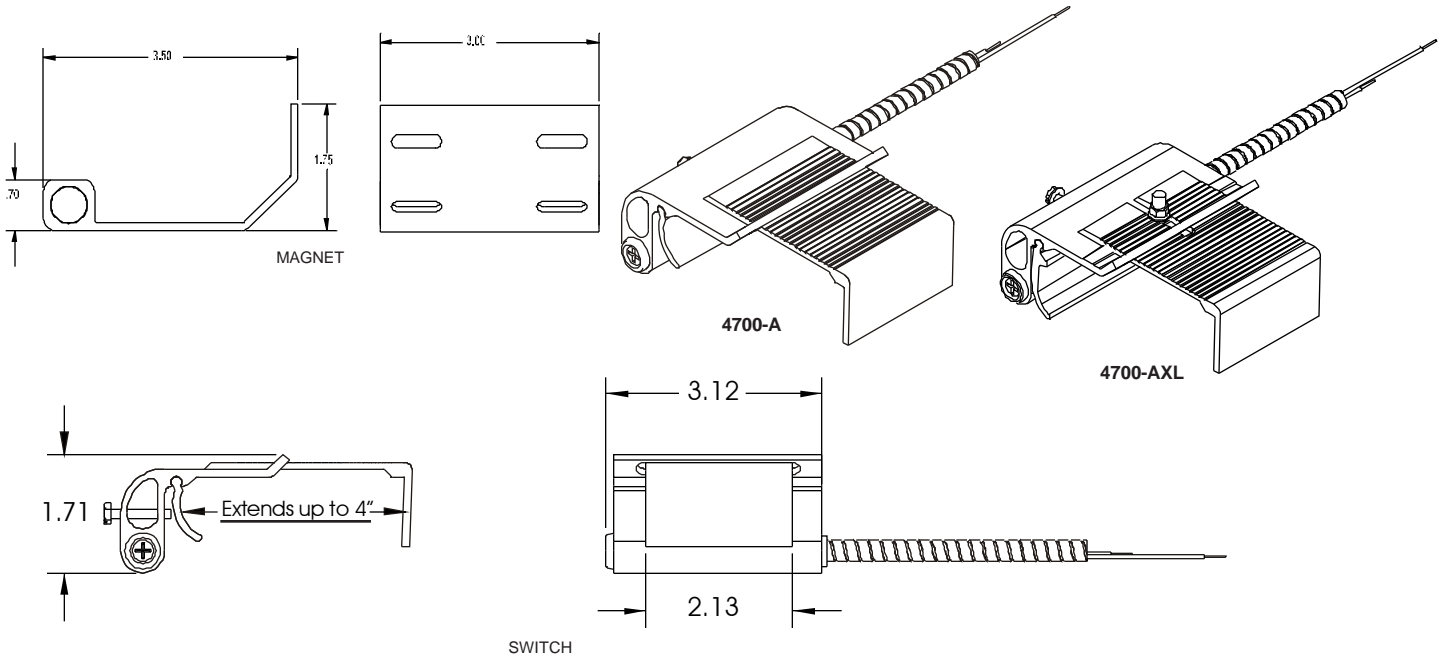
## INSTALLATION INSTRUCTIONS:

Select a location on the channel that will be out of the way during normal use of the door. The switch can be located anywhere along the channel. This location should also have a matching location on the door when it is in the closed position that the magnet can be attached to.

If necessary reverse the armored cable by removing the screw opposite the cable and moving the probe to the opposite side of the switch. Then just reinstall the screw.

Before assembling the switch, back out the hex head screw until the end is flush with the switch body. Assemble the switch by sliding the hinge plate into the slot on the switch and inserting the L shaped bracket into the other slot on the switch. (XL version: Install the countersink screw and nut through switch body and L shaped bracket. Snug nut up letting L shaped bracket still slide.) Then squeeze the switch assembly around the channel making sure the switch locks into a slot on the L shaped bracket. (XL version: Tighten the nut making sure that the switch stays in the slot on the L shaped bracket.) Then just tighten the hex head screw to firmly attach switch to channel.

The magnet is installed by locating a position on the door that will be out of the way as the door is opened and closed. The magnet should be placed vertically and so that it will stay in range of the switch as the door wears or moves around. There are multiple mounting positions on the magnet bracket in order to make finding the mounting position easier.



## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 4700-A      | CLOSED      | N/O                | A         | 0.150                                  | 10                         | 160                             | 0.400                         |
| 4701-A      | OPEN/CLOSED | SPDT               | C         | 0.140                                  | 5                          | 175VDC                          | 0.250                         |
| 4700-AXL    | CLOSED      | N/O                | A         | 0.150                                  | 10                         | 160                             | 0.400                         |
| 4701-AXL    | OPEN/CLOSED | SPDT               | C         | 0.140                                  | 5                          | 175VDC                          | 0.250                         |

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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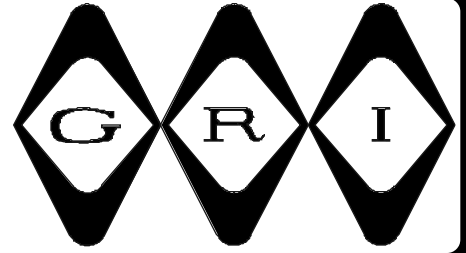
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**HIGH  
SECURITY  
SWITCHES**

# HIGH SECURITY SWITCH SETS



- ◆ Biased High Security In A Variety Of Switch Case Styles
- ◆ 12" Leads #22AWG
- ◆ Jacketed or Armored Cable On Industrial Switches
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
- ◆ Mounting Hardware Included
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
- ◆ Supervisory Loops Upon Request
- ◆ Colors: White, Brown or Gray
- ◆ Lifetime Warranty
- ◆ Other Configurations Available - Call Factory



**102B-12**



**B29-C**



**B4040-12**



**4400AB**

Standard operation of a reed switch deals with the magnetic attraction of two paddles when introduced to a magnetic field.

“Biased for high security” begins as a single pole double throw reed switch that is biased into an opposite condition. We begin with one open leg and one closed leg, but in the biasing operation we reverse the open to closed and the closed to open using just enough magnetic field strength to hold them in the opposite positions. We have now created what we refer to as a double tripping switch that can be actuated only inside a specific window of operation. If you bring an actuation magnet towards the switch, notice that at some point dependent on size of the actuation magnet, you will actuate the switch. Also, if you continue movement of the actuation magnet towards the switch, at some point the switch will release. So the biasing operation has created a maximum distance and a minimum distance of actuation - a “window”. At approximately the center of this window, should a compromising magnet be added, the effect would be similar to moving the actuation magnet to the inside limit of the window and the switch would release creating an alarm.

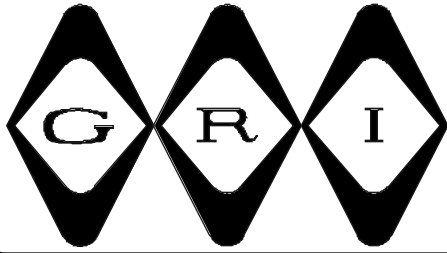
*con't on back...*

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G.R.I. PLAZA  
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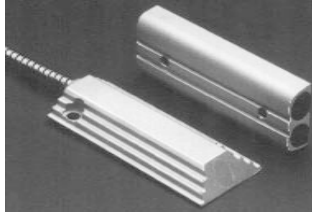


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# HIGH SECURITY SWITCH SETS



**B200-36**



**B250-36**

As to polarity sensitivity, placement of the biasing magnet inside the switch case is by orientation of the north and south pole in line with the longitudinal axis of the actual reed switch. The magnet must be of sufficient strength to overcome and hold the spring tension separating the reed contacts to maintain closure. Arming the field of the actuation magnet negates, or some experts say, opposes that of the biasing magnet, and the contacts are forced apart. In effect, we have applied both a pulling and pushing force to the contact surfaces and established a delicate balance. In doing so, the switch becomes additionally sensitive to compromise which would require the correct north and south approach plus the correct distance adjustment of the compromising magnet (most likely of a different size) to match field strengths. The increased level of security is highly dependent on the polarity and the polarity sensitivity built into this application.

To get a clearer picture, mount your switch to a fixed position. Slowly move the magnet toward the switch and mark the outside actuation point (the make). Now, continue moving toward the switch and mark the inside release point (the break) to establish the window mentioned earlier. Hold the actuation magnet at a point between these two lines. Have an assistant attempt to compromise with an additional magnet. This magnet would likely be a different size and strength than the actuation magnet. Full compromise will require positioning of the additional magnet without interruption of the initial make and then removal of the original actuation magnet again, without interruption to the initial make.

Positioning and relationship of the switch to the actuation magnet are critical. The closer the actuation magnet is to the inside release point of the actuation window, the more difficult the compromise will be.

## **WARRANTY:**

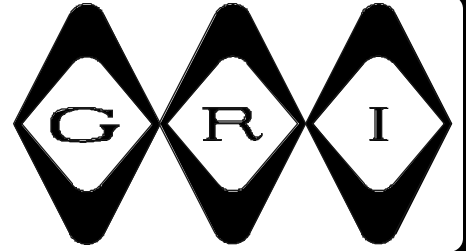
Lifetime warranty against workmanship, material and factory defects.

## **CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

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G.R.I. PLAZA  
KIMBALL, NE 69145



# MAGNASPHERE



## Miniature 3/8" Recessed Switch Set with Magnasphere Technology MS20RS-12/MS20RS-T

- ◆ Higher Level of Security
  - ◆ Spherical Magnetism
- ◆ Resistant to Magnetic Tamper and Defeat
  - ◆ Hermetically Sealed
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Switches and Magnets Available Separately
  - ◆ Colors: White, Brown, Gray
    - ◆ Lifetime Warranty
    - ◆ Standard Gap 3/8"



MS20RS-12



MS20RS-T

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

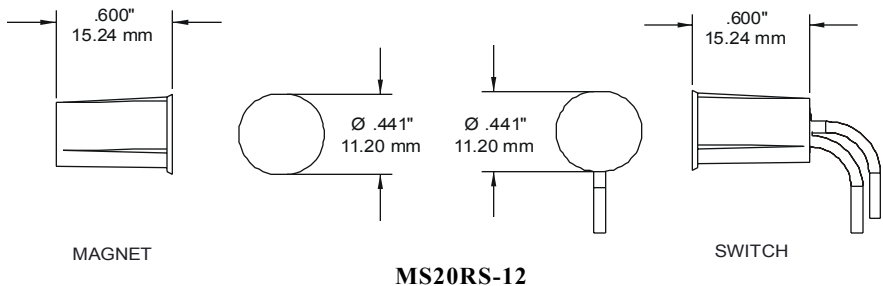
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# MAGNASPHERE

## INSTALLATION APPLICATIONS:

The G.R.I. recessed "shortie" switch set is designed for applications where a 3/8" press to fit set is needed, but space limitations will not allow for a full length set to be installed. Just 5/8" long, the installer is able to protect openings with the MS20RS-12 that otherwise would have to be secured with more visible surface mount configurations.



## CONSTRUCTION:

Magnasphere's® patented technology utilizes the principal of *Spherical Magnetism*. The heart of the switch is a magnetic sphere, or ball contact. This sphere is housed in a durable metal housing. Completing the switch is a seal that contains the contacting electrode, insulated from the magnetic perimeter by a time proven ceramic to metal bond.

The case or seal provides the second contact point required to complete the electrical circuit.

The seal/electrode cap is welded to the housing in an inert atmosphere providing a hermetically sealed contact.

## OPERATION:

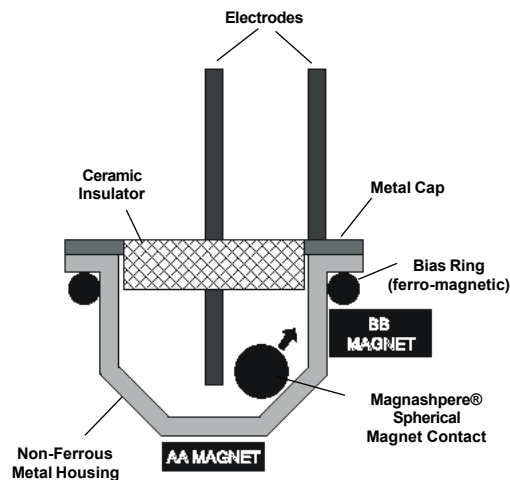
In the normally open position, the magnetic sphere is attracted to the ferromagnetic portion of the seal cap, away from the electrode. Because of this attraction the switch may be positioned in any orientation and will remain open.

When an actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

Unlike a reed switch that responds to a magnet within a global activation zone, the Magnasphere® switch responds to a magnet only within a restricted zone. A magnet outside the zone pulls the ball off the center electrode to open the switch.

## PRINCIPLES OF SPHERICAL MAGNETISM:

Finite element analysis shows magnetic flux paths of the Magnasphere® magnetic ball contact. The spherical shape is not polarity sensitive and will be attracted to either pole of the actuating magnet.



**Note: web site:**  
[www.magnaspherecorp.com](http://www.magnaspherecorp.com)  
**To download video on How it Works.**

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | FORM | MAXIMUM INITIAL CONTACT RESISTANCE | MAXIMUM CONTACT RATING | MAXIMUM SWITCHING VOLTAGE | MAXIMUM SWITCHING CURRENT |
|-------------|-----------|--------------------|------|------------------------------------|------------------------|---------------------------|---------------------------|
| MS20RS-12   | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |
| MS20RS-T    | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |

\*Higher Maximum Switching Current ratings available.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

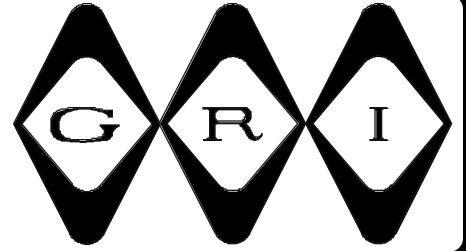
GEORGE RISK INDUSTRIES, INC.  
 G.R.I. PLAZA  
 KIMBALL, NE 69145



MADE IN U.S.A.

TOLL-FREE 1-800-445-5218  
 TOLL-FREE 1-800-523-1227  
 (308) 235-4645  
 FAX (308) 235-3561  
 E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
 WEB SITE: [www.grisk.com](http://www.grisk.com)

# MAGNASPHERE



## 3/8" Recessed Switch Set with Magnasphere Technology MS2020-12/MS2020-T

- ◆ Higher Level of Security
  - ◆ Spherical Magnetism
- ◆ Resistant to Magnetic Tamper and Defeat
  - ◆ Hermetically Sealed
- ◆ Longer Leads, Zip Cord or Jacketed Cable Upon Request
  - ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Switches and Magnets Available Separately
    - ◆ Colors: White, Brown, Gray, Almond
    - ◆ Lifetime Warranty
    - ◆ Standard Gap 3/8"



MS2020-12



MS2020-T

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



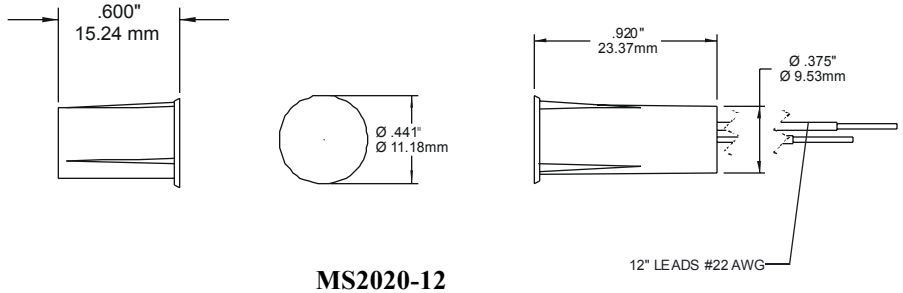
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WEB SITE: [www.grisk.com](http://www.grisk.com)



**INSTALLATION APPLICATIONS:**

G.R.I.'s 3/8" recessed press-to-fit contacts can be installed in many different positions to accommodate a variety of applications. The switch and magnet can be mounted end-to-end within an imaginary arc around the switch, or parallel to the switch. The switch and magnet should never form a "T" configuration when installed.



**CONSTRUCTION:**

Magnasphere's® patented technology utilizes the principal of *Spherical Magnetism*. The heart of the switch is a magnetic sphere, or ball contact. This sphere is housed in a durable metal housing. Completing the switch is a seal that contains the contacting electrode, insulated from the magnetic perimeter by a time proven ceramic to metal bond.

The case or seal provides the second contact point required to complete the electrical circuit.

The seal/electrode cap is welded to the housing in an inert atmosphere providing a hermetically sealed contact.

**OPERATION:**

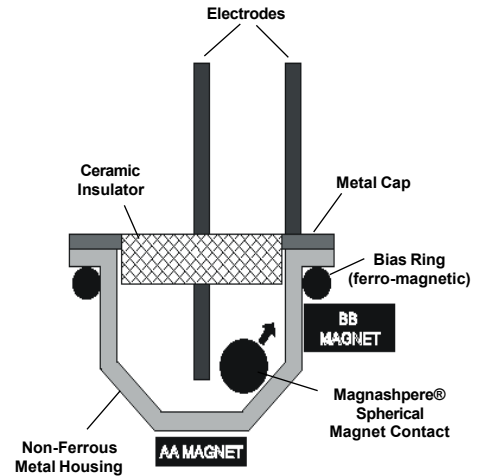
In the normally open position, the magnetic sphere is attracted to the ferromagnetic portion of the seal cap, away from the electrode. Because of this attraction the switch may be positioned in any orientation and will remain open.

When an actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

Unlike a reed switch that responds to a magnet within a global activation zone, the Magnasphere® switch responds to a magnet only within a restricted zone. A magnet outside the zone pulls the ball off the center electrode to open the switch.

**PRINCIPLES OF SPHERICAL MAGNETISM:**

Finite element analysis shows magnetic flux paths of the Magnasphere® magnetic ball contact. The spherical shape is not polarity sensitive and will be attracted to either pole of the actuating magnet.



**Note: web site:**  
[www.magnaspherecorp.com](http://www.magnaspherecorp.com)  
**To download video on How it Works.**

**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | FORM | MAXIMUM INITIAL CONTACT RESISTANCE | MAXIMUM CONTACT RATING | MAXIMUM SWITCHING VOLTAGE | MAXIMUM SWITCHING CURRENT |
|-------------|-----------|--------------------|------|------------------------------------|------------------------|---------------------------|---------------------------|
| MS2020-12   | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |
| MS2020-T    | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |

\*Higher Maximum Switching Current ratings available.

**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

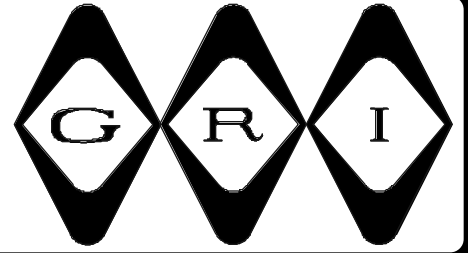
GEORGE RISK INDUSTRIES, INC.  
 GRI PLAZA  
 KIMBALL, NE 69145



MADE IN U.S.A.

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 FAX (308) 235-3561  
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 WEB SITE: [www.grisk.com](http://www.grisk.com)

# MAGNASPHERE



## Recessed 3/8" Flanged Switch Set with Magnasphere Technology MS20F/MS20-OF Series

- ◆ Higher Level of Security
  - ◆ Spherical Magnetism
- ◆ Resistant to Magnetic Tamper and Defeat
  - ◆ Hermetically Sealed
- ◆ Round or Oval Screw Down Flange
- ◆ Built-In E.O.L. Resistors and Diodes Upon Request
  - ◆ Switches and Magnets Available Separately
  - ◆ Colors: White, Brown, Gray, Black
  - ◆ Lifetime Warranty
  - ◆ Standard Gap 3/8"



MS20F-12



MS20-OF-12

GEORGERISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

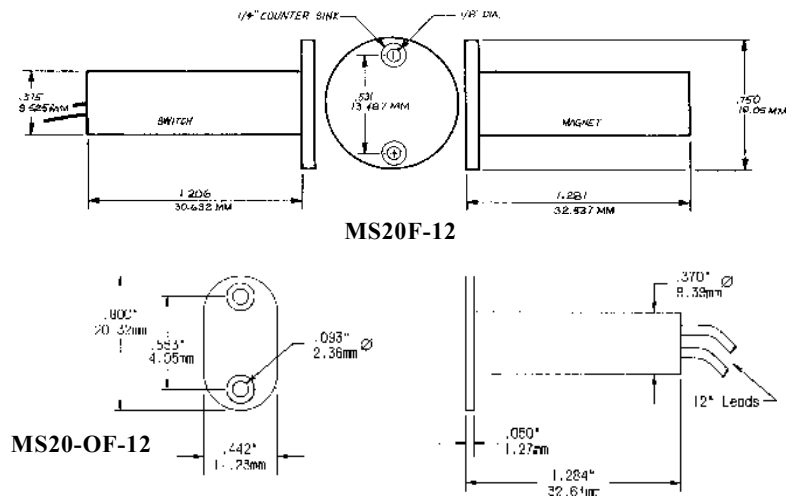
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WEB SITE: [www.grisk.com](http://www.grisk.com)



# MAGNASPHERE

### INSTALLATION APPLICATIONS:

The MS20F and MS20-OF series are a flush mount design that enable the installer to combine the security of a screw mount flanged switch with the concealment of a press fit switch. They have been used in hollow aluminum frames where inadequate material depth will not reliably retain a press fit switch and in holes that have been drilled or have somehow become slightly oversized. Mounting hardware is provided.



### CONSTRUCTION:

Magnasphere's ® patented technology utilizes the principal of *Spherical Magnetism*. The heart of the switch is a magnetic sphere, or ball contact. This sphere is housed in a durable metal housing. Completing the switch is a seal that contains the contacting electrode, insulated from the magnetic perimeter by a time proven ceramic to metal bond.

The case or seal provides the second contact point required to complete the electrical circuit.

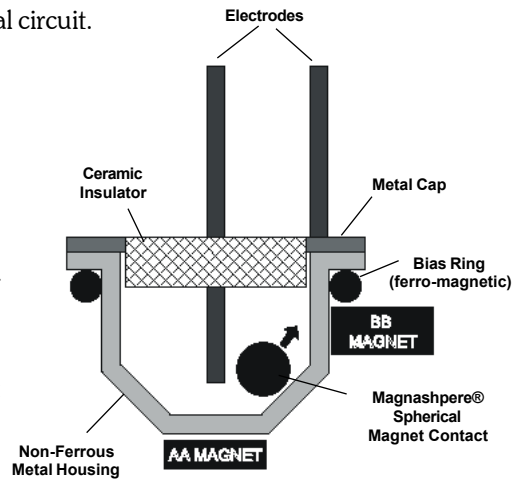
The seal/electrode cap is welded to the housing in an inert atmosphere providing a hermetically sealed contact.

### OPERATION:

In the normally open position, the magnetic sphere is attracted to the ferromagnetic portion of the seal cap, away from the electrode. Because of this attraction the switch may be positioned in any orientation and will remain open.

When an actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

Unlike a reed switch that responds to a magnet within a global activation zone, the Magnasphere® switch responds to a magnet only within a restricted zone. A magnet outside the zone pulls the ball off the center electrode to open the switch.



**Note: web site:**  
[www.magnaspherecorp.com](http://www.magnaspherecorp.com)  
 To download video on How it Works.

### PRINCIPLES OF SPHERICAL MAGNETISM:

Finite element analysis shows magnetic flux paths of the Magnasphere® magnetic ball contact. The spherical shape is not polarity sensitive and will be attracted to either pole of the actuating magnet.

### GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | FORM | MAXIMUM INITIAL CONTACT RESISTANCE | MAXIMUM CONTACT RATING | MAXIMUM SWITCHING VOLTAGE | MAXIMUM SWITCHING CURRENT |
|-------------|-----------|--------------------|------|------------------------------------|------------------------|---------------------------|---------------------------|
| MS20F-12    | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |
| MS20-OF-12  | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |

\*Higher Maximum Switching Current ratings available.

### CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

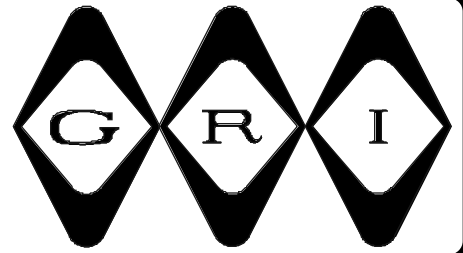
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 GRI PLAZA  
 KIMBALL, NE 69145



MADE IN U.S.A.

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 WEB SITE: [www.grisk.com](http://www.grisk.com)

# MAGNASPHERE



## Recessed 1/2" Switch Set with Magnasphere Technology MS150-12/MS150-T

- ◆ Higher Level of Security
  - ◆ Spherical Magnetism
  - ◆ Resistant to Magnetic Tamper and Defeat
  - ◆ Hermetically Sealed
- ◆ Designed For Hollow Core Doors and Windows
  - ◆ Hole Size Allows For Extra Wire, etc.
- ◆ Installs Firmly In Wood, Vinyl and Aluminum
  - ◆ Press Or Snap Fit
- ◆ Built-in E.O.L. Resistors and Diodes Upon Request
  - ◆ Colors: White, Brown
  - ◆ Lifetime Warranty
  - ◆ Standard Gap 3/8"



MS150-12



MS150-T

GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

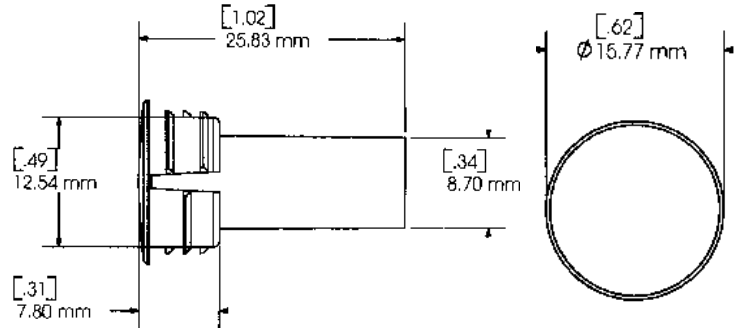
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E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
WEB SITE: [www.grisk.com](http://www.grisk.com)





**INSTALLATION APPLICATIONS:**

Larger than 3/8" but smaller than 3/4", G.R.I. introduces their innovative switch design, the 1/2" diameter, flush mount, MS150-12. This is in response to requests from our customers for a switch that would give them additional "working room" for extra wire, E.O.L. resistors, etc., yet would install in the popular hollow core windows. The G.R.I. MS150-12 is a 1/2" diameter contact, manufactured from a special polyvinyl material with a unique collar design that will "press-fit" into wooden or vinyl clad windows with a "snap-in" fit for hollow core vinyl or aluminum windows. The G.R.I. MS150-12 is paired with a matching 1/2" magnet case to offer the installer up to a 1/2" gap. The MS150 switch can also be paired with any of the wide selection of G.R.I. magnets to help resolve difficult installation applications, such as our MF-875. Patent Pending.



**MS150-12**

**CONSTRUCTION:**

Magnasphere's ® patented technology utilizes the principal of *Spherical Magnetism*. The heart of the switch is a magnetic sphere, or ball contact. This sphere is housed in a durable metal housing. Completing the switch is a seal that contains the contacting electrode, insulated from the magnetic perimeter by a time proven ceramic to metal bond.

The case or seal provides the second contact point required to complete the electrical circuit.

The seal/electrode cap is welded to the housing in an inert atmosphere providing a hermetically sealed contact.

**OPERATION:**

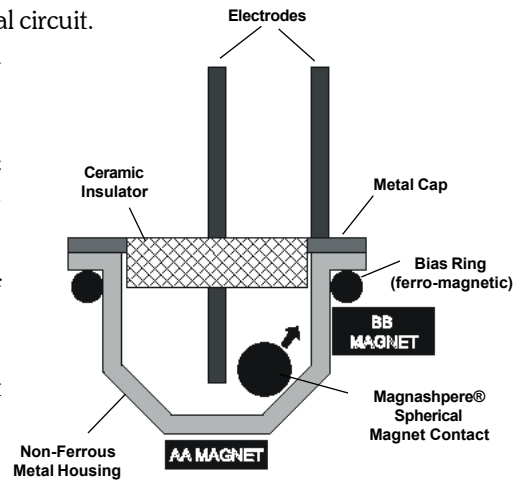
In the normally open position, the magnetic sphere is attracted to the ferromagnetic portion of the seal cap, away from the electrode. Because of this attraction the switch may be positioned in any orientation and will remain open.

When an actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

Unlike a reed switch that responds to a magnet within a global activation zone, the Magnasphere® switch responds to a magnet only within a restricted zone. A magnet outside the zone pulls the ball off the center electrode to open the switch.

**PRINCIPLES OF SPHERICAL MAGNETISM:**

Finite element analysis shows magnetic flux paths of the Magnasphere® magnetic ball contact. The spherical shape is not polarity sensitive and will be attracted to either pole of the actuating magnet.



**Note: web site:**  
[www.magnaspherecorp.com](http://www.magnaspherecorp.com)  
**To download video on How it Works.**

**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | FORM | MAXIMUM INITIAL CONTACT RESISTANCE | MAXIMUM CONTACT RATING | MAXIMUM SWITCHING VOLTAGE | MAXIMUM SWITCHING CURRENT |
|-------------|-----------|--------------------|------|------------------------------------|------------------------|---------------------------|---------------------------|
| MS150-12    | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |
| MS150-T     | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |

\*Higher Maximum Switching Current ratings available.

**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

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 GRI PLAZA  
 KIMBALL, NE 69145

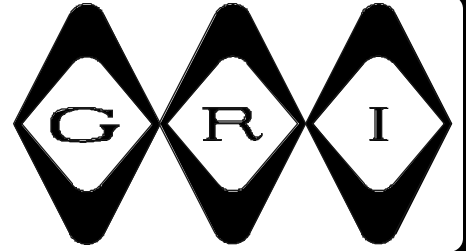


MADE IN U.S.A.

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 FAX (308) 235-3561

E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
 WEB SITE: [www.grisk.com](http://www.grisk.com)

# MAGNASPHERE



## Recessed 3/4" Steel Door Switch Set with Magnasphere Technology MS180-12/MS184-12/MS8080-T

- ◆ Higher Level of Security
  - ◆ Spherical Magnetism
- ◆ Resistant to Magnetic Tamper and Defeat
  - ◆ Hermetically Sealed
- ◆ Built-In E.O.L. Resistors and Diodes
- ◆ Switches and Magnets Available Separately
  - ◆ Colors: White, Brown, Gray, Black
  - ◆ Custom Lead Lengths Upon Request
    - ◆ Lifetime Warranty
    - ◆ Standard Gap 3/8"



MS180-12



MS8080-T

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GRI PLAZA  
KIMBALL, NE 69145



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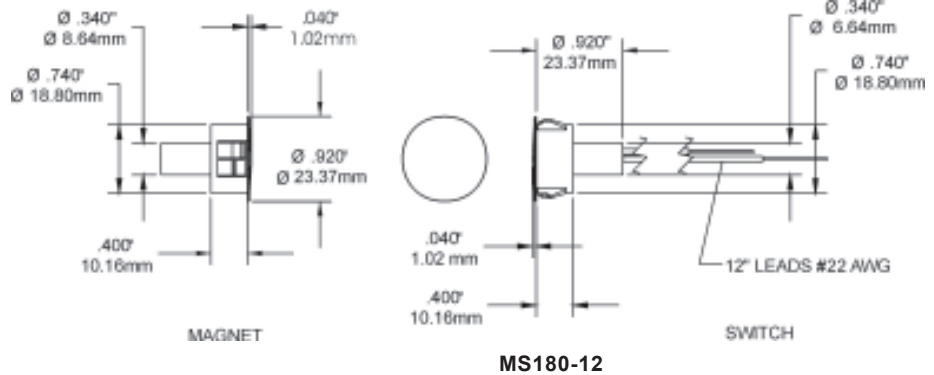
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WEB SITE: [www.grisk.com](http://www.grisk.com)



# MAGNASPHERE

## INSTALLATION APPLICATIONS:

The G.R.I. MS180-12 is the industry standard 3/4" diameter recessed steel door switch set with 12" leads. MS184-12 is 1" diameter recessed steel door switch set with 12" leads.



## CONSTRUCTION:

Magnasphere's® patented technology utilizes the principal of *Spherical Magnetism*. The heart of the switch is a magnetic sphere, or ball contact. This sphere is housed in a durable metal housing. Completing the switch is a seal that contains the contacting electrode, insulated from the magnetic perimeter by a time proven ceramic to metal bond.

The case or seal provides the second contact point required to complete the electrical circuit.

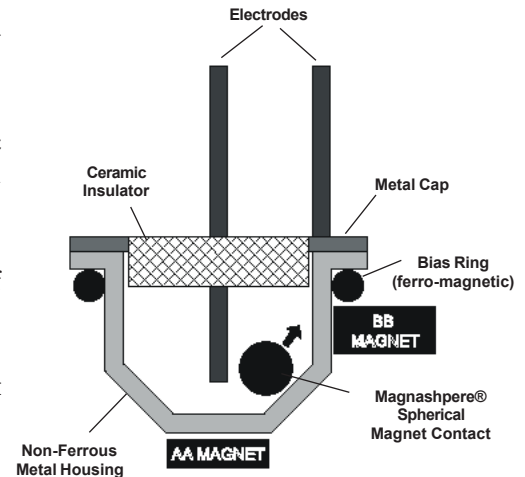
The seal/electrode cap is welded to the housing in an inert atmosphere providing a hermetically sealed contact.

## OPERATION:

In the normally open position, the magnetic sphere is attracted to the ferromagnetic portion of the seal cap, away from the electrode. Because of this attraction the switch may be positioned in any orientation and will remain open.

When an actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

Unlike a reed switch that responds to a magnet within a global activation zone, the Magnasphere® switch responds to a magnet only within a restricted zone. A magnet outside the zone pulls the ball off the center electrode to open the switch.



## PRINCIPLES OF SPHERICAL MAGNETISM:

Finite element analysis shows magnetic flux paths of the Magnasphere® magnetic ball contact. The spherical shape is not polarity sensitive and will be attracted to either pole of the actuating magnet.

## Minimum General Specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | FORM | MAXIMUM INITIAL CONTACT RESISTANCE | MAXIMUM CONTACT RATING | MAXIMUM SWITCHING VOLTAGE | MAXIMUM SWITCHING CURRENT |
|-------------|-----------|--------------------|------|------------------------------------|------------------------|---------------------------|---------------------------|
|             | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |

\*Higher Maximum Switching Current ratings available.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

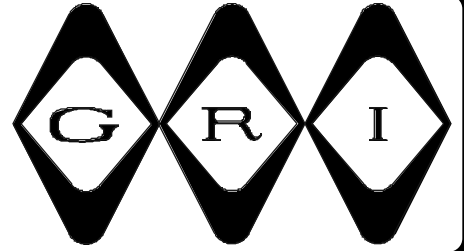
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G.R.I. PLAZA  
KIMBALL, NE 69145



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# MAGNASPHERE

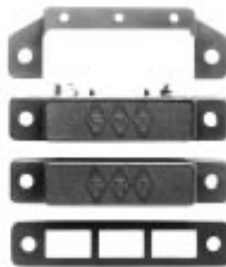


## Surface Mount Switch Set with Magnasphere Technology MS28/MS29 and MS29P

- ◆ Higher Level of Security
  - ◆ Spherical Magnetism
- ◆ Resistant to Magnetic Tamper and Defeat
  - ◆ Hermetically Sealed
  - ◆ Screw Down Flanges
- ◆ Concealed Terminals on MS28
- ◆ Built-in E.O.L. Resistors and Diodes
- ◆ Switches and Magnets Available Separately
  - ◆ Colors: White, Brown, Gray
  - ◆ Private Labeling Upon Request
  - ◆ Lifetime Warranty
  - ◆ Standard Gap 3/8"



MS28A



MS29A



MS29PA

GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



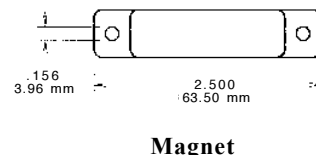
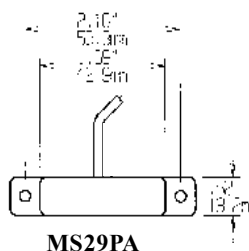
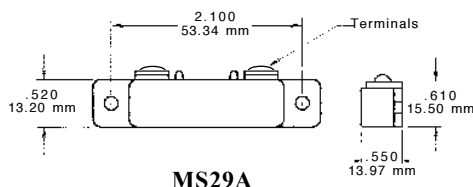
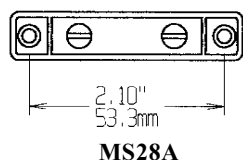
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WEB SITE: [www.grisk.com](http://www.grisk.com)



**INSTALLATION APPLICATIONS:**

This series offers a standard gap of 1/2" inch and can be installed on a steel surface with a minimum gap penalty. The "P" style is a pre-wired switch with 2 feet of conductor cable. A broad range of mounting brackets are also available. (See spec sheet in accessory section of the G.R.I. full line catalog.)



**CONSTRUCTION:**

Magnasphere's® patented technology utilizes the principal of *Spherical Magnetism*. The heart of the switch is a magnetic sphere, or ball contact. This sphere is housed in a durable metal housing. Completing the switch is a seal that contains the contacting electrode, insulated from the magnetic perimeter by a time proven ceramic to metal bond.

The case or seal provides the second contact point required to complete the electrical circuit.

The seal/electrode cap is welded to the housing in an inert atmosphere providing a hermetically sealed contact.

**OPERATION:**

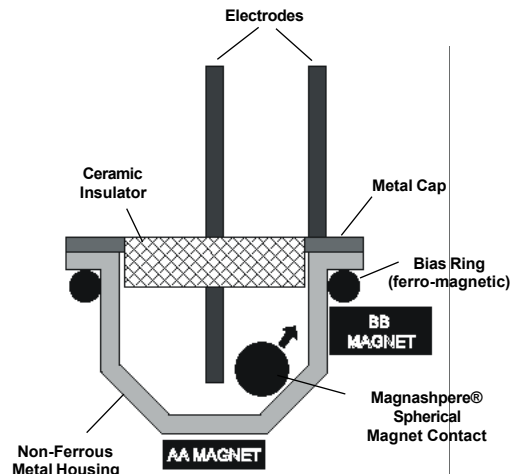
In the normally open position, the magnetic sphere is attracted to the ferromagnetic portion of the seal cap, away from the electrode. Because of this attraction the switch may be positioned in any orientation and will remain open.

When an actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

Unlike a reed switch that responds to a magnet within a global activation zone, the Magnasphere® switch responds to a magnet only within a restricted zone. A magnet outside the zone pulls the ball off the center electrode to open the switch.

**PRINCIPLES OF SPHERICAL MAGNETISM:**

Finite element analysis shows magnetic flux paths of the Magnasphere® magnetic ball contact. The spherical shape is not polarity sensitive and will be attracted to either pole of the actuating magnet.



**Note: web site:**  
[www.magnaspherecorp.com](http://www.magnaspherecorp.com)  
 To download video on How it Works.

**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | FORM | MAXIMUM INITIAL CONTACT RESISTANCE | MAXIMUM CONTACT RATING | MAXIMUM SWITCHING VOLTAGE | MAXIMUM SWITCHING CURRENT |
|-------------|-----------|--------------------|------|------------------------------------|------------------------|---------------------------|---------------------------|
| MS28A       | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |
| MS29A       | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |
| MS29PA      | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |

\*Higher Maximum Switching Current ratings available.

**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

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 G.R.I. PLAZA  
 KIMBALL, NE 69145

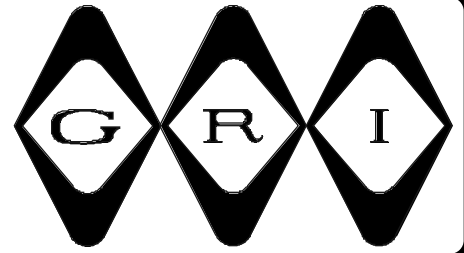


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 (308) 235-4645  
 FAX (308) 235-3561

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 WEB SITE: [www.grisk.com](http://www.grisk.com)

# MAGNASPHERE



## Aluminum Industrial Switch Set with High Security Magnasphere Technology MS4400 Series

- ◆ Higher Level of Security
  - ◆ Spherical Magnetism
- ◆ Resistant to Magnetic Tamper and Defeat
  - ◆ Hermetically Sealed
- ◆ 36" 2-Conductor Vinyl Jacketed Cable (MS4400)
  - ◆ 36" Armored Cable (MS4400-A)
  - ◆ Mounting Hardware Included
- ◆ A Variety of Optional Mounting Brackets Available
- ◆ Built-In E.O.L. Resistors and Diodes Upon Request
  - ◆ Lifetime Warranty
  - ◆ Standard Gap Up to 3/8"



MS4400-A

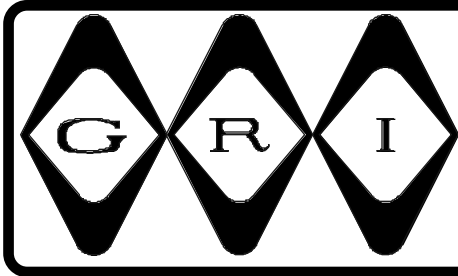
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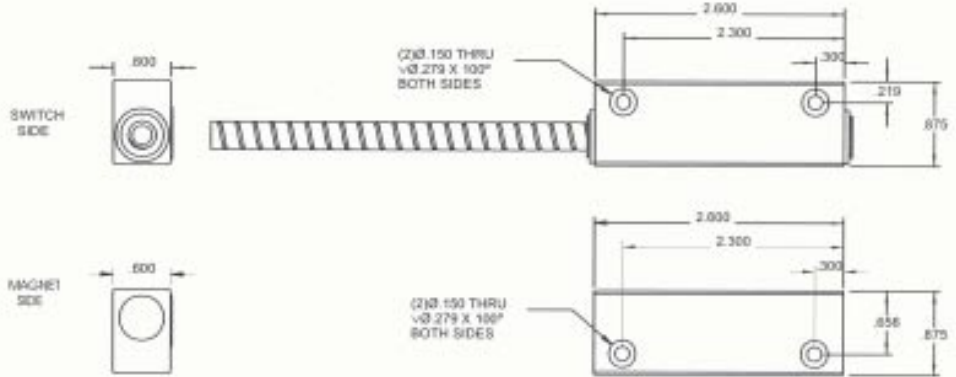
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# MAGNASPHERE

## INSTALLATION APPLICATIONS:

G.R.I.'s MS4400 Switch Series is a heavy duty, weather resistant high security industrial grade contact. As with all high security contacts the gap is significantly reduced. We recommend this switch for solid fitting doors, vaults and safes; and spacer #5226 if mounted on steel; and that the switch and magnet be metered for maximum gap. Please call factory for further installation instructions.



MS4400-A

## CONSTRUCTION:

MagnaspHERE's® patented technology utilizes the principal of *Spherical Magnetism*. The heart of the switch is a magnetic sphere, or ball contact. This sphere is housed in a durable metal housing. Completing the switch is a seal that contains the contacting electrode, insulated from the magnetic perimeter by a time proven ceramic to metal bond.

The case or seal provides the second contact point required to complete the electrical circuit.

The seal/electrode cap is welded to the housing in an inert atmosphere providing a hermetically sealed contact.

## OPERATION:

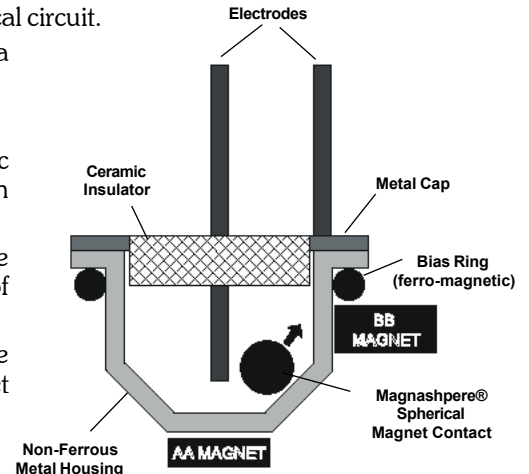
In the normally open position, the magnetic sphere is attracted to the ferromagnetic portion of the seal cap, away from the electrode. Because of this attraction the switch may be positioned in any orientation and will remain open.

When an actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

Unlike a reed switch that responds to a magnet within a global activation zone, the MagnaspHERE® switch responds to a magnet only within a restricted zone. A magnet outside the zone pulls the ball off the center electrode to open the switch.

## PRINCIPLES OF SPHERICAL MAGNETISM:

Finite element analysis shows magnetic flux paths of the MagnaspHERE® magnetic ball contact. The spherical shape is not polarity sensitive and will be attracted to either pole of the actuating magnet.



**Note: web site:**  
[www.magnaspHEREcorp.com](http://www.magnaspHEREcorp.com)  
 To download video on How it Works.

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | FORM | MAXIMUM INITIAL CONTACT RESISTANCE | MAXIMUM CONTACT RATING | MAXIMUM SWITCHING VOLTAGE | MAXIMUM SWITCHING CURRENT |
|-------------|-----------|--------------------|------|------------------------------------|------------------------|---------------------------|---------------------------|
| MS4400      | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |
| MS4400-A    | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |

\*Higher Maximum Switching Current ratings available.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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 G.R.I. PLAZA  
 KIMBALL, NE 69145

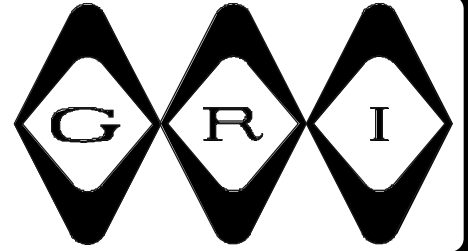


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 WEB SITE: [www.grisk.com](http://www.grisk.com)

# MAGNASPHERE



## Special Purpose Pull Apart Switch Set MS4702/MS4702-A

- ◆ Higher Level of Security
  - ◆ Spherical Magnetism
- ◆ Resistant to Magnetic Tamper and Defeat
  - ◆ Hermetically Sealed
- ◆ Heavy Duty For Improved Durability
- ◆ Great for Marinas - Truck Docks - Any Portable Merchandise
  - ◆ 3 Foot Jacketed or Armored Cable
  - ◆ Custom Lead Lengths Upon Request
- ◆ Armored Disconnect Cable Available - See Specialty Section
  - ◆ Gray Only
- ◆ Lifetime Warranty



MS4702/MS4702A

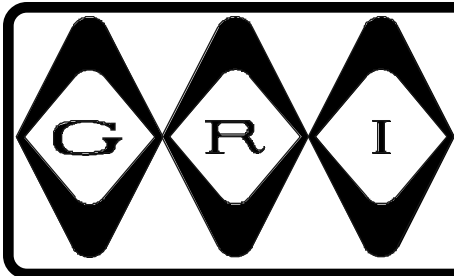
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GRI PLAZA  
KIMBALL, NE 69145



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WEB SITE: [www.grisk.com](http://www.grisk.com)





# MAGNASPHERE

## INSTALLATION APPLICATIONS:

The GRI MS4702-A has three parts: the switch probe, the switch receptacle and the magnet. The MS4702-A is designed for use when standard surface mount security switches won't work due to swinging gates, free moving objects, vehicle protection, worn gates/doors or expanding metal curtains. Now you can protect products and property that is kept outdoors such as recreation vehicles, golf carts, lawn mowers, ladders, truck tractor trailer, motor boats, ATV's or a host of rental equipment. To use the Pull Apart, attach the probe receptacle to a solid surface and anchor it well. Position the receptacle and switch probe so that the probe can pull out of the receptacle easily. Don't connect it at a right angle or upside down. This will delay and/or alter the switch's ability to react to tampering and theft. Connect the appropriate zone from the alarm panel to the switch probe. Thread the armored cable through the item to be protected and insert the probe into the receptacle.

## CONSTRUCTION:

Magnasphere's ® patented technology utilizes the principal of *Spherical Magnetism*. The heart of the switch is a magnetic sphere, or ball contact. This sphere is housed in a durable metal housing. Completing the switch is a seal that contains the contacting electrode, insulated from the magnetic perimeter by a time proven ceramic to metal bond.

The case or seal provides the second contact point required to complete the electrical circuit. The seal/electrode cap is welded to the housing in an inert atmosphere providing a hermetically sealed contact.

## OPERATION:

In the normally open position, the magnetic sphere is attracted to the ferromagnetic portion of the seal cap, away from the electrode. Because of this attraction the switch may be positioned in any orientation and will remain open.

When an actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

Unlike a reed switch that responds to a magnet within a global activation zone, the Magnasphere® switch responds to a magnet only within a restricted zone. A magnet outside the zone pulls the ball off the center electrode to open the switch.

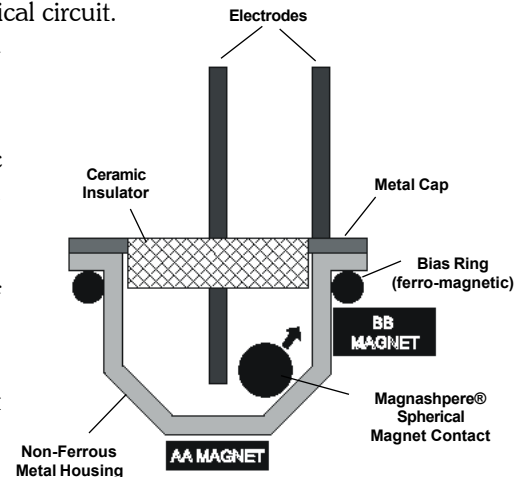
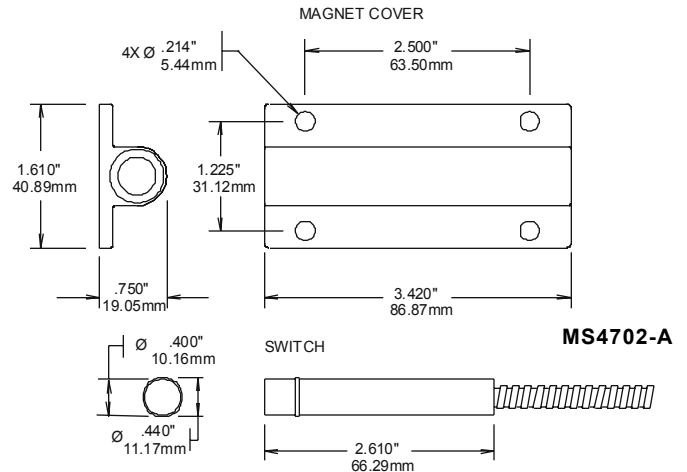
## PRINCIPLES OF SPHERICAL MAGNETISM:

Finite element analysis shows magnetic flux paths of the Magnasphere® magnetic ball contact. The spherical shape is not polarity sensitive and will be attracted to either pole of the actuating magnet.

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | FORM | MAXIMUM INITIAL CONTACT RESISTANCE | MAXIMUM CONTACT RATING | MAXIMUM SWITCHING VOLTAGE | MAXIMUM SWITCHING CURRENT |
|-------------|-----------|--------------------|------|------------------------------------|------------------------|---------------------------|---------------------------|
| MS4702      | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |
| MS4702-A    | Closed    | N/O                | A    | .400                               | 5 Watts                | 250 AC/DC                 | .180*                     |

\*Higher Maximum Switching Current ratings available.



**Note: web site:**  
[www.magnaspherecorp.com](http://www.magnaspherecorp.com)  
 To download video on How it Works.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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 GRI PLAZA  
 KIMBALL, NE 69145

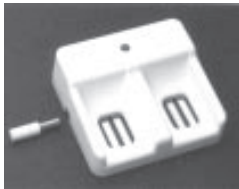


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# SPECIALITY SWITCHES



# DUAL FUNCTION SWITCHES



## AA/AC SERIES

- ◆ Security To Access Control
- ◆ Security To Relays
- ◆ Security To Recorders
- ◆ Access To VCR For CCTV Timers
- ◆ Security To Pool Alarm

◆  Indicates U.L. 10C Fire Rated

### Application Notes:

The AA & AC Switches can be used in numerous security applications where you need to isolate input from two different pieces of equipment that require a signal from the same source.

The GRI "Combo" Series switches are dual function reed contacts that monitor two separate functions.

By combining two reeds in one package, either two "A" forms or one "A" and one "C" form, GRI offers the installer savings in labor cost along with a wide choice of switch designs for multiple applications.

Other configurations including wide gaps are available. Please contact the factory for further information.



CLASSIFIED

### PART NUMBERS:

| Surface Mount | Recessed  | U.L. 10C Fire Rated |
|---------------|-----------|---------------------|
| ◆ AA1100      | ◆ AA180-A | ◆ AA180             |
| ◆ AC1100      | ◆ AC180-A | ◆ AC180             |
| ◆ AA200       | ◆ AA2020  | ◆ AA184             |
| ◆ AC200       | ◆ AC2020  | ◆ AC184             |
| ◆ AA250       |           |                     |
| ◆ AC250       |           |                     |
| ◆ AA29P       |           |                     |
| ◆ AC29P       |           |                     |
| ◆ AA29P-A     |           |                     |
| ◆ AC29P-A     |           |                     |
| ◆ AA410P      |           |                     |
| ◆ AC410P      |           |                     |
| ◆ AA410P-A    |           |                     |
| ◆ AC410P-A    |           |                     |
| ◆ AA4400      |           |                     |
| ◆ AC4400      |           |                     |
| ◆ AA4400-A    |           |                     |
| ◆ AC4400-A    |           |                     |

AA denotes 2 A Form Reeds  
 AC denotes 1 A Form Reed and 1 C Form Reed  
 Other configurations available  
 -A after part number denotes Armored Cable  
**Standard 36 inch lead**



### WIRE CODE:

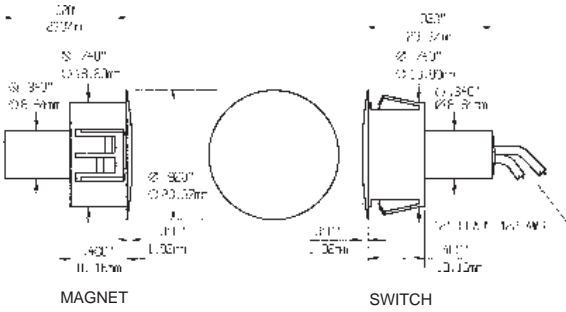
|    | 1ST (A)     | 2ND (A)                                 |
|----|-------------|---|
| AA | RED/BLACK   | GREEN/WHITE                             |
|    | (A) CIRCUIT | (C) CIRCUIT                             |
| AC | BLK/BLUE    | WHITE - C<br>RED - N.C.<br>GREEN - N.O. |

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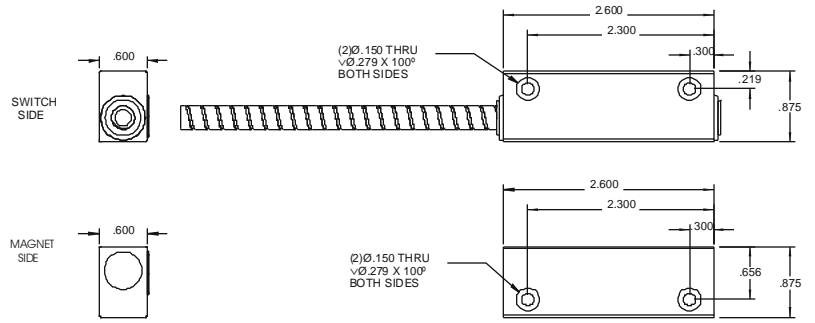


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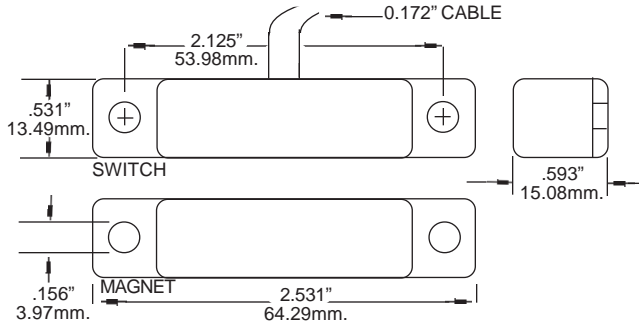
# DUAL FUNCTION SWITCH



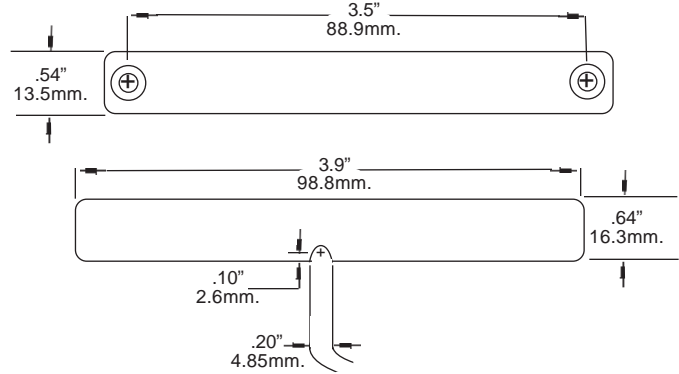
AA/AC180



AA/AC4400-A



AA/AC29P



AA/AC410P

**GRI products meet or exceed these minimum general specifications:**

| CIRCUIT | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|---------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| A       | CLOSED      | N/O                | A         | .150                                   | 10                         | 160                             | .400                          |
| C       | OPEN/CLOSED | S.P.D.T.           | C         | .140                                   | 5                          | 175VDC                          | .250                          |

**WARRANTY:**

Lifetime warranty against workmanship, material and factory defects.

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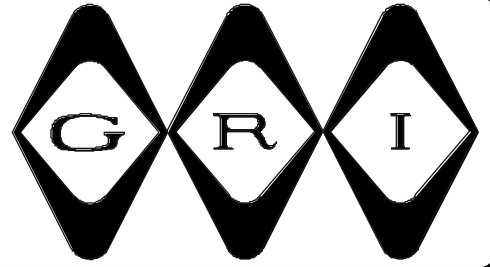
BA-126 Rev J 8/31/2010

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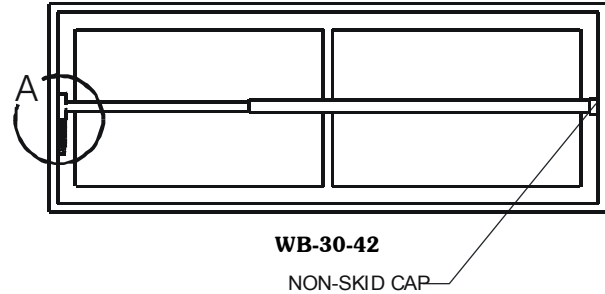
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WEB SITE: [www.grisk.com](http://www.grisk.com)

# ALARMED WINDOW BAR



## Window Bar Series

- ◆ Fits Windows 30" - 42"
- ◆ Protection For Basement Windows, Attic Vents & Other Difficult Openings
- ◆ Removes Easily In Emergency
- ◆ Reinforced Extruded Aluminum
- ◆ Protects 24 - 7



WB-30-42

NON-SKID CAP

G.R.I.'s Alarmed Window Bars will fit windows from 30" to 42" wide with no cutting required. If window is higher than 14", two or more Window Bars may be used. The GRI Window Bars protect both sides of a sliding window even when open without triggering an alarm and can be connected to a 24 hour zone. When the bar is dislodged an alarm is activated. The G.R.I. Alarmed Window Bars are easy to remove during an emergency and will work with both hard wired or wireless systems. The bars are designed to fit the window one way and are difficult to be installed incorrectly. The reinforced extruded aluminum will not sag or flex in high temperatures. For windows smaller than 30", the 5/8" bar may be cut off to fit. Make certain that you cut off the end without the magnet.

The various ways in which the GRI Window Bar may be mounted are: on the window frame, inside the window frame and on most angled window frames.

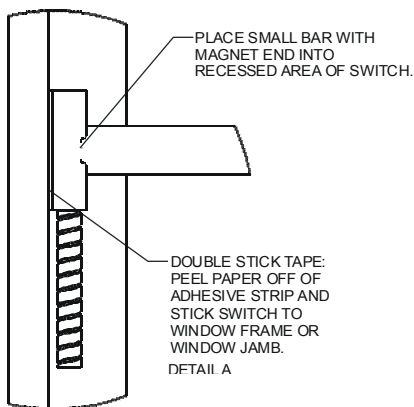


Diagram #1

### Installation Instructions for WB-30-42:

List of components

1 - Spring

2 - #4 x 1" Screws

2 - #6 x 1" Self-tap Screws

1 - 20" Round Bar, 3/4" Diameter

1 - 24" Round Bar, 5/8" Diameter

2 - Nylon Clamp

1 - G.R.I. 8504 Switch

1 - G.R.I. M-5065 Magnet (inserted in 5/8" bar)

1 - Non-Slip End Cap

The GRI Window Bars should be installed no more than 6 inches apart and no more than 6 inches from the top and bottom of the window frame. On a 14" high window, the bar should be vertically centered.

Test switch before installing by using a continuity tester or a similar device. With the leads of the switch connected to the tester, place a magnet next to switch. The contacts of the switch will open and close as the magnet is moved within range of the switch. Mount Window Bar into selected area of window, making certain it is spaced correctly as noted above. Place small end of bar into recessed area of switch. Remove backing from double stick tape on switch and install on window frame or jamb. See diagram #1.

Now that the Window Bar has been installed, test the switch again.

For angled window mounting, order the GRI WB-ASB bracket kit.

*Note: Instructions should be given on removal of barrier bars to all residents of building where window bars are in use. The Window Bar is removed by grasping the ends of the bar and pushing them to the center and pulling the bar out of the window.*

### Part Numbers:

WB-30-42

WB-ASB (Angle Bracket Kit)

### WARRANTY:

One year warranty against workmanship, material and factory defects

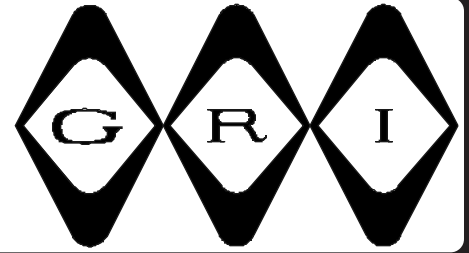
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WEB SITE: [www.grisk.com](http://www.grisk.com)

# HOLD-UP SWITCH



## HD-1 Latching/Non-Latching



**Will Trip Alarm Even When Operator Is Wearing Gloves!!**

- ◆ Silent Operation
- ◆ Tamper Resistant
- ◆ Low Profile
- ◆ End Of Line Resistor Terminals
- ◆ LED Indicates Armed State & Alarm Condition
- ◆ No Moving Parts
- ◆ No Reset Key To Lose
- ◆ Jumper Determines Latching or Non-Latching

The G.R.I. Hold-Up Devices can be installed in fast food restaurants, banks, mini-marts, health care facilities, jewelry stores or any installation that calls for an absolutely silent emergency alarm. The unique design features a glowing green LED to indicate an armed state. To insure against accidental tripping, both finger pads must be touched simultaneously. When this occurs, the LED glows red and the zone will go into an alarm condition. To reset to the armed condition of the latching option, simply touch the left finger pad. An accidental bump or touch will not trigger the G.R.I. Hold-Up Devices. CT technology allows even an operator wearing gloves to activate sensor. Perfect Hold-Up Device for fast food restaurants.

### Operation Parameters:

Normally Closed loop configuration.

12 volts DC required for operation at installation.

Silent operation.

Modern case design for installation above or below a counter or tabletop.

Easy installation: Hookup zone wires and mount on surface. Mounting screws included.



HD-1

### Relay Contacts:

|                  |                |
|------------------|----------------|
| Relay Type       | Solid State    |
| Relay Current    | 0.25 amp       |
| Relay Resistance | 4 ohms typical |

### Regulated Power Supply Requirements:

|         |              |
|---------|--------------|
| Voltage | 12 volts DC  |
| Current | 25 milliamps |

### Case:

Injection Molded  
Modern Design For Ease of Operation  
No Sharp Corners  
ABS Plastic For Durability

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KIMBALL, NE 69145



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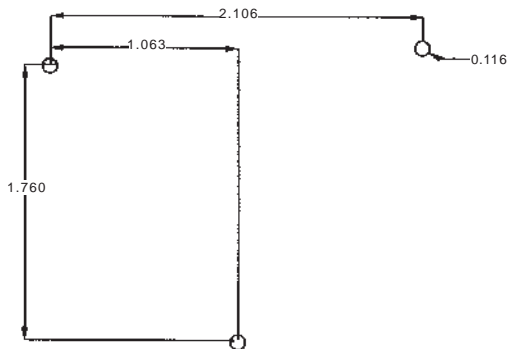
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# HOLD-UP SWITCH

## G.R.I. HOLD-UP DEVICE INSTALLATION NOTES:

1) Drill a hole pattern as indicated using a #32 drill:

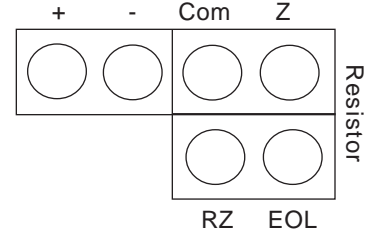


2) Connect power lines (+12 volts DC and Ground) to holdup terminal block. Then connect zone wires to Common and Z lines to security panel. If using an E.O.L. resistor, place one end of the resistor on Z and the other end on EOL. Use com and RZ for the zone wires.

### Jumper Setting

Non-Latching

Latching

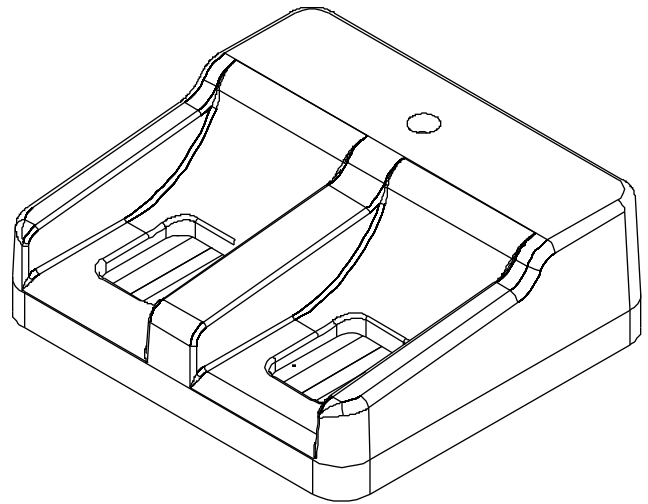
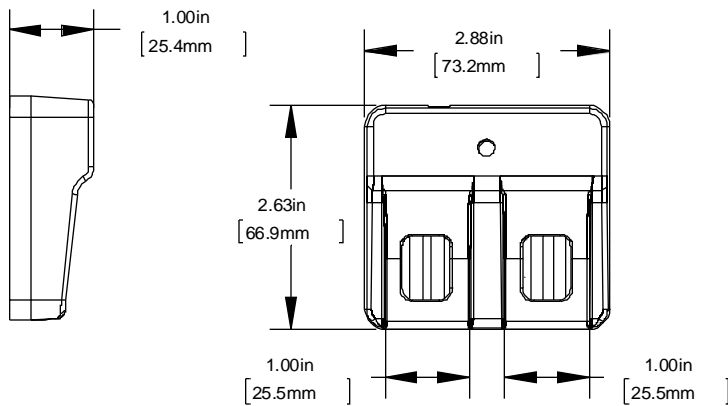


3) Mount unit base in desired position using the three, 3/4 inch pan head screws provided. Snap cover onto base.

4) Apply power to the unit. The armed state for both latching and non-latching hold-up options is indicated by the green LED being illuminated.

When both pads are touched at the same time, the armed green light will go out and the zone will be put into an alarm condition indicated by the red LED.

The non-latching option unit will automatically reset the output once the pads are released. To reset the output on the latching option, touch the left finger pad. Note that the LED will always latch red after going into the alarm and must be reset.



**WARRANTY:** One year warranty against workmanship, material and factory defects.

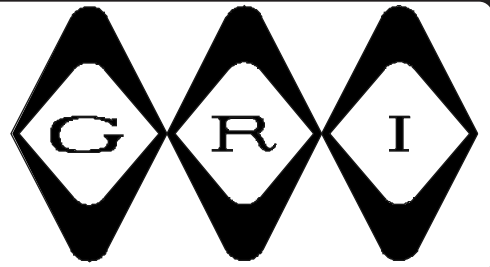
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# WIRE TRIP SWITCH



## WT-01

- ◆ Use In Windows, Crawl Spaces and Attics
- ◆ Not Susceptible To Insects and Temperature Extremes Like PIRS
  - ◆ Covers Unusual Openings
  - ◆ Environmentally Sealed Contacts
- ◆ Eliminates False Alarms and Nuisance Service Calls
- ◆ Magnetically Plunger Actuated    ◆ No Blades To Corrode
  - ◆ Replaces Older Mechanical Trip
  - ◆ Longer Service Life
- ◆ Vibration Free    ◆ Install and Forget
  - ◆ Available With Screw Terminals



WT-01

The WT-01 is made to cover openings where a normal switch won't adequately cover the opening like basement windows, attics, crawl spaces, or any other unusual opening. It can be used in places where PIRs would be troublesome due to insects and temperature extremes. Wire or string is criss-crossed across the opening. Then if the wire is pushed out of the way or cut the switch will trigger the alarm panel.

### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



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WEB SITE: [www.grisk.com](http://www.grisk.com)



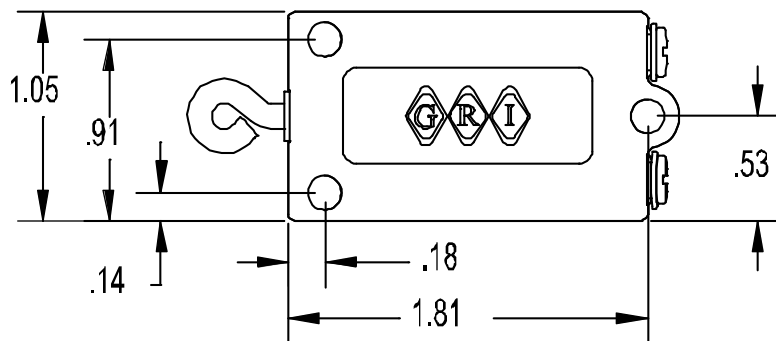
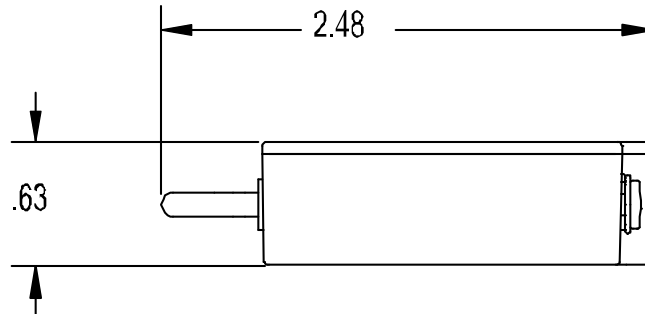


# WIRE TRIP SWITCH

**Installation Instructions:**

Wire/String is not supplied with the switch. Select a light weight wire/string and plan for enough length so that the opening can be criss-crossed enough times to adequately cover the opening. Wire/String should be light weight enough so that it will not impede exiting in case of emergency. **If opening is an emergency exit, consult local fire inspectors before installing.**

Select locations for switch and end hook and secure them in place with screws. Add eye hooks or similar hooks so that wire will criss-cross the opening. Tie the wire to the eye hook on the switch and run wire through other hooks to last hook. With a meter attached to the terminals of the switch pull on the wire until the plunger is in the middle of the closed range of the switch. Then tie the wire to the end hook. Some wire/strings will stretch over time so adjustments may need to be made to prevent false alarms. Adjustments can be made after the string is tied to the end hook by loosening the screw and sliding the end hook.



WT-01

**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| WT-01       | Closed    | N/O                | B         | .150                                   | 10                         | 160                             | .400                          |

Approx. Total Travel: .415

**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

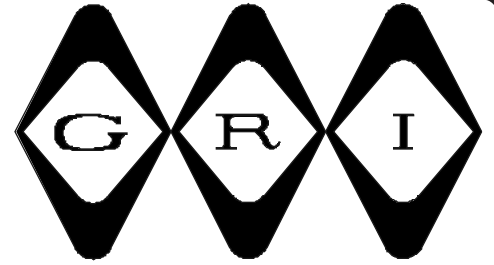
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# QUICK DISCONNECT CORD



## QDC-20



- ◆ Weather Pack Nylon Connectors Environmentally Sealed To Withstand Exposure to Temperature and Moisture.
  - ◆ Mounting Cases Potted With Epoxy
- ◆ Ideal For Transferring Power Across Gates, Overhead Doors and Other Openings Where a Standard Switch Will Not Work Due To Loose Fitting, Worn or Damaged Doors.
- ◆ Reinforcement Steel Cables With Plastic Coating To Prevent Scratching.
  - ◆ Heavy Duty 18AWG Two Conductor Cable.
  - ◆ Overall Length Approximately 20 Inches.
- ◆ Connectors Only Fit Together One Way and Mount Easily With Three Screws.
  - ◆ QDC-20s Can Be Installed In-line For Multiple Door Openings.

| PART NUMBER | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT |
|-------------|---------------------------------|---------------------------|
| QDC-20      | 200                             | 2 Amps                    |

**TEMPERATURE:**

Range: -40°F to 257°F      -40°C to 125°C

**WARRANTY:**

One year warranty against workmanship, material and factory defects.

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# SERVICE REPAIR CONNECTOR



## SRC-12



- ◆ Weather Pack Nylon Connectors Environmentally Sealed To Withstand Exposure to Temperature and Moisture.
- ◆ 12" Two Conductor Cable

This connector is used in the Agricultural and Industrial Industry for outdoor use. Ideal for use on HVAC Kit and other applications for removal of equipment for service and repair.

## Rugged, Fast and Simple

| PART NUMBER | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT |
|-------------|---------------------------------|---------------------------|
| SRC-12      | 200                             | 2 Amps                    |

**TEMPERATURE:**

Range: -40°F to 257°F -40°C to 125°C

**WARRANTY:**

One year warranty against workmanship, material and factory defects.

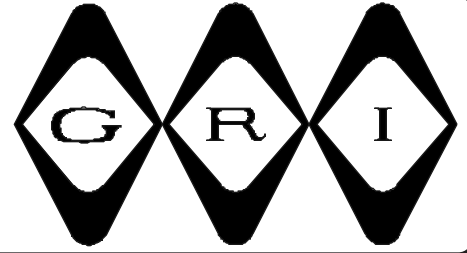
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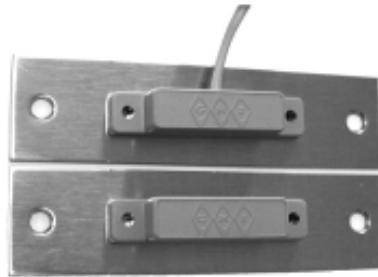
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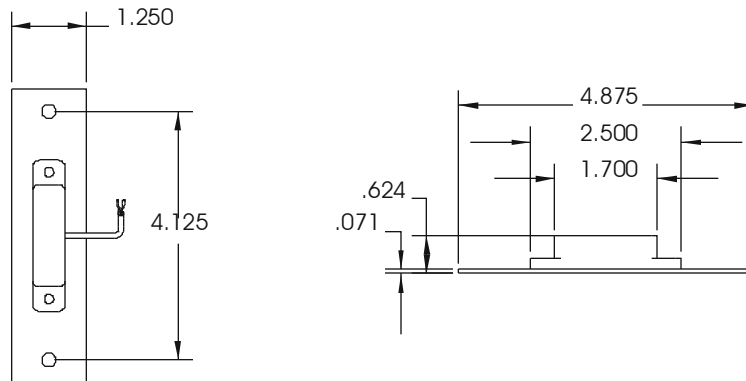
# RECESSED ANSI SWITCH



- ◆ U.L. Listed 
- ◆ Optimum Concealment Application
  - ◆ One Inch Gap On S.P.D.T.
  - ◆ 36" Jacketed Cable Lead, Custom Lengths Available
  - ◆ Easy Install Replaces standard ANSI Stainless Steel Door Plate
- ◆ Covert Installation Enhances Resistance To Tampering Or Compromise



229



**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| 229         | Open/Closed | SPDT               | C         | .140                                   | 5                          | 175 VDC                         | .250                          |
| 229PD       | Open/Closed | DPDT               | C         | .140                                   | 5                          | 175 VDC                         | .250                          |

**WARRANTY:**

Lifetime warranty against workmanship, material and factory defects.

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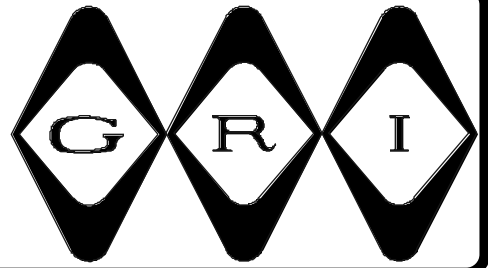


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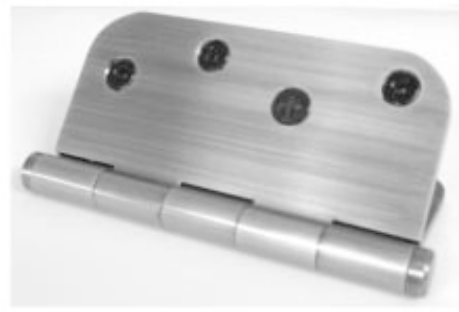
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# CONCEALED CONTACT HINGED DOOR POSITIONING SWITCH



## DPS70R



- ◆ Looks like a standard screw head
- ◆ Snaps in and locks into place in existing screw hole in hinge
- ◆ Simple patented design
- ◆ Paintable fake screw head blends in
- ◆ Standard is SPDT.
- ◆ Allows for all access control hardware to be in a central location
- ◆ Alarm contact and REX wires can all be located in a small section of the door
- ◆ Switch is a high grade GRI 70R Series
- ◆ Tested by Warnock Hersey in a burn test for standard doors and frames rated up to 3 hours
- ◆ Use only on Non-Ferrous Pivots and Hinges

- Tested and Listed for use on up to 3 hour fire rated doors and frames
- Available standard as SPDT (DPS70R)
- Anywhere you have a hinge, you can have a contact
- Patented, unique, cost saving design. Patent # 6,724,285.
- Remove one of the center screws on each side, snap in housing, insert switch and magnet (see instructions)
- Installs in just minutes, stays securely in place.
- Simple, U.L. listed, inexpensive design!
- Can be painted to match your hinge.



Included: 2 adapters (1 for magnet, 1 for switch) and 70R switch and magnet set (hinges not included). 5 sets per bag.

See DPS70R specs in 50R Recessed Switch section of catalog or web site.

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KIMBALL, NE 69145

BA-230 2/1/07



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# DOOR ALERT ANNUNCIATOR



## CLOSED LOOP

- ◆ Sounds Instantly When Door Opens
- ◆ Choice Of 2, 4 or 6 Second Sounding Time
- ◆ Choice Of Three Volume Settings
- ◆ Remote Sounders Available
- ◆ Monitors One Or More Openings
- ◆ Surface Mount Or Recessed
- ◆ SPDT Relay Output
- ◆ Standard Color Is White
- ◆ Battery Power and/or External Power



DA-1  
Recessed

THE GRI Door Alert Annunciator is designed to signal customer entry into a business establishment. A closed loop magnetic reed switch activates the Door Alert. It can be set by the installer for a two, four or six second sounding time. Offered in a recessed version (easily mounted in a single gang box) or as a surface mount version. Both units can be powered by an external 12 volt DC power source or 9 volt battery.

NOTE: Unit will function at minimum 7VDC at a very limited sounder volume. This power level is considered total battery failure.

CAUTION: To prevent a memory failure or circuit damage, external power source **must not exceed 15 VDC.**

| PART NUMBERS | DESCRIPTION  |
|--------------|--|
| DA-1         | Recessed Door Alert Annunciator - Closed Loop      |
| DA-2         | Surface Mount Door Alert Annunciator - Closed Loop |
| 184-2        | Recessed Remote Sounder                            |
| 184-7        | Surface Mount Remote Sounder                       |

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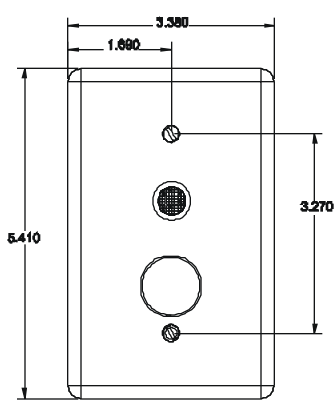


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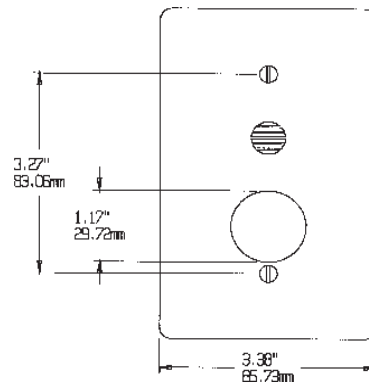
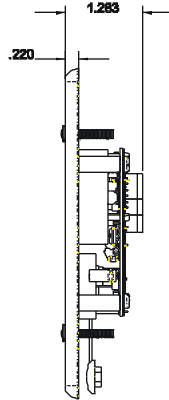
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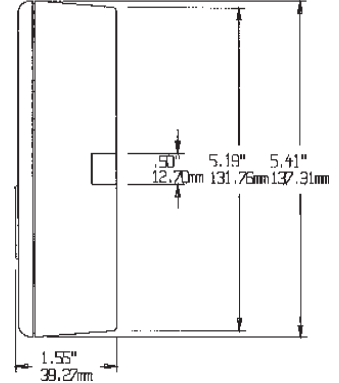
# DOOR ALERT ANNUNCIATOR



DA-1



DA-2



## INSTALLATION INSTRUCTIONS:

THE GRI Door Alert Annunciator monitors an entry by sounding instantly when the door is opened. It will sound for two, four or six seconds (jumper selectable) and can be wired to a 12 volt external power source or a 9 volt battery. Remote sounders can be added to cover isolated areas such as a stock room. If two doors are present, such as a regular door and a screen door, it is suggested that the switch be placed on the outermost door to allow the regular door to remain open for ventilation when desired. Using this method, the GRI Door Alert Annunciator will continue to monitor the entry way.

When two or more separate doors are to be monitored by installing individual switch sets on each door, the GRI Door Alert Annunciator will detect each door opening. CLOSED LOOP switches are required when installing the DA-1 or DA-2 GRI Door Alert Annunciator. Contact your GRI Distributor for the necessary switches or call the factory for more information.

The recessed version of the GRI Door Alert Annunciator is designed to fit into a single gang outlet box. The surface mount version can be easily mounted on an existing structure.

For custom options, please consult the factory.

## WARRANTY:

One year warranty against workmanship, material and factory defects.

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MADE IN U.S.A.

# DOOR MONITOR



- ◆ Monitors Entry/Exit
- ◆ Delay/Shunt Time Reprogrammable
- ◆ Alarm Sounding Auto Reset Capable
- ◆ Surface or Flush Mount Models
- ◆ Remote Sounders And Control Options
- ◆ External Power Required
- ◆ Built-in Battery Backup Capable
- ◆ Optional C Form Relay Outputs



290-1



290-2

The G.R.I. 290 Series Door Monitors have been designed to monitor access points leading to or from a controlled area, thus preventing doors from being accidentally left open or purposely propped open for extended periods of time. The 290 Series Door Monitors are fully self-contained alarm systems that can be mounted locally or remotely to monitor an access door using a simple closed loop magnetic reed switch. A perfect solution for that single exit door at the end of a long hallway or that isolated doorway everyone seems to forget about.

The G.R.I. 290-1 and 290-2 must be operated with a 12 volt externally supplied DC power source. If installed, the battery will perform a backup function should the external source fail. Both power sources have been designed to maintain a minimum sound pressure level of 85 dB.

NOTE: The unit will function at minimum 5 VDC at a very limited sounder volume. This power level is considered total battery failure.

CAUTION: To prevent a memory failure or circuit damage, external power source not to exceed 15 VDC.

| PART NUMBERS | DESCRIPTION                             |
|--------------|---|
| 290-1        | Recessed Door Monitor, Closed Loop      |
| 290-2        | Surface Mount Door Monitor, Closed Loop |

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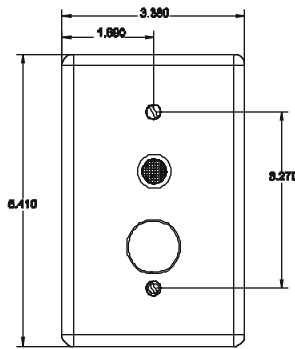
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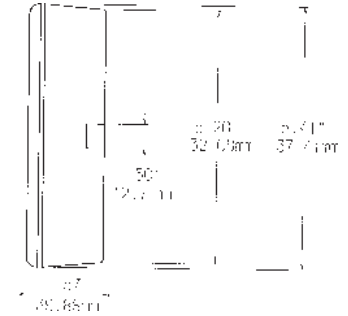
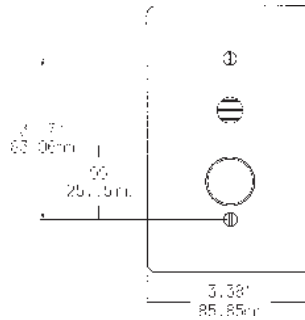
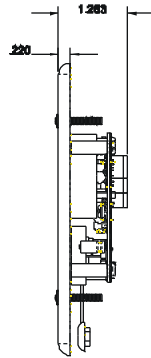




# Door Monitor



290-1



290-2

## INSTALLATION INSTRUCTIONS:

The G.R.I. 290 Series Door Monitor mounts easily to the wall next to any door which allows access to or from a controlled area. Using a closed loop magnetic reed switch, the unit will detect and announce an open access door by sounding a loud continuous alarm upon expiration of the delay time set. A surface mount and a recessed mount model are offered. Both incorporate a built-in shunt deactivation button to extend door open time without alarm sounding. Although the 290 Series Door Monitor cannot be turned off, this feature will simply deactivate the alarm function for the maximum time limit chosen. During this time span, the door must be closed before the alarm sounds. Once the alarm is sounding it can be silenced by closing the door, if the auto reset function has been chosen. If the auto reset is not chosen, the deactivation button must also be depressed. The sounder cannot be disabled by simply holding down the deactivation button. If multiple openings lead to the area, the G.R.I. 290 Series alarms can monitor all by installing closed loop switches wired in series. In this way, any opening will be detected. Auxiliary Normally Open shunt/deactivation buttons or switches can also be wired to utilize the timed shunt feature. Additional remote sounders may be wired in to extend sounder range. Please contact your G.R.I. factory representative for additional information or custom software options.

Capable of multiple settings for a delay/shunt time, the 290 series alarms can be configured by simple jumper placement to program the desired function. Jumper placement and function descriptions are as shown in the following table.

- 000 = 90 Second Delay/Aux Output Follows Alarm
- 00X = 60 Second Delay/Aux Output Follows Alarm
- 0X0 = 30 Second Delay/Aux Output Follows Alarm
- X00 = 15 Second Delay/Aux Output Follows Alarm

There is also a jumper setting which allows the auxiliary output to follow the door with auto reset.

To change or reconfigure delay/shunt time, first disconnect all power sources, reposition the jumpers and reapply power. Initially two beeps should be heard to confirm power up. Within 15 seconds a third beep should be heard to confirm reprogramming is complete.

## WARRANTY:

One year warranty against workmanship, material and factory defects.

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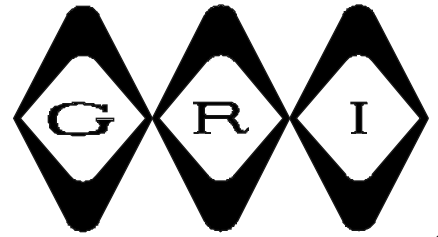


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# DOOR?MAN



## DM-1 Garage Door Monitor

*Ever leave the house and wonder,  
“Did I shut the garage door?”*

- ◆ Monitors The Position Of The Garage Door  
And Automatically Closes After A Preset Delay  
(3, 15, 30 or 60 Minute Delay)
- ◆ Hold Function To Keep Door Open
- ◆ Can Be Scheduled To Close At The Same Time Every Day
- ◆ Sounder Alerts That The Door Is About To Close
- ◆ Alarm Panel Relay Contact To Indicate That The Door  
Tried To Shut, But Something Was In Its Path
- ◆ Easy To Install With Simple Hand Tools
- ◆ Power Supply, Contact Switch, Mounting Bracket And Wire All Included
- ◆ Residential And Commercial Applications

### Included:

- Door?man DM-1
- 6973 Power Supply
- L Bracket
- 29A Wide Gap Switch
- 50 Feet Wire
- Double Stick Tape
- Screws
- Alcohol Swipes

### FBI Statistic

- Only one out of every four burglaries involve forced entry
- Most home burglaries are committed through a garage door left open or unlocked.

### Newspaper Headlines

“Suspect entered through open, unlocked garages.”

“Thefts, burglaries sky rocket as burglars look for open garage doors, unlocked entrances.”

“Deputies investigating string of burglaries through garages.”



DM-1

### WARRANTY:

One year warranty against workmanship, material and factory defects.

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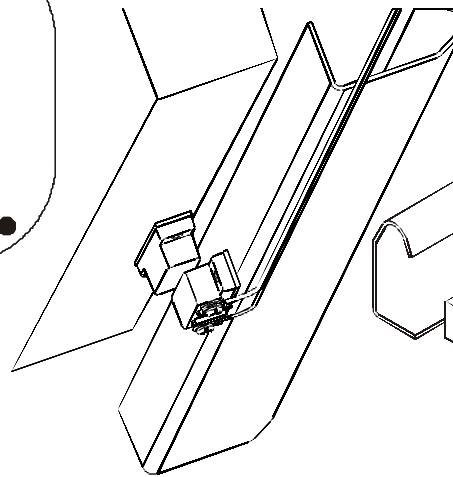
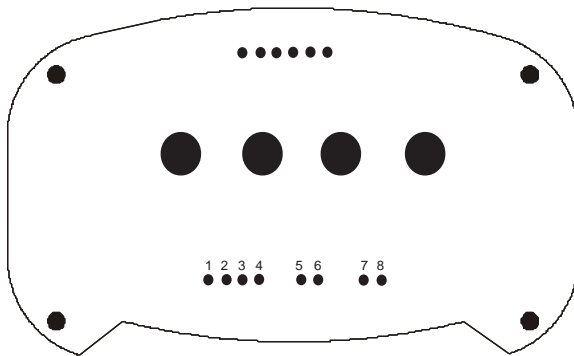
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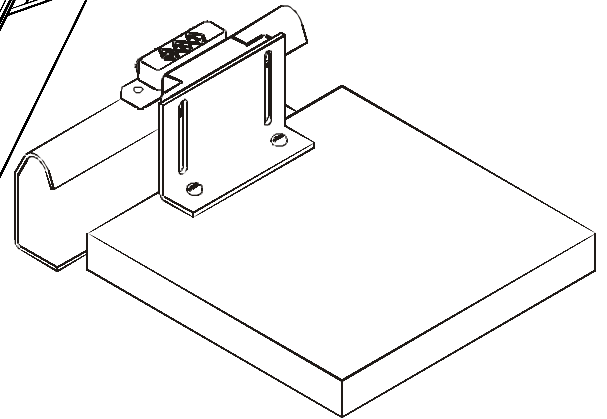
# DOOR?MAN

## Door?Man Connections:

1. Power (positive) Black wire with white stripe from power supply.
2. Power (negative) Black wire with no stripe from power supply.
3. Door Switch (29AWG)
4. Door Switch (29AWG)
5. Open/Close Switch from garage door opener.
6. Open/Close Switch from garage door opener.
7. Aux. Relay
8. Aux. Relay



Switch Mounted  
Without Bracket



Switch Mounted  
With Bracket

## OPERATING INSTRUCTIONS:

### Set Delay

- Decide length of delay.
- Press and hold delay button until selected time delay is displayed.

### Set Schedule

- Decide what time you would like the door closed every day. For example: 5 p.m. Press the schedule button at 5 p.m. until it beeps. The door will now make sure it is closed at 5 p.m. every day, or at whatever time is initially chosen. For the next 8 hours, if the door is opened, it will close after 3 minutes.

### Hold

- If the garage door needs to be left open for an extended period of time, open door and press hold.
- Reminder will beep every 30 minutes while door is open.
- To turn off hold feature, close the garage door and the Door?Man returns to previously set time.

**Caution:** The Door?Man must be used in conjunction with garage door openers that comply with the latest government safety requirements including automatic reversing mechanisms and obstacle detection.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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# ENGRAVED WALL PLATES



- ◆ Button And Collar Available In White, Black, Red, Green And Blue
- ◆ Custom Engraving or Heat Stamp
- ◆ Available in Surface Mount, Small & Oversized Recessed Single Gang White Plastic
- ◆ Oversized Plate Fits Standard Single Gang Box
- ◆ Surface Mount Has Hole In Back Of Box For Switch Wires



|                    | <b>Dimensions</b>           | <b>SPDT</b> |
|--------------------|-----------------------------|-------------|
| Small Recessed     | 2.66" W x 4.46" L           | PP-30       |
| Oversized Recessed | 3.38" W x 5.41" L           | PP-32       |
| Surface Mount      | 3.38" W x 5.41" L x 1.57" D | PP-34       |

**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE   | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-------------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| PP-30       | OPEN/CLOSED | SPDT               | C         | .100                                   | 5                          | 175VDC                          | .250                          |
| PP-32       | OPEN/CLOSED | SPDT               | C         | .100                                   | 5                          | 175VDC                          | .250                          |
| PP-34       | OPEN/CLOSED | SPDT               | C         | .100                                   | 5                          | 175VDC                          | .250                          |

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WEB SITE: [www.grisk.com](http://www.grisk.com)



# REMOTE STATION PLATES

- ◆ Standard or Custom Design
- ◆ Momentary Action
- ◆ Alternate Action
- ◆ Custom Design
- ◆ Engraving & Silk Screening
- ◆ Stainless Steel or White Plastic



| PART # | DESCRIPTION   |
|--------|---|
| SP 13  | Single Gang Stainless Steel Plate with Red/Green LED's/Optional Static Lens with "D" Hole. Also available in White Plastic.                           |
| SP 17  | Single Gang Stainless Steel Plate with One *Red Panic Button with Guard Ring. Also Available in White Plastic.  |
| NSP 17 | Narrow Gang Stainless Steel Plate with One Button (your choice of button color and engraving).  |
| SP 18  | Single Gang Stainless Steel Plate with one *Red Panic Button and One **Green General Purpose Button with Guard Ring. Also available in White Plastic. |
| SP 20  | Single Gang Stainless Steel Plate with Red/Green LED's/Optional Static Lens. Also available in White Plastic.   |

\*Momentary Action Reed Switch With Normally Open Contacts (Red Panic Button)

\*\*Alternate Action Switch With Normally Open Contact (Green General Purpose Button)

### Other Models Available - Ask Your GRI Representative

|             |                                   |             |                                   |
|-------------|-----------------------------------|-------------|-----------------------------------|
| Series PP:  | Single Gang Plastic Plate         | Series SP:  | Single Gang Stainless Steel Plate |
| Series DSP: | Double Gang Stainless Steel Plate | Series DPP: | Double Gang Plastic Plate         |

### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

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# TILT SENSOR

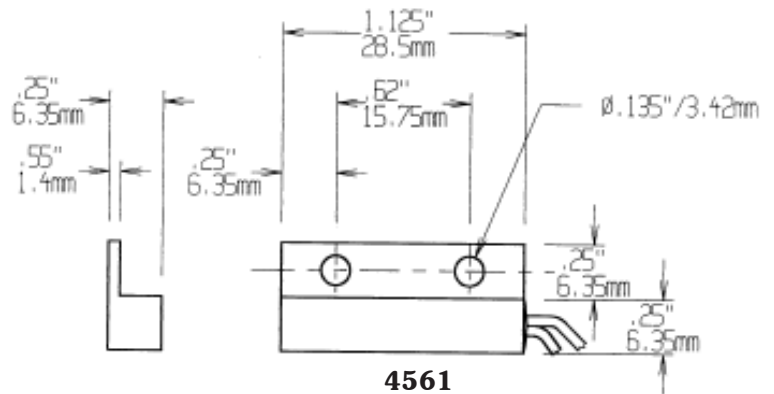


## 4561

- ◆ Attractive Miniature Profile
- ◆ Senses Movement Or Removal of Museum Pieces, Paintings, Valuable Art Objects
- ◆ Senses Tampering or Movement Of Equipment Covers
  - ◆ Signals An Alarm If Equipment is Moved



4561



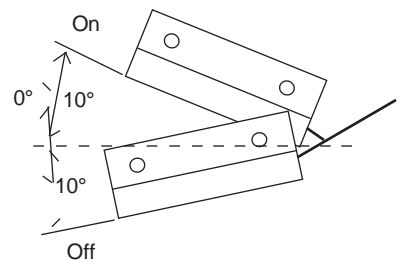
4561

The GRI Tilt Switch fits a variety of applications where accurate detection of tampering is critical. The GRI 4561 was designed for use in a closed or open loop zone. The switch is incredibly durable and is hermetically sealed. Operation is based on the tilting of the sensor more than 10°. Using the wires as a reference point, tilt the switch toward the wires and the circuit is closed. Tilting away from the wires opens the circuit. The GRI 4561 Tilt Switch is very precise and accurately assures long reliable service in adverse environments.

**Additional Applications:** May be used on computer equipment as well as televisions or other valuables in hotels or apartments. Use as a tamper switch on hood convenience lights or as a hatch open indicator. The GRI 4561 Tilt Switch can be used in any situation where the movement or removal of objects must be monitored. The GRI 4561 can be mounted with either screws or adhesive.

### SPECIFICATIONS:

|                             | AC Rating                | DC Rating               |
|-----------------------------|--------------------------|-------------------------|
| Ratings:                    | .5 Amps at 30 Volts AC   | .5 Amps at 30 Volts DC  |
|                             | .25 Amps at 120 Volts AC | .2 Amps at 120 Volts DC |
|                             | .2 Amps at 240 Volts AC  | .1 Amps at 240 Volts DC |
| Maximum Differential Angle: | 10 Degrees               |                         |



Not for sale in California.

### WARRANTY:

One year warranty against workmanship, material and factory defects

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# TILT SENSOR RoHS COMPLIANT

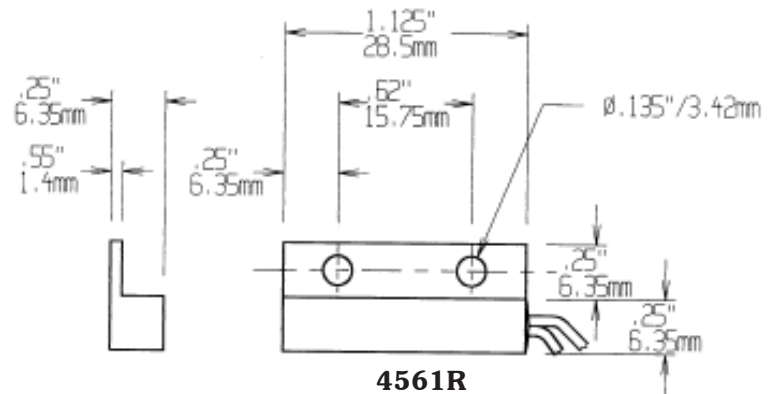


## 4561R

- ◆ Attractive Miniature Profile
- ◆ Senses Movement Or Removal of Museum Pieces, Paintings, Valuable Art Objects
- ◆ Senses Tampering or Movement Of Equipment Covers
  - ◆ Signals An Alarm If Equipment is Moved



**4561R**



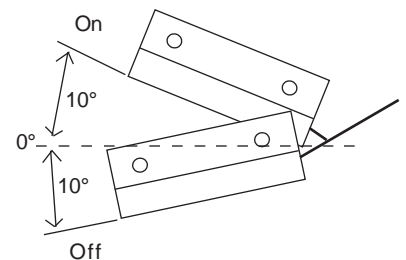
**4561R**

The GRI RoHS Tilt Switch fits a variety of applications where accurate detection of tampering is critical. The GRI 4561R was designed for use in a closed or open loop zone. The switch is incredibly durable and is hermetically sealed. Operation is based on the tilting of the sensor more than 10°. Using the wires as a reference point, tilt the switch toward the wires and the circuit is closed. Tilting away from the wires opens the circuit. The GRI 4561R Tilt Switch is very precise and accurately assures long reliable service in adverse environments.

**Additional Applications:** May be used on computer equipment as well as televisions or other valuables in hotels or apartments. Use as a tamper switch on hood convenience lights or as a hatch open indicator. The GRI 4561R Tilt Switch can be used in any situation where the movement or removal of objects must be monitored. The GRI 4561R can be mounted with either screws or adhesive.

### SPECIFICATIONS:

|  |                    |           |
|--|--------------------|-----------|
| Ratings:                               | Switching Voltage  | 60VAC Max |
|  | Switching Current  | 0.25A Max |
|  | Switching Capacity | 5VA Max   |
| Maximum Differential Angle: 10 Degrees |                    |           |



### WARRANTY:

One year warranty against workmanship, material and factory defects

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# OMNI-DIRECTIONAL TILT SENSOR



## ODTS-1

- ◆ Senses Tilts In Any Direction of 15° or More
- ◆ Only Required One Tilt Sensor To Detect Tilts In Any Direction
- ◆ 24" Jacketed Cable
- ◆ Can Be Used To Sense:
  - Tampering or Removal of Museum Pieces, Paintings & Valuable Objects
  - Removal Of Equipment Covers
  - Vandalism or Theft of Computers, Televisions & Other Equipment
  - Removal or Opening of Access Doors & Hatches

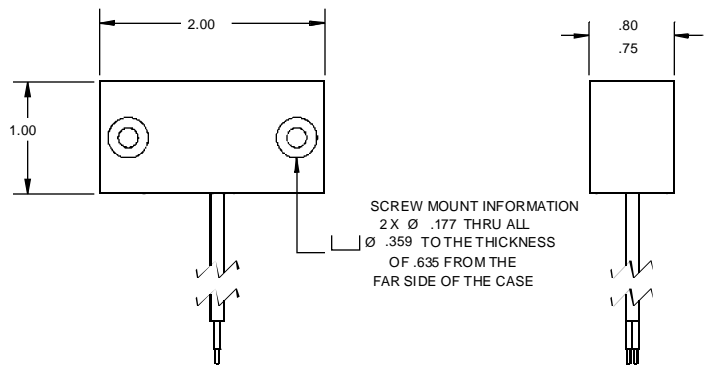


ODTS-1

### ODTS-2 Aluminum Housing

#### Description:

The GRI Omni-Direction Tilt Sensor can sense tampering and removal of equipment and valuable object. It senses movement by detecting tilts in any direction of more than 15°. Most tilt sensor on the market today only sense tilts in one direction. Being able to detect tilts in any direction with only one switch gives an added security and value.



#### Instructions:

The ODTS-1 needs to be mounted on a surface so that the switch is level and the cable is coming out of the bottom of the case. When the switch is level the circuit is closed. Tilt the switch in any direction more than 15° and the circuit will open. The switch should be mounted with screws to assure proper operation and prevent false alarms.

**Note:** If you have other mounting or case requirements or need a different operating angle, contact GRI.

#### Specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | MAXIMUM CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (VA) | MAXIMUM SWITCHING VOLTAGE (VAC) | MAXIMUM SWITCHING CURRENT (A) | OPERATING ANGLE |
|-------------|-----------|--------------------|--------------------------------|-----------------------------|---------------------------------|-------------------------------|-----------------|
| ODTS-1      | CLOSED    | N/C                | 5                              | 200                         | 120                             | 1.5                           | 15° ± 3°        |
| ODTS-2      | CLOSED    | N/C                | 5                              | 200                         | 120                             | 1.5                           | 15° ± 3°        |

Not for sale in California.

**WARRANTY:** One year warranty against workmanship, material and factory defects

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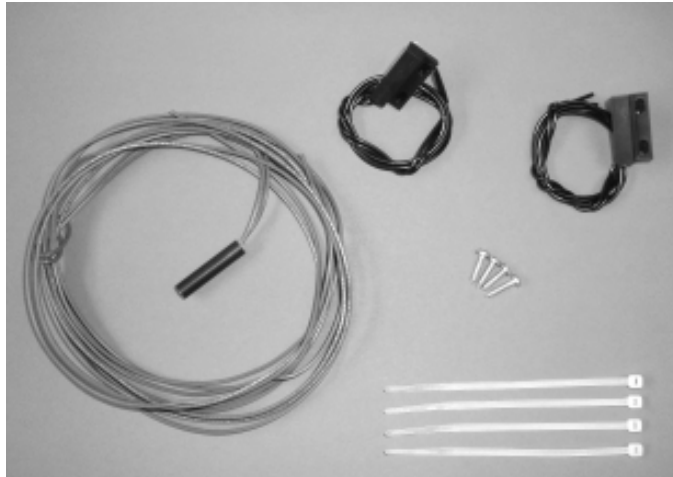


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# HVAC KIT



Kit Includes  
 2 4561 Tilt Sensors  
 1 Specified Resistor Pack w/72" Lead  
 4 4" Nylon wire Ties

## HVAC KIT:

The HVAC Kit is designed to help prevent loss of air conditioning coils on homes and commercial buildings by the use of two or more 4561 Tilt Switches and panel specific Resistor R1-72-# (resistor value i.e. 2.2).

## INSTALLATION:

The two or more Tilt Switches are placed in opposite corners of the covers of the air conditioner and wired in series in a closed loop as a tamper of the cover (optional reed switch can be added). If the cover is tipped or removed you will get an alarm signal. An all weather disconnect plug for servicing the unit may be added. (See 4561 Tilt cut sheet for installation.)

The R1-72-# resistor will be epoxied somewhere in the air conditioner so not to interfere with the operation of the unit. Taking one of the wires one way and one wire the other, loop the wires through the coils of the unit and non-moving parts using wire ties. If the wire is cut or disconnected the resistor value shows a loss to the panel and you have an alarm condition. You may want to put an all weather connector for service of unit on this zone, if not, you can wire the R1-72-# to the security panel.

## OVERVIEW:

The resistor is your security device as it is looped through the air conditioner or any object you would like to secure by epoxying the R1-72-# to the unit. Use plastic ties to secure the wire to the unit and any part of the unit that you can go through or around. You want the R1-72-# wired so that it can't be removed from the air conditioner without being cut or disconnected, this is your EOL. That is what is giving you supervision of the unit to the panel. The Tilt Switch is just one more step to help you secure the unit. You can also add G.R.I. reed switches (4460A) to the cover if you like. For best results use two zones on your panel, if not, you can use one zone in series with all devices.

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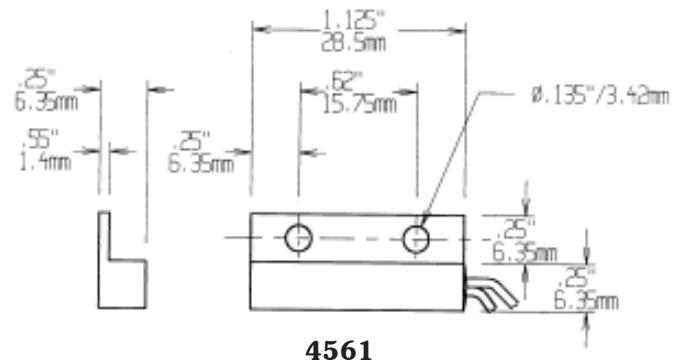
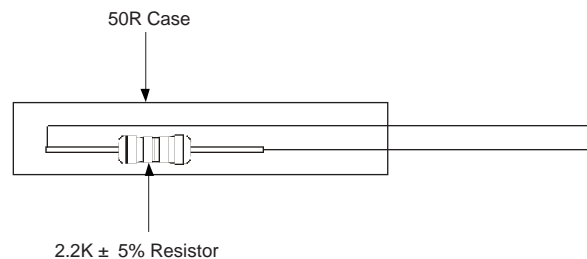
## HVAC KIT

### HVAC-(specified resistor value)

Examples: HVAC-2.2K  
 HVAC-5.6K



**R1:** 1 Resistor. Designate your value.

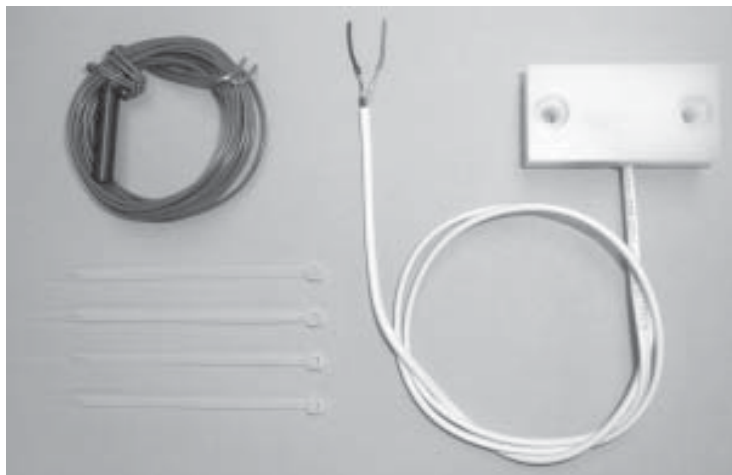


AVAILABLE  
 Service Repair Cord SRC-12  
 See Spec Sheet

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# HVACO KIT OMNI-DIRECTIONAL



## HVACO KIT HVACO-(specified resistor value) Examples: HVACO-2.2K HVACO-5.6K

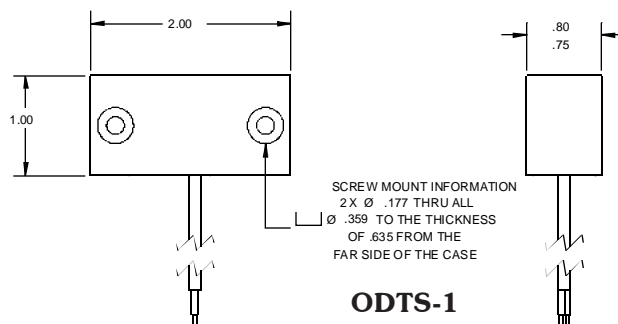


ODTS-1

**R1:** 1 Resistor. Designate your value.



2.2K  $\pm$  5% Resistor  
50R Case



ODTS-1

### Kit Includes

- 1 ODTS-1 Omni-Directional Tilt Sensor w/24" Jacketed Cable
- 1 Specified Resistor Pack w/72" Lead
- 4 4" Nylon wire Ties

### HVACO KIT:

The HVACO Kit is designed to help prevent loss of air conditioning coils on homes and commercial buildings by the use of one ODTS-1 Tilt Switch and panel specific Resistor R1-72-# (resistor value i.e. 2.2).

### INSTALLATION:

The ODTS-1 needs to be mounted inside the cover of the air conditioner so that the switch is level and the cable is coming out the bottom of the case and wired in series in a closed loop as a tamper of the cover (optional reed switch can be added). If the cover is tipped or removed you will get an alarm signal. An all weather disconnect plug for servicing the unit may be added. (See 4561 Tilt cut sheet for installation.)

The R1-72-# resistor will be epoxied somewhere in the air conditioner so not to interfere with the operation of the unit. Taking one of the wires one way and one wire the other, loop the wires through the coils of the unit and non-moving parts using wire ties. If the wire is cut or disconnected the resistor value shows a loss to the panel and you have an alarm condition. You may want to put an all weather connector for service of unit on this zone, if not, you can wire the R1-72-# to the security panel.

### OVERVIEW:

The resistor is your security device as it is looped through the air conditioner or any object you would like to secure by epoxying the R1-72-# to the unit. Use plastic ties to secure the wire to the unit and any part of the unit that you can go through or around. You want the R1-72-# wired so that it can't be removed from the air conditioner without being cut or disconnected, this is your EOL. That is what is giving you supervision of the unit to the panel. The Tilt Switch is just one more step to help you secure the unit. You can also add G.R.I. reed switches (4460A) to the cover if you like. For best results use two zones on your panel, if not, you can use one zone in series with all devices.

AVAILABLE  
Service Repair Cord SRC-12  
See Spec Sheet

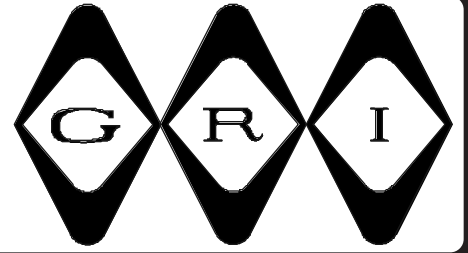
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KIMBALL, NE 69145

BA-236 Rev F 10/28/2011

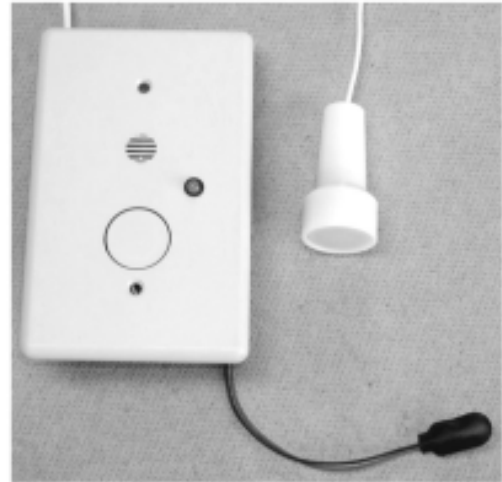
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E-MAIL: grisales@megavision.com  
WEB SITE: www.grisk.com

# HOME NURSE CALL SYSTEM



- ◆ Instant Alarm
- ◆ Signalling Device
- ◆ Self Contained
- ◆ Local Alarm and Flashing LED
- ◆ 2 Form C Relays
- ◆ Microprocessor Controlled
- ◆ Low Battery Indicator



NC-20

## APPLICATION:

The NC-20 is designed as a signaling device for use as a self contained Home Nurse Call System. The GRI Model NC-20 will sound a local alarm and flash an LED indicator, should anyone press the supplied (GRI CB-20) Call Button. The GRI NC-20 is also equipped with a form C relay output connections for use with external signaling devices.

## DESCRIPTION:

The GRI Home Nurse Call System uses a microprocessor to monitor the open loop momentary push button (Call Button). The reset/cancel button, the supply voltage and provides control for sounder, LED and relay outputs. The Nurse Call System is set to alarm the instant the Call button is depressed. The sounder will continue to sound until the reset/cancel button is depressed. Other features for the NC-20 would include an adjustable sounder volume, power/alarm LED indicator, low battery indicator and (2 form C relay) contacts for control of external devices.

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# HOME NURSE CALL SYSTEM

## INSTALLATION WIRING DIAGRAM

For Multiple  
Call Buttons

If more than one Call Button is used, the switches should be connected in parallel as in Figure 1.

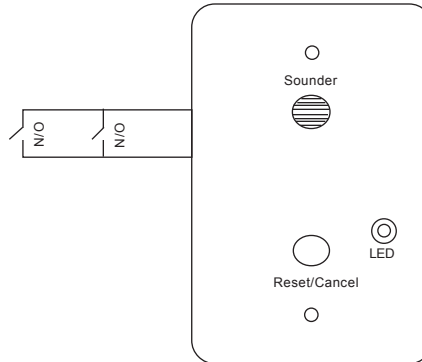
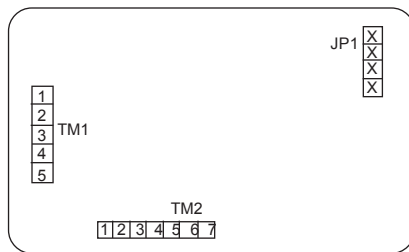


Figure 1. Wiring Diagram

Figure 2.  
Terminal  
Connections  
& Jumpers



### TERMINAL TM1

1. External Power (+)
2. Ground
3. Remote Reset/Delay Switch
4. Call Button -
5. Call Button +

### TERMINAL TM2

1. Relay N/O
2. Relay Common
3. Relay N/C
4. Relay N/O
5. Relay Common
6. Relay N/C

### Sounder Volume Control JP-1

|   |             |
|---|-------------|
| X | Full Volume |
| X |             |
| X |             |
| X | 3/4 Volume  |
| X |             |
| X |             |
| X | 1/2 Volume  |
| X |             |
| X |             |

It is suggested applied voltage not exceed 15 VDC and surge protection, such as the GRI CS-1 Current Sensor, be used between the power supply and all GRI Low Voltage Alarms using external power.

NOTE: Unit will function at minimum 5VDC at a very limited sounder volume. This power level is considered total battery failure.

### SPECIFICATIONS:

|                                      |                                      |
|--------------------------------------|--------------------------------------|
| Battery Type                         | Standard 9 Volt                      |
| Battery Life                         | Approximately 3-6 months             |
| External Power                       | 9 to 12 VDC                          |
| Max. Input Power                     | 40 mA                                |
| Recommended<br>External Power Supply | 12V DC 500 mA Regulated Output       |
| Low Bat Mode                         | 6.5V DC                              |
| Sounder Rated<br>Switch              | 85 dB at 10 Ft. (3.5 M)<br>Open Loop |

### Relay Contacts

|                            |           |
|----------------------------|-----------|
| Nominal Switching Capacity | 2A 30 VDC |
| Max Switching Power        | 60 Watts  |
| Max Switching Current      | 2 Amps    |

**WARRANTY:** One year against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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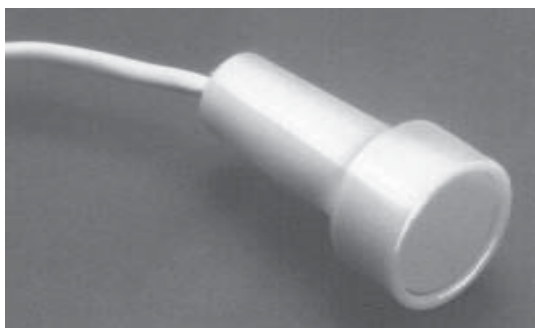
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# PANIC SWITCH CALL BUTTON



## CB-20 SERIES

- ◆ Nurse Call For Medical Facilities
  - ◆ Panic Switch For The Elderly
  - ◆ Mechanical Type Call Button
- ◆ Momentary Or Push On/Push Off Latching Action
  - ◆ Button Legend Engraving Available
  - ◆ Supervisory Loops Available Upon Request
- ◆ 10' Two conductor #22AWG Vinyl Jacketed Lead Standard
- ◆ Optional 10' Two Conductor #18AWG Heavy Duty Jacketed Lead



### PART NUMBERS

|                  | <b>Open Loop</b> |
|------------------|------------------|
| Momentary Action | CB-20            |
|                  | CB-20HD          |
| Push On/Push Off | CBL-20           |
| Latching Action  | CBL-20HD         |

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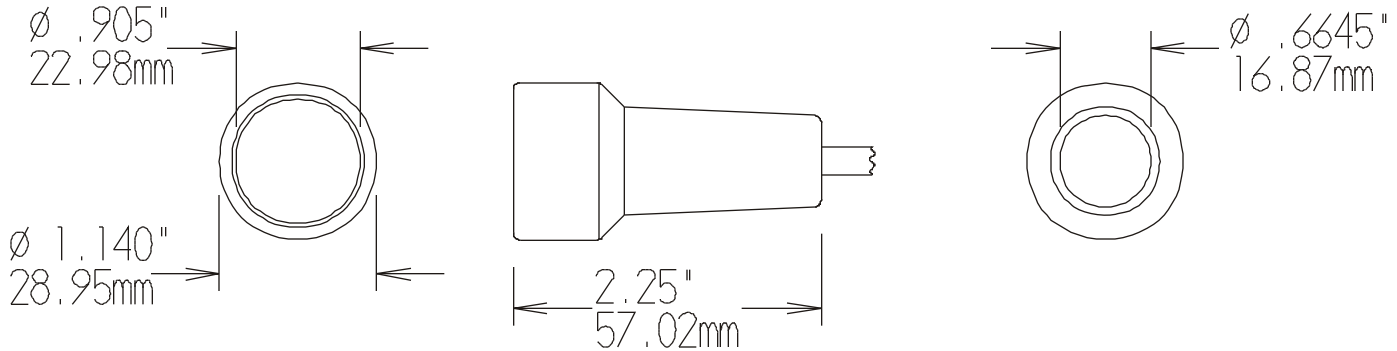
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# PANIC SWITCH CALL BUTTON

## INSTALLATION APPLICATIONS:

Ideal for any situation, the GRI CB-20 is a hand held, mechanical Call Button, designed for use in medical facilities such as Hospitals, Assisted Living and Nursing Homes to alert the staff to emergency situations with residents. They are also designed for use in residential bedrooms, baths, workrooms and other areas where some type of annunciation may be required, particularly where elderly persons' health needs are a concern. This Momentary or Latching Call Button has ten feet of #22AWG, standard 2 conductor or optional #18AWG, heavy-duty jacketed cable for more commercial type usage. The CB-20 can be mounted into a wall plate at installation or hooked onto a wall for easy access. The button can be engraved per your request: Emergency, Help or Panic for example.



## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | REED FORM        | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|------------------|--|---------------------------------|-------------------------------|
| CB-20       | Open      | SPST N/O           | Momentary        | .100                                   | 12                              | .100                          |
| CBL-20      | Open      | SPST N/O           | Alternate Action | .100                                   | 12                              | .100                          |
| CB-20HD     | Open      | SPST N/O           | Momentary        | .100                                   | 12                              | .100                          |
| CBL-20HD    | Open      | SPST N/O           | Alternate Action | .100                                   | 12                              | .100                          |

## WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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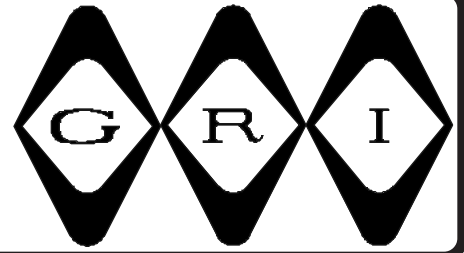


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BA-66 Rev. C 8/31/2010

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# PROGRAMMABLE RELAY MODULE



## PRM-1

- ◆ 9 - 12 Volts DC - Battery or Externally Supplied Power
- ◆ 85 dB Max. Local Annunciation With Adjustable Control
- ◆ 2 Form C (SPDT) Relay Outputs Available For Control
- ◆ Visual Indicators for Normal and Alarm Conditions
- ◆ User Programming Functions For Timing and Delays
- ◆ Factory Defaults (Contact Factory for Options)
- ◆ Available in Almond Only



### DESCRIPTION:

GRI presents the PRM-1, an incredibly flexible appliance capable of monitoring any open or closed loop sensor using battery and/or external power (recommended). The PRM-1 makes use of local annunciation, provides 2 Form C relay outputs, a bi-color LED, an Onset button for reset and programming, and a built-in testing function.

Used as a stand alone system, the PRM-1 can provide a local warning alarm with a flashing visual signal, or be limited to a visual signal only. Should remote monitoring and/or equipment control be desired, the relay output(s) may be connected directly to an alarm panel or wireless transmitter to provide monitoring. The PRM-1 can also be connected to an on/off controller of a pump, blower motor or other similar appliance.

1) The Sounder produces 85dB at 9 volts DC at alarm. The audible alarm will also sound intermittently to indicate low battery condition if voltage drops below 7.5 volts DC.

2) The green LED will flash every 60 seconds indicating normal operating conditions. It will also flash once per second during input shunt delay and also during user programming. The red LED will flash rapidly indicating alarm. A slow flashing red LED indicates alarm activated, but unit is in a timed alarm reset mode.

3) When PRM-1 is in normal monitoring state, depressing and releasing the Onset button will start the shunt time set. Depressing and holding the Onset button will place the PRM-1 into the test function. If PRM-1 is in alarm, depressing and releasing the Onset button will silence the local alarm and reset the relay output. The PRM-1 will then return to the normal monitoring state.

#### Model Options offered:

Model with no sounder

Model with 1, 2 or 4 sensor inputs

GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

TOLL-FREE 1-800-445-5218

TOLL-FREE 1-800-523-1227

(308) 235-4645

FAX (308) 235-3561

E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)

WEB SITE: [www.grisk.com](http://www.grisk.com)

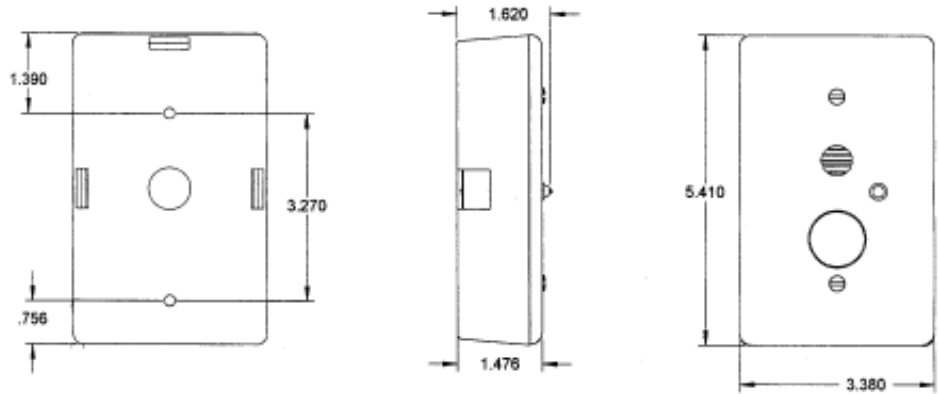
# PROGRAMMABLE RELAY MODULE



## INSTALLATION:

Upon removing the PRM-1 from the surface mount box a knockout can be observed on the back of the box for the exit/entrance of wires. One can attach the surface mount case directly to the wall or the PRM-1 may be mounted in a single gang electrical box. Attach the sensor wires to the terminal block TM1. The PRM-1 standard factory default programming is set for Open Loop inputs, no alarm delay (instant response) and a seven second manual shunt time.

To connect multiple sensors, contact GRI at the numbers provided at the bottom of this document. Optional external power of 9 to 12 volts DC can be connected to the terminal block TM1 at Pins 1 and 2. Pin 1 for + DC, Pin 2 is ground. An optional remote reset function is available by connecting a Normally Open momentary switch to TM1 Pin 3 and Pin 2. TM2 Pins 1 through 6 are used for the 2 Form C Relay Outputs. Pins 1 and 2, and 4 and 5 for Normally Open contacts and Pins 2 and 3, and 5 and 6 for Normally Closed contacts.



## SPECIFICATIONS:

|                  |  |
|------------------|--|
| Battery Type     | 9 Volt Alkaline (Recommended)          |
| Battery Life     | Approximately 9 months                 |
| External Power   | 9 to 12 VDC                            |
| Low Battery Mode | 7.5 volts (Threshold)                  |
| Sounder          | 85 dB at 10 feet                       |
| Relay Contacts   | Max contact rating 30W DC<br>62.5VA AC |
|                  | Max switching voltage 125V DC/AC       |
|                  | Max switching current 1AMP DC/AC       |

|  | TM1           | TM2           |
|--|---------------|---------------|
|  | 1 EXT PWR(+)  | 1 A RELAY N/O |
|  | 2 GROUND(-)   | 2 A COMMON    |
|  | 3 RESET       | 3 A RELAY N/C |
|  | 4 SENSOR(-)   | 4 B RELAY N/O |
|  | 5 SENSOR 1(+) | 5 COMMON      |
|  | 6 SENSOR 2(+) | 6 B RELAY N/C |
|  | 7 SENSOR 3(+) | 7 GROUND(-)   |
|  | 8 SENSOR 4(+) |               |

Available Options {

## TEST MODE:

When the PRM-1 enters the test mode, it tests the condition of the sounder by activating it with two short beeps. It also tests the condition of all LEDs by turning them on, and tests the condition of the battery by disabling external power and measuring battery voltage under a load. If a low battery is detected, the annunciator will sound 3 short beeps 3 times, then the unit re-enters its normal monitoring mode.

## WARRANTY:

One year warranty against workmanship, material and factory defects.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

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WEB SITE: [www.grisk.com](http://www.grisk.com)





# GLASS GUARD CLOSED LOOP

## On The Glass Shock Sensor

- ◆ Low Profile
- ◆ Mounts Directly On Glass
- ◆ Hermetically Sealed
- ◆ Non-Latching
- ◆ Non-Polarity Sensitive
- ◆ Security Panel Operations Only
- ◆ Extreme UV Resistant Tape



**GB-550**

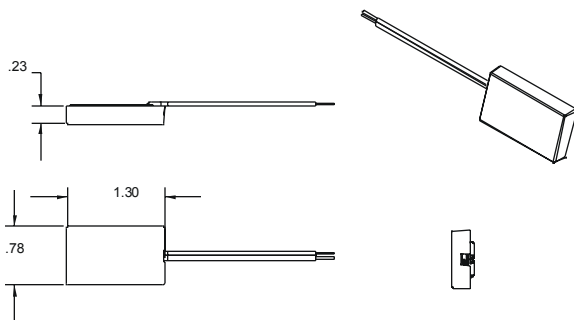
When glass breaks and/or shatters, shock waves are sent in a multitude of directions. The GRI glass break sensor is designed to detect those shock waves. The sensor is sensitive to shock waves from the glass it is attached to while ignoring the rumbling of vehicle traffic, noisy airplanes or nearby train crossings. The GB-550 covers both small and large windows, both narrow and wide. This device will detect shock waves of shattering glass on a radius measuring approximately 10' from the GB-550. The petite size and elegance of the device makes it simple to install with double faced 3M UV resistant tape.

### Instructions for Installation of Glass Guard:

Mount the Glass Guard near a corner of the window, preferably 1 1/2" to 2" from the corner. The Glass Guard will monitor a window that is 10' diagonally measured.

The Glass Guard is powered from the alarm system control panel. The Glass Guard has two 24" wires. Attach one wire to the positive side of the zone from the control panel. Attach the other wire to the negative side of the zone from the control panel.

**Tape application:** To apply the tape to glass, make sure the surface of the glass is thoroughly cleaned with denatured alcohol or a similar IPA/water mixture. Wipe the glass surface, let it dry completely and then apply the tape/Glass Guard to the cleaned glass. **WARNING!!!** This is a powerful adhesive tape. Be very careful where you stick the tape. There won't be a second chance.



### GB-550 GLASS GUARD ELECTRICAL SPECIFICATIONS

|                    |               |
|--------------------|---------------|
| Voltage:           | 10 Volt Max   |
| Switching Current: | 14 mA         |
| On Resistance:     | 470 Ohm Max   |
| Off Resistance:    | 1 Megaohm Min |

Intended for Security Panel Operations ONLY!

### WARRANTY:

One year warranty against workmanship, material and factory defects

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G.R.I. PLAZA  
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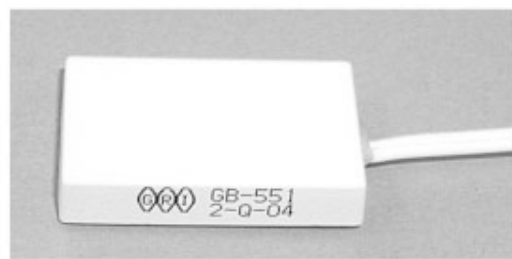
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WEB SITE: [www.grisk.com](http://www.grisk.com)



# GLASS GUARD OPEN LOOP

## On The Glass Shock Sensor

- ◆ Low Profile
- ◆ Mounts Directly On Glass
- ◆ Hermetically Sealed ◆ Latching
- ◆ Security Panel Operations Only
- ◆ Reverse Polarity Protected
- ◆ Extreme UV Resistant Tape



**GB-551**

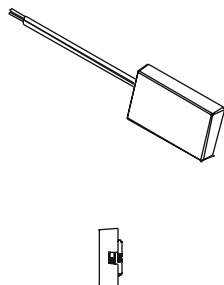
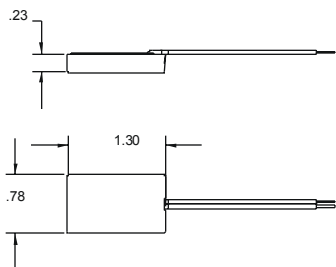
When glass breaks and/or shatters, shock waves are sent in a multitude of directions. The GRI glass break sensor is designed to detect those shock waves. The sensor is sensitive to shock waves from the glass it is attached to while ignoring the rumbling of vehicle traffic, noisy airplanes or nearby train crossings. The GB-551 covers both small and large windows, both narrow and wide. This device will detect shock waves of shattering glass on a radius measuring approximately 10' from the GB-551. Power for the device comes from the alarm panel zone power. The glass break sensor will latch on alarm and is reset by interrupting power momentarily. The petite size and elegance of the device makes it simple to install with double faced 3M UV resistant tape.

### Instructions for Installation of Glass Guard:

Mount the Glass Guard near a corner of the window, preferably 1 1/2" to 2" from the corner. The Glass Guard will monitor a window that is 10' diagonally measured.

The Glass Guard is powered from the alarm system control panel. The Glass Guard has two wires, one is gold colored and the other is silver colored. **IMPORTANT:** Attach the gold colored wire to the positive side of the zone from the control panel. Attach the silver colored wire to the negative side of the zone from the control panel.

Tape application: To apply the tape to glass, make sure the surface of the glass is thoroughly cleaned with denatured alcohol or a similar IPA/water mixture. Wipe the glass surface, let it dry completely and then apply the tape/Glass Guard to the cleaned glass. **WARNING!!!** This is a powerful adhesive tape. Be very careful where you stick the tape. There won't be a second chance.



### GB-551 GLASS GUARD ELECTRICAL SPECIFICATIONS

|   |   |
|---|---|
| Voltage:  | 3 - 24 Volts DC   |
| Switching Current:  | 14 mA   |
| On Resistance:  | 470 Ohm   |
| Off Resistance:   | 1 Megaohm   |
| Power Consumption:  | On - 2 Milliwatts Max at 24 VDC<br>Off - 0 Milliwatts Minimum |
| Gold Wire Positive/Silver Wire Negative. Reverse Polarity Protected |   |
| Intended for Security Panel Operations ONLY!                        |   |

### WARRANTY:

One year warranty against workmanship, material and factory defects

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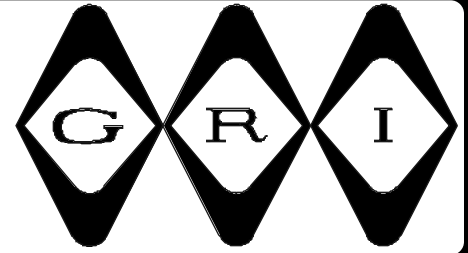
BA-211 Rev C 9/26/07



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# SHOCKGARD USA



## Shockgard 1 SG-1



- ◆ Solid State Piezo Electric Sensor
- ◆ No Processor Unit Required
- ◆ Bi-Colored Latching LED Indicator For Visual Confirmation
- ◆ Pulse Count and Gross Attack
- ◆ Non-Latching Relay
- ◆ On Board Tamper Switch, In Series With Alarm Relay Contacts
- ◆ Wide Range of Surface Protection Including: Glass, Wall, Doors, Etc.
- ◆ Available In White and Brown
- ◆ Wide Input Voltage Range
- ◆ Small Aesthetically Pleasing Design

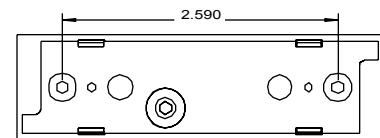
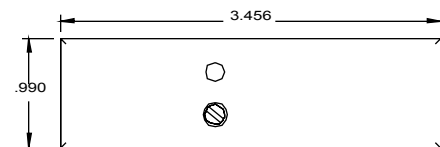
### Detection Range (\*)

| Surface | Brick Wall | Steel  | Wood     | Concrete | Plywood | Gyproc | Glass    |
|---------|------------|--------|----------|----------|---------|--------|----------|
| Radius  | 8 ft.      | 10 ft. | 11.5 ft. | 5 ft.    | 13 ft.  | 8 ft.  | 11.5 ft. |

(\*) All values quoted are typical and are subject to practical testing which must be made for each installation. In some environments, attenuation may be very high.

| Technical Specifications         | Shockgard 1                         |
|----------------------------------|-------------------------------------|
| Supply Voltage                   | 9-15 Volt DC, Regulated             |
| Current Consumption Quiescent    | 15mA Maximum                        |
| Current Consumption Alarm        | 16mA Maximum Flashing LED 27mA      |
| Temperature Limit                | -4°F to +140°F (-20°C to +60°C)     |
| Relative Humidity at 30°C        | 0-90%                               |
| Sensitivity Setting              | Dual Stage Potentiometer            |
| Latching/Non Latching            | 1st + Subsequent or Any + 6 Wire    |
| Indicator                        | Two Color LED                       |
| Dimensions                       | 23 x 25 x 86 mm                     |
| Relay Contact Rating             | 150mA 24V Resistive 10 Ohm 1/4 Watt |
| Time Relay Open in Alarm         | 1 Second Minimum                    |
| Pulse Count                      | 2, 4 or 6                           |
| Max No. of units on any Latch    | 80                                  |
| Max. No of units on 1st to Latch | 10                                  |

This product is suitable for use in systems designed to comply with EN50131-1 and PD6662:2004 at grade 3 and environmental class 2.



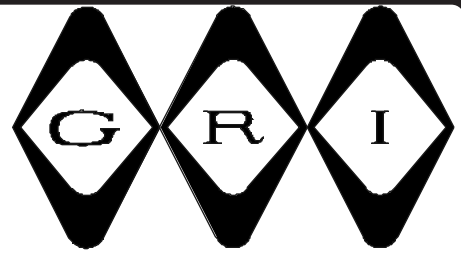
BOTTOM  
(Mounting Hole)

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BA-172 9/13/2007

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# TIMED ELECTRONIC SHUNT SWITCH



## SB-2000/SB-2001

- ◆ Adjustable Timed Shunt With Indicating LED
  - ◆ Allows Exit Without Disarming System
- ◆ External Power Wiring Required    ◆ Eliminates Need For Codes
  - ◆ Residential & Commercial Applications

### APPLICATION:

The GRI SB-2000 is an electronic add on device that can be incorporated into any existing closed loop circuit. It provides a simple to operate, automatic method of shunting (bypassing) a single or multiple device(s) within that protective loop for a preset amount of time, which may be set by the user. Typical applications for this device include homes and businesses using an alarm system to monitor a door which might need to be opened after the alarm is set. Examples of this are letting the family pet out or having employees leave after hours. Several advantages of the SB-2000 are that there are no codes to learn (or to pass out to others), convenient location of the unit (it may be located near the door to be shunted), and automatic rearming of the system.



### DESCRIPTION:

The GRI SB-2000 is designed to electronically shunt across a switch or sensor that is being monitored by a closed circuit protective loop. The timer may be reset to the initial delay period by depressing the button while the switch is being shunted. The green LED will light while the switch is shunted. During it's last 5 seconds the LED will flash, alerting the user their delay period is almost used. During this time it is safe for the door to remain open without going to an alarm condition. If the door is not closed by the time the LED stops flashing, then the system will go into alarm mode.

The Shunt Switch comes in two versions: a recessed version - SB-2000 designed to fit inside a single gang utility box, and a surface mount version - SB-2001 which may easily be mounted to the wall in an existing structure.

The SB-2000 is powered by an external power supply with optional battery backup.

TABLE 1: JUMPER POSITIONS

| JP3                                 |                                     |                                     | JP1 | Shunt Period      | JP3                                 |                                     |                                     | JP1                                 | Shunt Period     |
|-------------------------------------|-------------------------------------|-------------------------------------|-----|-------------------|-------------------------------------|-------------------------------------|-------------------------------------|-------------------------------------|------------------|
| 3                                   | 2                                   | 1                                   |     |                   | 3                                   | 2                                   | 1                                   |                                     |                  |
| ⋮                                   | ⋮                                   | ⋮                                   | ⋮   | <b>120 Second</b> | ⋮                                   | ⋮                                   | ⋮                                   | <input checked="" type="checkbox"/> | <b>60 Second</b> |
| ⋮                                   | ⋮                                   | <input checked="" type="checkbox"/> | ⋮   | <b>105 second</b> | ⋮                                   | ⋮                                   | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <b>45 second</b> |
| ⋮                                   | <input checked="" type="checkbox"/> | ⋮                                   | ⋮   | <b>90 second</b>  | ⋮                                   | <input checked="" type="checkbox"/> | ⋮                                   | <input checked="" type="checkbox"/> | <b>30 second</b> |
| <input checked="" type="checkbox"/> | ⋮                                   | ⋮                                   | ⋮   | <b>75 second</b>  | <input checked="" type="checkbox"/> | ⋮                                   | ⋮                                   | <input checked="" type="checkbox"/> | <b>15 second</b> |

Aux output TM1-7 is Grounded when on -400ma max current



# TIMED ELECTRONIC SHUNT SWITCH

## INSTALLATION:

**RECESSED VERSION (SB-2000):** The recessed version of the Shunt Switch is designed to fit in a single gang utility box. Run the wires from the door sensor switch(es) into the utility box. Attach the wires to terminal TM1 pins 2(-) and 7 (+) (See Figure 3). Connect positive side of the control panel to pin 7 and the negative side to pin 2. Using an external 12 volt DC supply, run the wires from the power source to the unit and attach the positive voltage to pin 1 and ground to pin 2 of terminal TM1. If battery backup is desired, install a standard 9 volt battery in the battery holder on the back of the Shunt Switch. The LED will flash twice during power up, and then a third time 5 seconds later indicating a successful diagnostics test. Finally, insert the Shunt Switch into the utility box with the button toward the bottom and the LED toward the top. Secure wall plate with the two screws provided.

**SURFACE MOUNT VERSION (SB-2001):** Remove the Shunt Switch from the surface mount case. A knockout is provided on the back of the case for wire access. Attach the surface mount case directly to the wall, or it may be mounted to cover a single gang electrical box. Attach the door switch wires to terminal TM1 pins 2(-) and 7(+) (See Figure 3). Connect positive side of the control panel to pin 7 and the negative side to pin 2. Using an external 12 volt DC supply, run the wires from the power source to the alarm unit and attach the positive voltage to pin 1 and ground to pin 2 of terminal TM1. If battery backup is desired, connect a standard 9 volt battery to the battery connector. The LED will flash twice during power up, and then a third time 5 seconds later indicating a successful diagnostics test. Lay the battery in the bottom of the case and reassemble the Shunt Switch with the button toward the bottom of the case and the LED toward the top. Secure face plate with the two screws provided.

**SETTING SHUNT TIME:** Set the duration of the shunt by moving the black jumper to the position(s) desired corresponding to number of seconds preferred (See Table 1). Each time jumper(s) are moved, reprogramming will require a power down and a power up to complete reprogramming. Loss or removal of power without repositioning of jumper(s) will maintain unit at original setting upon power up. Repositioning jumper(s) without power down and power up steps will not change original time settings until first power off and power up is accomplished. To power down, disconnect battery and/or external power source. To power up, reconnect battery and/or external power source.

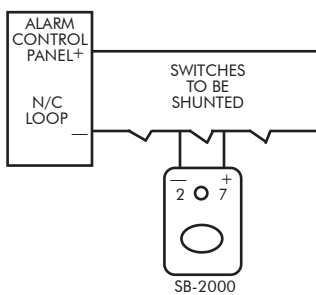


Figure 1. Wiring Diagram

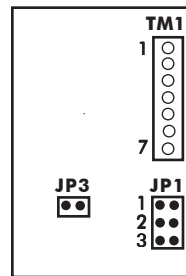


Figure 2. Terminal Connections & Jumpers

| Terminal TM1               | PIN |
|----------------------------|-----|
| External Power (+)         | 1   |
| Ground (-)                 | 2   |
| Not used                   | 3   |
| Remote Reset/ Delay Switch | 4   |
| Not used                   | 5   |
| Not used                   | 6   |
| Door Switch (+)            | 7   |

JP3 See Jumper Options

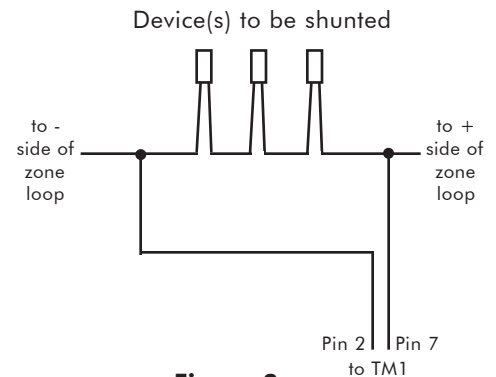


Figure 3.

**WARRANTY:** One year warranty against workmanship, material and factory defects.

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# TOUCH SENSOR



## CT3

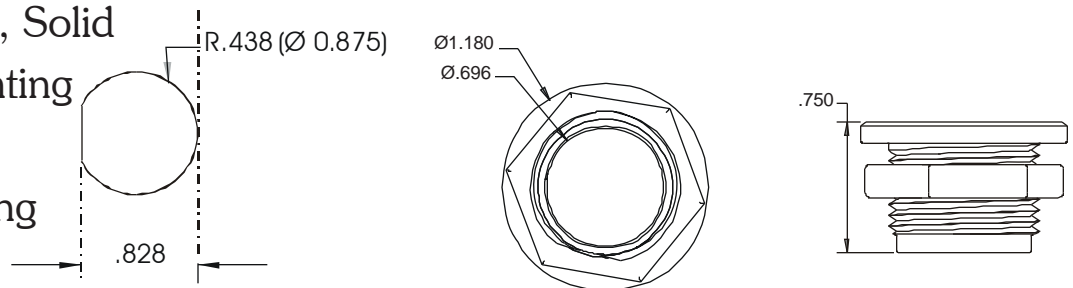
- ◆ 2 Amp
- ◆ **Touch ON**
- ◆ **Touch OFF**
- ◆ **Touch Momentary On**
- ◆ No Moving Parts
- ◆ Vandal Resistant, Solid
- ◆ Thru-Hole Mounting
- ◆ C<sup>2</sup>T Technology
- ◆ Custom Engraving



CT3



CT3-B (blank)



Using a unique C<sup>2</sup>T Technology the G.R.I. Touch Sensor can sense and respond to the slightest human **touch**. The CT3 was developed by G.R.I. to replace mechanical switch applications. The CT3 can be mounted on metallic and non-metallic surfaces. Metal surfaces cannot exceed 1 square foot and cannot be grounded. The CT3 comes in a very cost effective package frequently costing less than the mechanical switch being replaced. Applications include industrial panels, appliance control, access systems, corrections facilities, light switches, elevator buttons, etc. Custom applications are encouraged and welcomed at G.R.I. The CT3-B is blank and can be custom engraved.

### Relay Output

|         |  |
|---------|--|
| CT3-2-1 | 12-24VDC, Momentary Touch Sensor, C Form Relay, 2 Amp        |
| CT3-2-3 | 12-24VDC, Alternate Action Touch Sensor, C Form Relay, 2 Amp |

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# TOUCH SENSOR

## CT3 INSTALLATION INSTRUCTIONS:

Drill a 7/8" hole  
Install Nut and tighten finger tight.

Note: If more secure mounting is required see  
Diagram for D-Hole dimensions.

Insert Switch  
Connect Red Wire to 12 to 24VDC  
Connect Black Wire to Power Ground

Caution: Do Not Mount Switch to Grounded Metal Surface  
Do Not Hook White or Green Wires to AC Type Signal or Source  
Test Switch by Arming Zone and Then Touch Switch.

## CT3-2-X Options

CT3-2-1 Relay normally de-energized: when touched relay energizes: when released relay de-energizes. White is the relay common, green is Normally Closed, & brown Normally Open.

CT3-2-3 Alternate Action: Touch energizes, touch de-energizes. White is the relay common, green is Normally Closed, brown Normally Open.

## SPECIFICATIONS:

Five-wire touch switch, 12-24VDC, ground, common, N/O, N/C  
Touch activated by human hand, gloves can be worn, or metal conductor.  
Low Current Draw.  
Output rated to 2 amp  
New, advanced C<sup>2</sup>T technology.

Caution: Do Not Mount On A Grounded Metal Surface!

|        |         |                       |        |         |                       |
|--------|---------|-----------------------|--------|---------|-----------------------|
| Input— | Voltage | : 12 to 24VDC maximum | Relay— | Voltage | : 25 volts DC maximum |
|        | Current | : 28 mA maximum       |        | Current | : 2 amp               |
|        |         |                       |        | Power   | : 50 watts            |

## WARRANTY:

One year warranty against workmanship, material and factory defects

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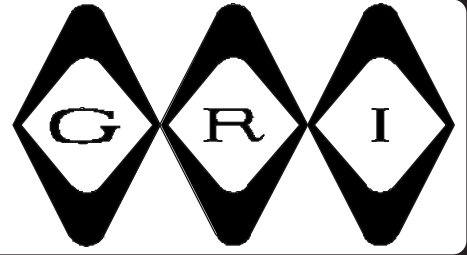
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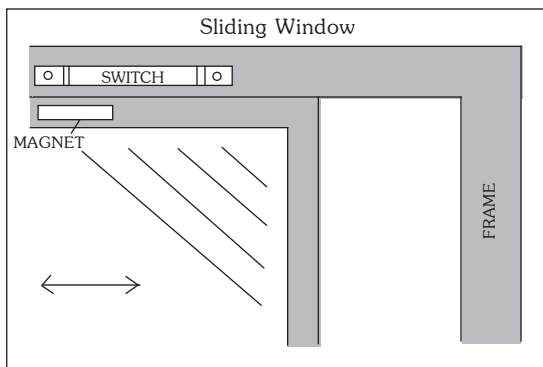
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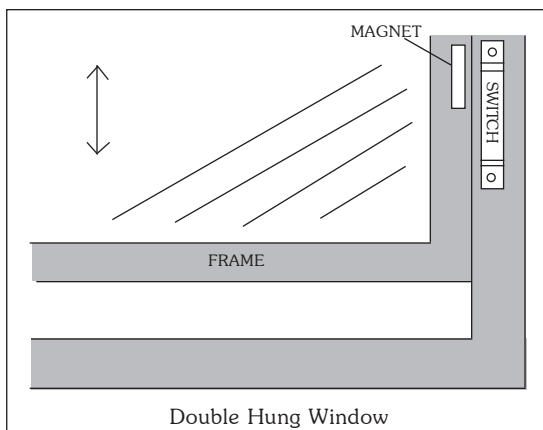
# VENT SWITCH



- ◆ Eliminates Double Magnets
- ◆ Aids in Preventing False Alarms
- ◆ Linear Travel of 6-8 Inches
- ◆ Air Gap of 1/2" To Maintain Continuous Linear Travel
- ◆ Standard Switch Length 6" or 8"
- ◆ Custom Lengths Available
- ◆ 36" Zip Lead Standard Or Screw Terminals
- ◆ No Need To Disarm Systems When Opening Or Closing Windows
- ◆ Available in White and Brown



SYSTEM ARMED



Double Hung Window

This unique invention has been designed in response to requests from installers for a switch that would allow window venting of four to six inches before breaking contact and creating an alarm condition.

The GRI Vent Switch will allow the homeowner to arm his system and at the same time permit venting of any window on which the Vent Switch has been installed.

A slider or double hung window can be opened or closed while the GRI Vent Switch maintains an extended zone of actuation of approximately six inches at 1/2 air gap.

Prior to actual installation it is highly recommended that the installer become familiar with the operation of this switch during a bench test session. A continuity checker would work well in determining the overall area of activation. It is suggested that the homeowner be instructed in its actual operation to prevent an owner-induced alarm. Patent Pending.

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GRI PLAZA  
KIMBALL, NE 69145

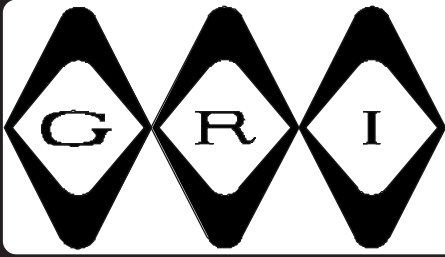


MADE IN U.S.A.

TOLL-FREE 1-800-445-5218  
TOLL-FREE 1-800-523-1227  
(308) 235-4645

FAX (308) 235-3561  
E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
WEB SITE: [www.grisk.com](http://www.grisk.com)





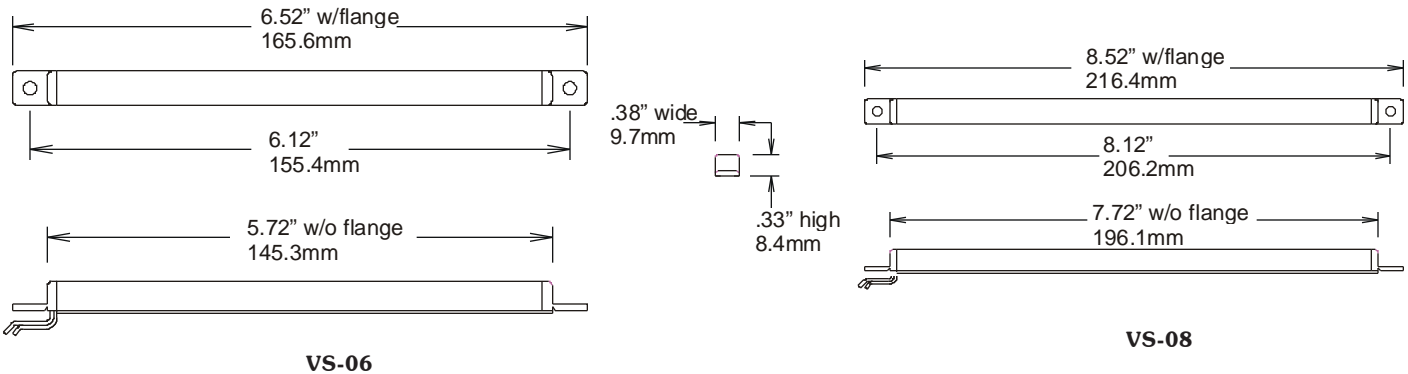
# VENT SWITCH

## INSTALLATION INSTRUCTIONS:

The Vent Switch is unique because it will allow a linear movement of the actuator magnet, parallel to the reed switch, of up to 6 inches, depending on model, while maintaining a constantly closed circuit. The linear travel is based upon a maximum air gap distance of half an inch between the switch and magnet.

It is recommended that the switch be located and mounted first, preferably in a position furthest away from the opening, to prevent reach through compromise. Please note the Vent Switch can be positioned similar to a double magnet set-up. This will allow the homeowner to open and close the window protected by the Vent Switch without having to disarm and rearm the system to reposition the window.

We are confident that the convenience and reliability of the Vent Switch will long be appreciated by the homeowner. Proper instruction by the installer will eliminate the chance of an owner-induced alarm and maintain the maximum effectiveness of the perimeter security system.



| PART NUMBERS:    |             |           |
|------------------|-------------|-----------|
|                  | Closed Loop | Open Loop |
| 1/2" Air Gap     | VS-06       | VSB-06    |
| 6" Linear Travel | VS-06T      |           |
| 1/2" Air Gap     | VS-08       | VSB-08    |
| 8" Linear Travel | VS-08T      |           |

## GRI products meet or exceed these minimum general specifications:

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | REED FORM | INITIAL CONTACT RESISTANCE | MAXIMUM CONTACT RATING | SWITCHING VOLTAGE MAX [V] | MAXIMUM SWITCHING CURRENT |
|-------------|-----------|--------------------|-----------|----------------------------|------------------------|---------------------------|---------------------------|
| VS-06       | CLOSED    | N/O                | A         | .150                       | 10                     | 200                       | .500                      |
| VS-06T      | CLOSED    | N/O                | A         | .150                       | 10                     | 200                       | .500                      |
| VS-08       | CLOSED    | N/O                | A         | .150                       | 10                     | 200                       | .500                      |
| VS-08T      | CLOSED    | N/O                | A         | .150                       | 10                     | 200                       | .500                      |
| VSB-06      | OPEN      | N/C                | B         | .140                       | 5                      | 175VDC                    | .250                      |
| VSB-08      | OPEN      | N/C                | B         | .140                       | 5                      | 175VDC                    | .250                      |

**WARRANTY:** Lifetime warranty against workmanship, material and factory defects.

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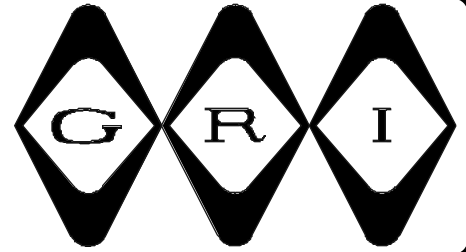
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# ENVIROMENTAL MONITORING



# HUMIDITY SENSOR



## H8800 Series

- ◆ Low Cost   ◆ Non-Volatile Memory
- ◆ Single Sensor or a Remote Probe up to 500'

### Part Numbers:

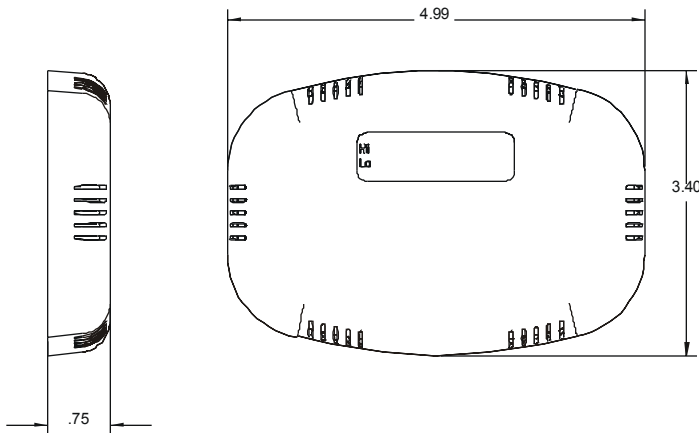
**H8800** C Form Relay Output - On Board Sensor  
**H8800R** C Form Relay Output - With Remote Probe  
**H88R** Replacement Probe  
**8065** RTD-12 Power Supply



**H8800**



**H8800R**



The H8800 from GRI is a single sensor programmable humidity monitoring security device. Unlike it's 1st cousin, the T8800, used for temperature sensing, the H8800 has one sensor to detect and report relative humidity. The single humidity sensor is housed in the appliance (H8800) or it can be ordered with a remote probe (H8800R). The memory in the H8800 is non-volatile.

|   |                            |                                |
|---|----------------------------|--------------------------------|
| The range of the H8800 is 5% humidity to 95% humidity (+ or - 5%) |                            |                                |
| Min — Max Temperature Range                                       | Without the Humidity Probe | -23°C to 80°C (-10°F to 176°F) |
| Min — Max Temperature Range                                       | With the Humidity Probe    | -40°C to 85°C (-40°F to 185°F) |
| Maximum distance for probe from H8800 with 22 AWG wire            |                            | 500 Feet                       |
| Operates with 7.5 VDC minimum to 15 VDC maximum                   |                            |                                |

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# HUMIDITY SENSOR

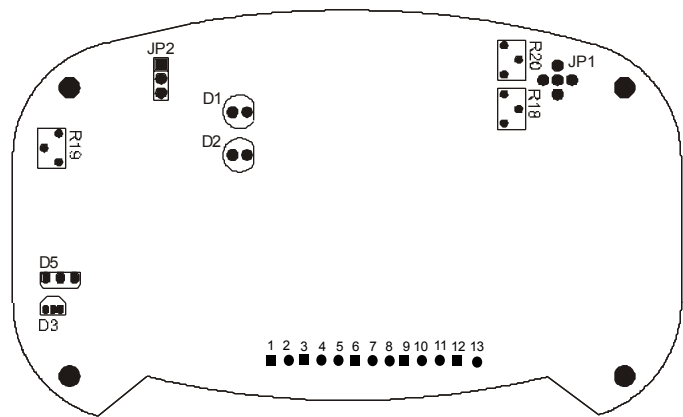


## Installation Procedure:

To open the H8800, insert a flat blade screwdriver between the cover and the back plate and twist the screwdriver to open the H8800. Mount the H8800 in the required location using the provided screws. Four holes have been pre-drilled on the back mounting plate for installation convenience. There also is a mounting pattern template provided with the printed instructions. Route wires to the device as necessary from behind the H8800. **REMEMBER!!!** It is important to avoid lights, motors, ballast transformers, fans and electro-magnetic devices when routing and pulling wires to this device.

## H8800 Probe Connections:

- 1 - power (positive) See notes regarding compatible power supplies other than those supplied by GRI.
- 2 - power (negative)
- 3 - Relay Low Limit Common
- 4 - Relay Low Limit Opens on Alarm
- 5 - Relay Low Limit Closes on Alarm
- 6 - Relay High Limit Common
- 7 - Relay High Limit Opens on Alarm
- 8 - Relay High Limit Closes on Alarm
- 9 - Probe (brown)
- 10 - Probe (white)
- 11 - Probe (green)
- 12 - Probe (black)
- 13 - Probe (red)



## Connection Description:

Connect DC power to terminals 1 (+) and 2 (-). Observe polarity. **WARNING.** If you are using a power supply other than the RTD/12 (GRI PN# 8065), be certain that the power is **regulated**. The use of unapproved power supplies will void the warranty. GRI's technical support team can provide information. Call 800-445-5218.

There are two (2) jumpers in the H8800. JP1 is used to direct programming to the high/low limit humidity thresholds. JP1 has multiple pins for the jumper during set up. With the center pin used as the center of a clock, place the jumper at 12 o'clock to adjust the High Limit. Place the jumper at 6 o'clock to adjust the Low Limit. Placing the jumper at the 9 o'clock position is for standard operating of the device. The 3 o'clock position is NOT used in the field.

- R18 Low Limit adjustment.  
R20 High Limit adjustment.

## WARRANTY:

One year warranty against workmanship, material and factory defects

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



BA-215 Rev E 10/11/07

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# TEMPERATURE SENSOR

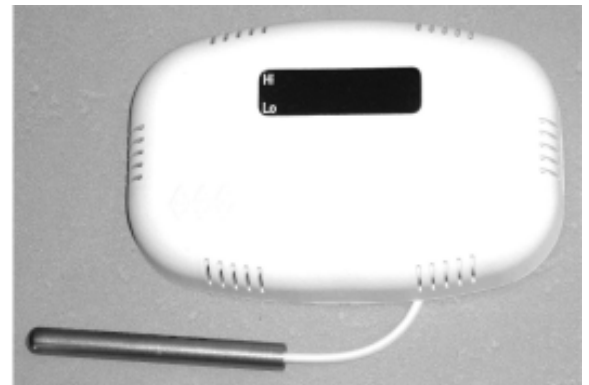


- ◆ Low Cost ◆ Non-Volatile Memory
- ◆ Two Versions: Single On Board Sensor or a Remote Probe up to 500'
- ◆ Programmable Hi & Low Alarms
- ◆ T8800R Probe Can Be Submerged In Liquid or Installed In A Freezer

## T8800 Series



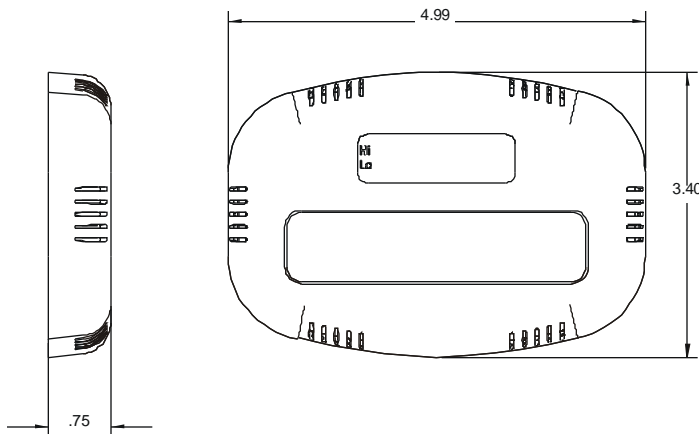
T8800



T8800R

### Part Numbers:

- T8800** C Form Relay Output - On Board Sensor Only
- T8800R** C Form Relay Output - With Remote Probe Only
- T88R** Replacement Probe
- 8065** RTD-12 Power Supply



The T8800 from GRI is a single sensor programmable temperature monitoring security device. The T8800 has only one sensor. The single temperature sensor is housed in the appliance (T8800) or can be ordered with a connected remote probe (T8800R). The memory in the T8800 is non-volatile because all temp trip limits are set with a small screw driver. No typical software program is required. **Simple to set.**

|  |            |                                |
|--|------------|--------------------------------|
| Min — Max Temperature Range                            | No Probe   | -23°C to 80°C (-10°F to 176°F) |
| Min — Max Temperature Range                            | With Probe | -40°C to 85°C (-40°F to 185°F) |
| Accuracy ± 2°F (1°C)                                   |            |                                |
| Maximum distance for probe from T8800 with 22 AWG wire | 500 Feet   |                                |
| Operates with 10 VDC minimum to 15 VDC maximum         |            |                                |
| 65 Milliamps in Alarm                                  |            |                                |
| 55 Milliamps in Standby                                |            |                                |

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# TEMPERATURE SENSOR

## Installation Procedure:

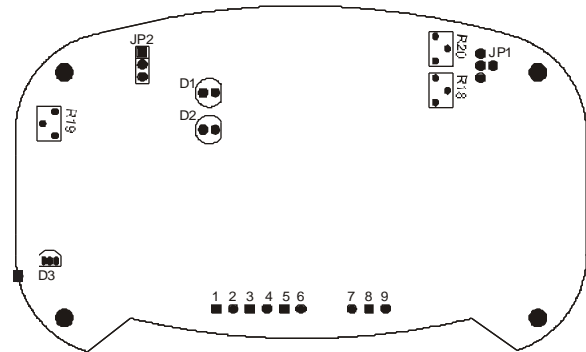
To open the T8800, insert a flat blade screwdriver between the cover and the back plate and twist the screwdriver to open the T8800. Mount the T8800 in the required location using the provided screws. Four holes have been pre-drilled on the back mounting plate for installation convenience. There also is a mounting pattern template provided with the printed instructions. Route wires to the device as necessary from behind the T8800. **REMEMBER!!!** It is important to avoid lights, motors, ballast transformers, fans and electromagnetic devices when routing and pulling wires to this device.

## T8800 Probe Connections:

- 1 - power (positive)
- 2 - power (negative)
- 3 - Relay Low Limit Common
- 4 - Relay Low Limit Opens on Alarm
- 5 - Relay Low Limit Closes on Alarm
- 6 - Relay High Limit Common
- 7 - Relay High Limit Opens on Alarm
- 8 - Relay High Limit Closes on Alarm
- 9 - Probe (green)
- 10 - Probe (black)
- 11 - Probe (red)

Only the Stainless Steel Probe can be submersed in a non-reactive liquid. We do not recommend submerging the wire.

See notes regarding compatible power supplies other than those supplied by GRI.



## Connection Description:

Connect DC power to terminals 1 (+) and 2 (-). Observe polarity. **WARNING.** If you are using a power supply other than the RTD/12 (GRI PN# 8065), be certain that the power is **regulated**. The use of unapproved power supplies will void the warranty. GRI's technical support team can provide information. Call 800-445-5218.

There are two (2) jumpers in the T8800. JP1 is used to direct programming to the high/low limits thresholds. JP2 converts the unit from Celsius to Fahrenheit. JP1 has multiple pins for the jumper during set up. With the center pin used as the center of a clock, place the jumper at 12 o'clock to adjust the High Limit. Place the jumper at 6 o'clock to adjust the Low Limit. Placing the jumper at the 3 o'clock position is for standard operating of the device.

There are three (3) adjustable pots (potentiometers) with the T8800. R19 on the far left side of the T8800 is used to adjust the temperature baseline for the unit. This control can be used to bring the T8800 in the same range of operation as other temperature sensors in the same room.

- R18 Low Limit adjustment.  
R19 Adjust/Calibrate Temperature Baseline.  
R20 High Limit adjustment.

## WARRANTY:

One year warranty against workmanship, material and factory defects

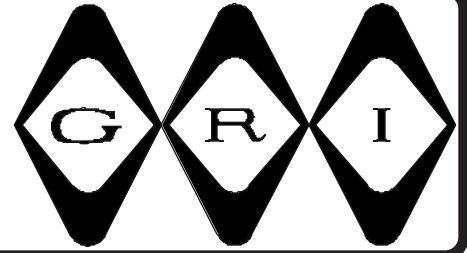
## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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G.R.I. PLAZA  
KIMBALL, NE 69145



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# FIXED TEMPERATURE SENSORS



## T8000 SERIES

### *Environmental Sensor for Security and Control Applications*

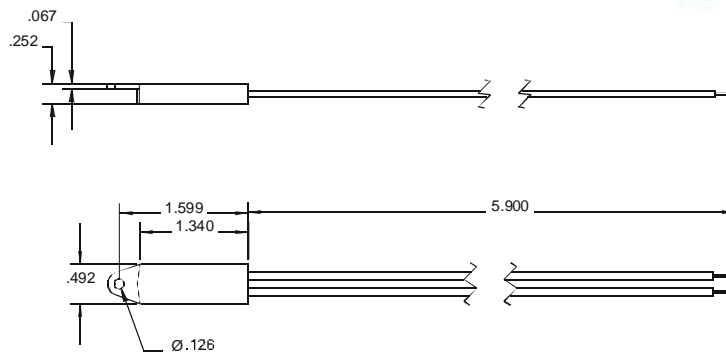
- ◆ General Temperature Monitoring
- ◆ Low Cost Protection
- ◆ Easy To Install
- ◆ Small, Unobtrusive Surface Mount
- ◆ Fixed Temperature Sensors; 32°F, 41°F, 50°F, 70°F and 140°F



T8000/T8005/T8050/T8070



T8060



For those property owners who are concerned about frozen water pipes bursting, fluctuating greenhouse temperatures, vacation homes in cold climates or any unattended structure where a fixed temperature is crucial, the GRI T8000 series of fixed temperature sensors provides the proper protection. The T8000 series can be used in computer rooms, walk-in coolers, and similar places where the monitoring of temperature is needed.

Prior to connecting the temperature sensor determine the monitoring application. When the ambient temperature goes below the trip temperature limit, the contacts will open. Is the temperature above or below the trip temperature? Are you monitoring a cold environment to warn you of a heating condition or are you monitoring a warm environment that is critical of colder temperatures? Now make the appropriate connection to your alarm control panel as an open or closed loop for detections. Here's why.

The sensors are pre-set with a temperature limit. When the ambient temperature goes below the trip temperature limit, the switch configuration will change. The T8070 is designed for network operation center rooms, main computer distribution facilities, head ends for CCTV and file server rooms.

#### Maximum General Specifications:

| CONTACT RATING | VOLTAGE RATING<br>MAX (VDC) |
|----------------|-----------------------------|
| 100 mA         | 48                          |

**WARRANTY:** 6 month warranty against workmanship, material and factory defects.

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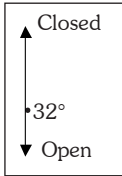


# FIXED TEMPERATURE SENSORS

GRI recommends that you NOT use double faced tape.

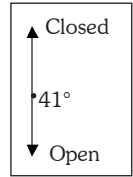
## T8000 Electrical Specifications 0° C / 32° F

|                        |  |
|------------------------|--|
| Contact Arrangement    | SPST                                       |
| Switch Action          | <b>CLOSED</b> above Activation Temperature |
| Maximum Temperature    | 115° C / 239° F                            |
| Activation Temperature |  |
| Nom.                   | 0° C (32.0° F)                             |
| Max.                   | 4° C (39° F)                               |
| Min.                   | -4° C (25° F)                              |
| Max. Reset Temperature |  |
| Max.                   | 4° C (39° F)                               |
| Min.                   | 0° C (32.0° F)                             |
| Tolerance              | +/- 4° C (+/- 7.2° F)                      |
| Lead Lengths           | 6" #20AWG Leads                            |



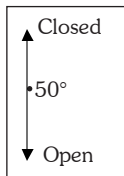
## T8005 Electrical Specifications 5° C / 41° F

|                        |  |
|------------------------|--|
| Contact Arrangement    | SPST                                       |
| Switch Action          | <b>CLOSED</b> above Activation Temperature |
| Maximum Temperature    | 64° C / 147° F                             |
| Activation Temperature |  |
| Nom.                   | 5° C (41.0° F)                             |
| Max.                   | 9° C (48° F)                               |
| Min.                   | 1° C (34° F)                               |
| Max. Reset Temperature |  |
| Max.                   | 8° C (46.4° F)                             |
| Min.                   | 5° C (41° F)                               |
| Tolerance              | +/- 4° C (+/- 7.2° F)                      |
| Lead Lengths           | 6" #20 AWG Leads                           |



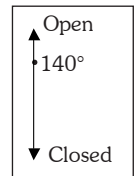
## T8050 Electrical Specifications 10° C / 50° F

|                        |  |
|------------------------|--|
| Contact Arrangement    | SPST                                       |
| Switch Action          | <b>CLOSED</b> above Activation Temperature |
| Maximum Temperature    | 70° C / 158° F                             |
| Activation Temperature |  |
| Nom.                   | 10° C (50.0° F)                            |
| Max.                   | 14° C (57° F)                              |
| Min.                   | 6° C (43° F)                               |
| Max. Reset Temperature |  |
| Max.                   | 14° C (57° F)                              |
| Min.                   | 10° C (50° F)                              |
| Tolerance              | +/- 4° C (+/- 7.2° F)                      |
| Lead Lengths           | 6" #20 AWG Leads                           |



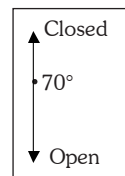
## T8060 Electrical Specifications 60° C / 140° F

|                        |  |
|------------------------|--|
| Contact Arrangement    | SPST                                     |
| Switch Action          | <b>OPEN</b> above Activation Temperature |
| Maximum Temperature    | 115° C / 239° F                          |
| Activation Temperature |  |
| Nom.                   | 60° C (140.0° F)                         |
| Max.                   | 64° C (147° F)                           |
| Min.                   | 56° C (133° F)                           |
| Max. Reset Temperature |  |
| Max.                   | 64° C (147° F)                           |
| Min.                   | 60° C (140.0° F)                         |
| Tolerance              | +/- 4° C (+/- 7.2° F)                    |
| Lead Lengths           | 36" Two Conductor Jacketed Leads         |



## T8070 Electrical Specifications 21° C / 70° F

|                        |  |
|------------------------|--|
| Contact Arrangement    | SPST                                       |
| Switch Action          | <b>CLOSED</b> above Activation Temperature |
| Maximum Temperature    | 81° C / 117° F                             |
| Activation Temperature |  |
| Nom.                   | 21° C (70.0° F)                            |
| Max.                   | 24° C (75° F)                              |
| Min.                   | 18° C (65° F)                              |
| Max. Reset Temperature |  |
| Max.                   | 24° C (75° F)                              |
| Min.                   | 21° C (70° F)                              |
| Tolerance              | +/- 3° C (+/- 6° F)                        |
| Lead Lengths           | 6" #20 AWG Leads                           |



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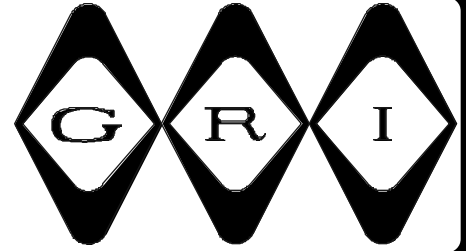
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WEB SITE: [www.grisk.com](http://www.grisk.com)



# WATER SENSOR WITH RELAY CONTACT



- ◆ Will Detect Any Conductive Non-Flammable Liquid
- ◆ Ideal Anywhere Water Damage Could Occur
- ◆ Automatic Reset ◆ 6 Foot Jacketed Lead Standard
- ◆ Custom Lead Lengths Available
- ◆ Available in 5 VDC, 12 VDC And 24 VDC
- ◆ Closed and Open Loop Versions

Undetected water damage, such as that caused by leaking pipes or corroded water heaters, cost homeowners tens of thousands of dollars each year. Such repairs are time consuming and costly to correct. Applications could include computer room sub-floor areas, telephone equipment rooms, bathrooms, laundry rooms, any areas adjacent to a water storage tank or piping. Also evaporative air conditioners, drip pans, overflows and/or drains.

Using no mechanical parts, the GRI Water Sensors are triggered by a moisture bridge across the sensor contacts. The GRI Water Sensors can be installed to detect a layer of water as minute as 1/16 of an inch in depth.

**The 2600 Closed Loop Sensors** use an external power source to energize a built-in relay contact so battery power is not recommended. Used in a closed loop configuration, an alarm condition will occur when moisture is detected, or if power to the sensor is lost, and if the sensor should fail. The relay output can be wired directly to any alarm panel or can be used to actuate an external device, i.e. transmitter, annunciator, etc.

**The 2500 Open Loop Sensors** use an external power source which will energize a built-in relay contact when water is detected. With this configuration the sensors are not fail safe. The relay output can be wired directly to any alarm panel or can be used to actuate an external device, i.e. transmitter, annunciator, etc.



2500/2600



2500T/  
2600T



2500K/2600K

## PART NUMBERS:

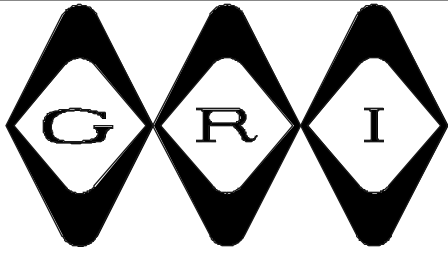
### Closed Loop Configuration

|            |  |
|------------|--|
| 2600/2600T | Normally Closed For a Closed Loop Circuit 12 Volts DC                          |
| 2600T-P    | Remote Sensor With 36" Leads (Works with 2600T and 2500T)                      |
| 2605       | Normally Closed For a Closed Loop Circuit 5 Volts DC                           |
| 2624       | Normally Closed For a Closed Loop Circuit 24 Volts DC                          |
| 2600K      | Normally Closed For a Closed Loop Circuit 12 Volts DC (W/1 - 2600T-PHS Sensor) |
| 2600T-PHS  | Remote Sensor Case With Terminal Connections for 2600K and 2500K               |

### Open Loop Configuration

|            |   |
|------------|---|
| 2500/2500T | Normally Open For an Open Loop Circuit 12 Volts DC                          |
| 2600T-P    | Remote Sensor With 36" Leads (Works with 2500T and 2600T)                   |
| 2505       | Normally Open For an Open Loop Circuit 5 Volts DC                           |
| 2524       | Normally Open For an Open Loop Circuit 24 Volts DC                          |
| 2500K      | Normally Open For an Open Loop Circuit 12 Volts DC (W/1 - 2600T-PHS Sensor) |
| 2600T-PHS  | Remote Sensor Case With Terminal Connections for 2500K and 2600K            |





# WATER SENSOR WITH RELAY CONTACT

## INSTALLATION NOTES:

**G.R.I. 2505, 2605, 2500, 2600, 2524 and 2624 Water Sensors:** When connecting these sensors to the panel, the red wire is connected to the positive side of the auxiliary power supply and the black wire is connected to the negative. The green and white wires can then be connected to the pre-selected Closed Loop zone. A resistor can be connected in series with either the green or white wire for those panels that require end-of-line resistors.

**G.R.I. 2500T, 2600T, 2500T-P, 2600T-P, 2524T, 2624T, 2500K, and 2600K Sensors:** Provide a means of detecting water in difficult to monitor locations, such as under carpets and in drop ceiling panels. This is accomplished by mounting 1 or more 2600T-P or 2600T-PHS's in various locations around the area to be monitored, then run the sensor wires to the terminal screws on the 2600T or 2624T. These can then be wired for power as described above for the 2600 Water Sensor. The 2500T and 2600T include two 2600T-P sensors. (A maximum of ten 2600T-P's can be connected to each 2600T.) The 2500K and 2600K include one 2600T-PHS sensor.

After installation these units should be tested with a damp sponge or paper towel and inspected annually. If there is any corrosion or damage the sensor should be replaced.

## CLOSED LOOP SPECIFICATIONS:

### Power Requirements:

|                        |             |
|------------------------|-------------|
| 2600 Operating Voltage | 12 Volts DC |
| 2605 Operating Voltage | 5 Volts DC  |
| 2624 Operating Voltage | 24 Volts DC |
| Operating Current      | 12 mA       |

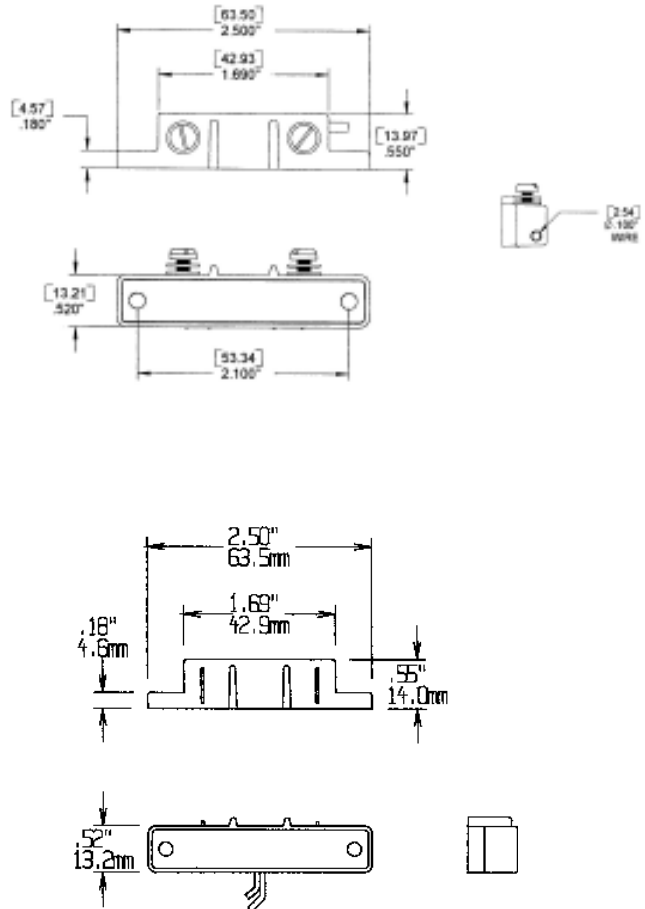
### Wire Contacts:

|            |               |
|------------|---------------|
| Red Wire   | +12 Volts DC  |
| Black Wire | - Ground      |
| Green Wire | Relay Contact |
| White Wire | Relay Contact |

### Contact Characteristics:

|                    |            |
|--------------------|------------|
| Contact Resistance | 100 mΩ     |
| Switching Voltage  | 30VDC Max  |
| Switching Current  | 500 mA Max |
| Power              | 250mW Max  |

\*Note: Battery Power Not Recommended



## WARRANTY:

One year warranty against workmanship, material and factory defects.

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KIMBALL, NE 69145

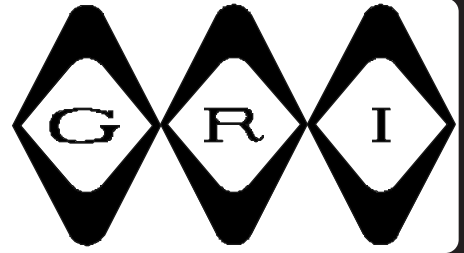


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# FLUID SENSOR WITH RELAY CONTACT



- ◆ Will Detect Any Conductive Non-Flammable Liquid
- ◆ Ideal Anywhere Liquid Detection Is Required
  - ◆ Automatic Reset
  - ◆ Available In Gray Only
- ◆ 6 Foot Jacketed Lead Standard
- ◆ Custom Lead Lengths Available
  - ◆ 24 Volt AC Sensor



2650

Using no mechanical parts, the GRI Sensors are triggered by a moisture bridge across the sensor contacts. The GRI Sensor can be installed to detect a layer of liquid as minute as 1/16 of an inch in depth.

These Sensors use an external power source to energize a built-in relay contact (battery power is not recommended). Used in an active S.P.D.T. configuration, an alarm condition will occur when moisture is detected, power to the sensor is lost or if the sensor should fail. The relay output can be wired directly to a control panel or can be used to actuate an external device, i.e. transmitter, annunciator, etc., and can be used to monitor evaporative air conditioners, drip pans, overflows and/or drains.

**PART NUMBER:**

2650

**Configuration**

S.P.D.T. 24 Volts AC Circuit

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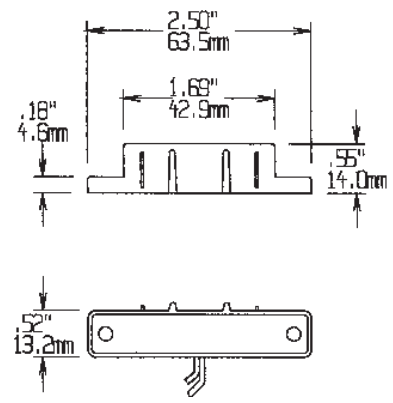


# FLUID SENSOR WITH RELAY CONTACT

**INSTALLATION NOTES:**

**G.R.I. 2650:** The 2650 is used to detect the presence of fluid and to provide a relay output for signal or control of an external device. The switch operates on 24 Volts AC and functions as a Normally Open or Normally Closed Sensor. The Red and Black wires power the switch while the Brown, White and Green wires are the relay output wires.

After installation these units should be tested with a damp sponge or paper towel and inspected annually. If there is any corrosion or damage the sensor should be replaced.



**2650**

**2650 OPEN LOOP SPECIFICATIONS:**

|   |   |
|---|---|
| <b>Power Requirements:</b>                  |   |
| Operating Voltage                           | 24 Volts AC                                 |
| Operating Current                           | 12 mA                                       |
| <b>Wire Contacts:</b>                       |   |
| Red Wire                                    | 24 V AC                                     |
| Black Wire                                  | 24 V AC                                     |
| Green Wire                                  | N.C. } C Form<br>C } Relay Contact<br>N.O } |
| White Wire                                  |   |
| Brown Wire                                  |   |
| <b>Contact Characteristics:</b>             |   |
| Initial Contact Resistance, max.            | 100 mΩ                                      |
| Nominal Switching Capacity (resistive load) | 1 A 30 V DC<br>0.3 A 125 V AC               |
| Max, Switching Power (resistive load)       | 30 W, 37.5 V A                              |
| Max, Switching Voltage                      | 110 V DC, 125 V AC                          |
| Max, Switching Current                      | 1 A   |

**WARRANTY:**

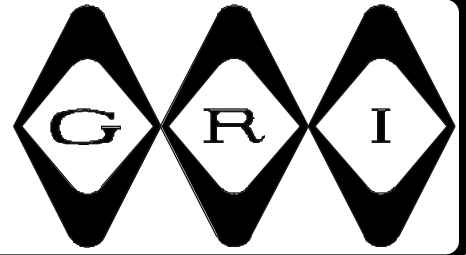
One year warranty against workmanship, material and factory defects.

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# SURFACE MOUNT WATER SENSOR



- ◆ Will Detect Any Conductive Non-Flammable Liquid
- ◆ Ideal Anywhere Water Damage Could Occur
- ◆ Automatic Reset
- ◆ Available In Gray Only
- ◆ 6 Foot Jacketed Lead Standard
- ◆ Custom Lead Lengths Available
- ◆ For Maximum Protection We Recommend  
Using the 2600 4-Wire Sensor



2800

Undetected water damage, such as that caused by leaking pipes or corroded water heaters, cost homeowners tens of thousands of dollars each year. Such repairs are time consuming and costly to correct. Applications could include computer room sub-floor areas, telephone equipment rooms, bathrooms, laundry rooms, any areas adjacent to a water storage tank or piping. Also evaporative air conditioners, drip pans, overflows and/or drains.

Using no mechanical parts, the GRI Water Sensors are triggered by a moisture bridge across the sensor contacts. The GRI Water Sensors can be installed to detect a layer of water as minute as 1/16 of an inch in depth.

Requiring only two wires for signal and power, the GRI 2800 Water Sensor utilizes an open collector electronic trigger. The sensor simulates a simple dry closure. It can be used to activate a remote signaling device or it can be wired directly to most alarm panels and some wireless transmitters.

The G.R.I. Water Sensors will continue to protect against troublesome and costly water leaks for years to come.

## PART NUMBERS:

| Part Number | Configuration   |
|-------------|---|
| 2800        | Normally Open For an Open Loop Circuit<br>5-24 Volts DC |

## 2800 OPEN LOOP SPECIFICATIONS:

### Power Requirements:

|                                   |               |
|-----------------------------------|---------------|
| Operating Voltage (min./max.)     | 5-24 Volts DC |
| Standby Current (at max. voltage) | 10 $\mu$ A    |
| Alarm Current (max.)              | 400 mA        |

### Wire Contacts:

|            |                |
|------------|----------------|
| Red Wire   | +5-24 Volts DC |
| Black Wire | - Ground       |

### Contact Characteristics:

|          |               |
|----------|---------------|
| Contacts | Normally Open |
|----------|---------------|

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# SURFACE MOUNT WATER SENSOR

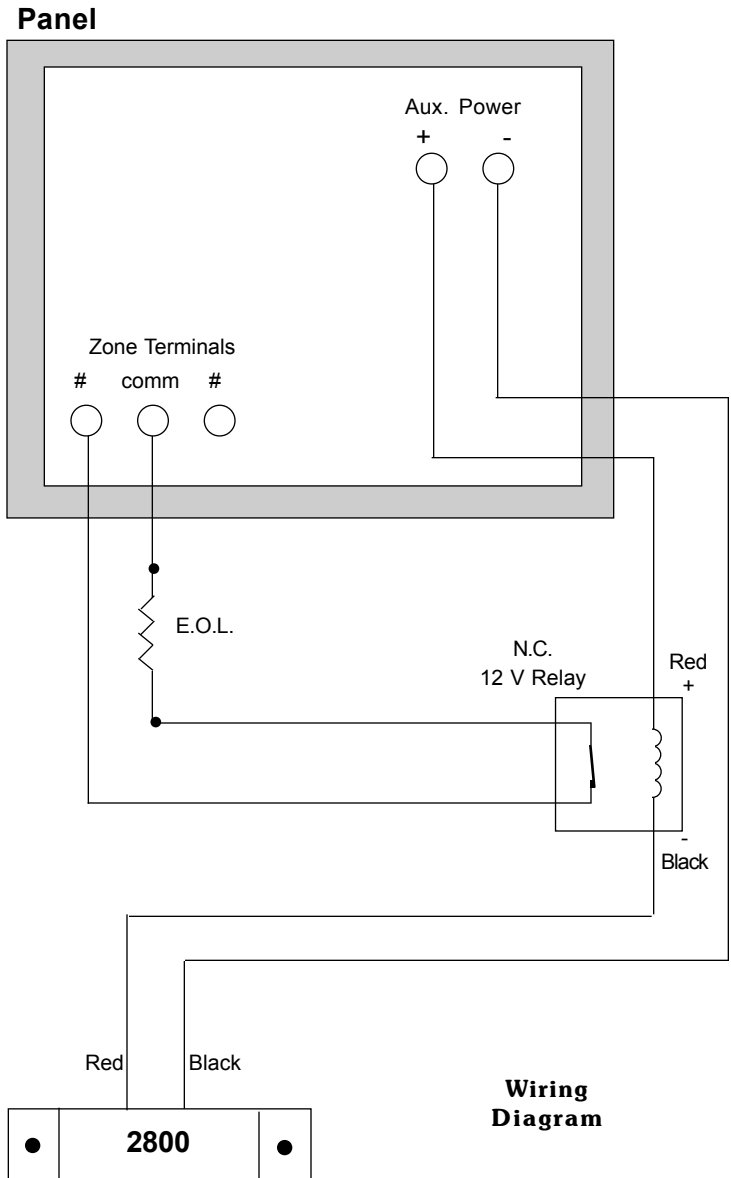
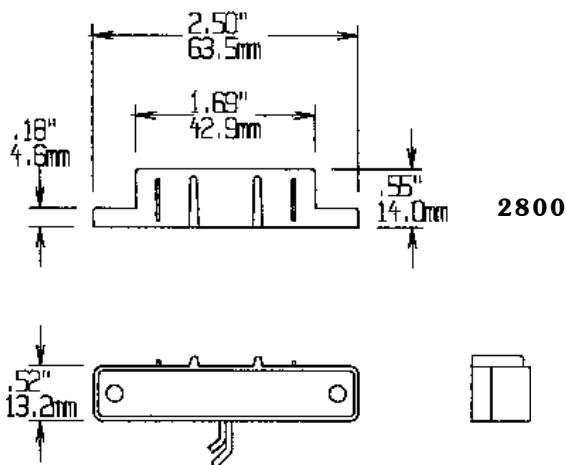
## INSTALLATION INSTRUCTIONS:

### MINIMUM 5VDC REQUIRED

**THIS IS AN EXTREMELY IMPORTANT TECHNICAL ADVISORY FROM GRI:** If there is insufficient power to properly operate this device, the ability of the security system to sense the presence of water will be compromised. The 2800 is a normally open switch for an open loop application. The 2800 requires a DC operating voltage on the zone loop of a **5VDC minimum to a maximum 24VDC**. If there is an EOL resistor installed, measure to confirm the 5VDC minimum for the zone loop. (In the event the panel does not provide the minimum DC voltage, refer to the drawing at the right for installation). After installation these units should be tested with water and inspected annually. If there is any corrosion or damage the sensor should be replaced.

### FOR INSTALLATION TO THE CONTROL PANEL

Select the open loop where the switch will be connected. The switch must be connected with the correct polarity. If the panel terminal strip is not marked, zone polarity can be determined by using a test volt meter. **The panel must be capable of producing a minimum of 5 Volts DC under load to the sensor.** Connect the red lead to the positive side of the panel zone and the black lead to the returning negative side. (If the panel does not provide minimum power for the 2800 use the wiring diagram at the right showing the use of a sensitive relay board and the auxiliary power from the BACP.)



## WARRANTY:

One year warranty against workmanship, material and factory defects.

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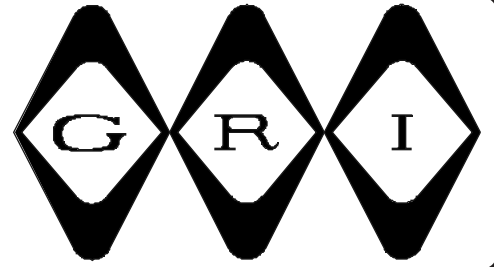


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# ABSENCE OF WATER DETECTOR



## 2808 Series

- ◆ Senses The Lack Of Or Presence Of Any Non-Volatile Liquid
  - ◆ Microprocessor Controlled
  - ◆ Submersible and Fully Self Contained
  - ◆ 12" Cable



2808

The G.R.I. 2808 Absence of Water Detector is targeted for monitoring a fluid level height. This submersible sensor can safely and reliably sense and respond to the absence of or presence of a non-volatile liquid in a wide range of environmental conditions.

The G.R.I. 2808 Series of Water Detectors are microprocessor controlled devices that produce an AC Signal between two stainless steel probes. Depending on the conductivity measured between the two probes, a set of internal relay contacts will be latched in an open or closed position.

Sensor life span is optimized by periodically sampling for liquid at set timed intervals. Conductivity sampling between the two probes once every 2.5 minutes are used in the Standard Self Powered 2808 allowing for a 4-year expectancy. A sampling rate of once every 30 seconds is used with the Externally Powered 2808-12V providing a 15+ year life expectancy. Instantaneous triggering and custom sampling rates are also available on request.

External connections are made through the included 12 inches of Direct Burial cable allowing for up to a foot of total submersion, burial or harsh environmental exposure. Custom cable length are also available on request.

|                 |   |
|-----------------|---|
| <b>2808</b>     | <b>Self Powered/2.5 minute sample rate/C form relay output</b>  |
| <b>2808-12V</b> | <b>External 12VDC/30 Second Sample Rate/C form relay output</b> |

### Warranty:

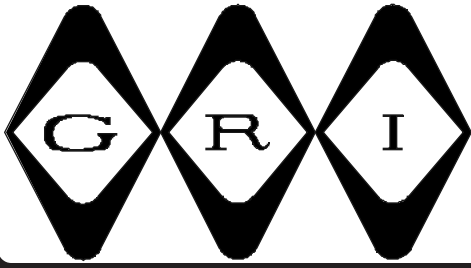
One year warranty against workmanship, material and factory defects.

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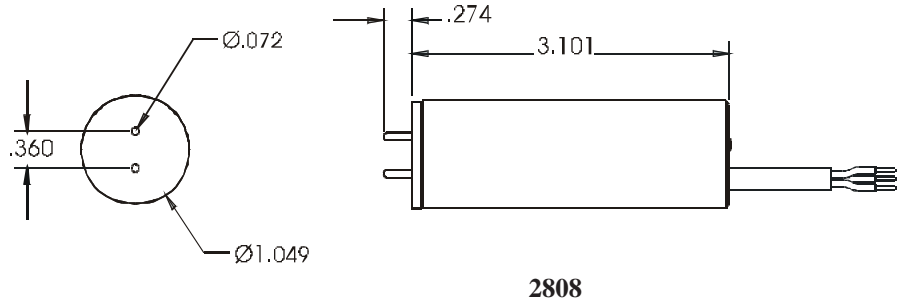
# ABSENCE OF WATER DETECTOR

## INSTALLING THE G.R.I. 2808:

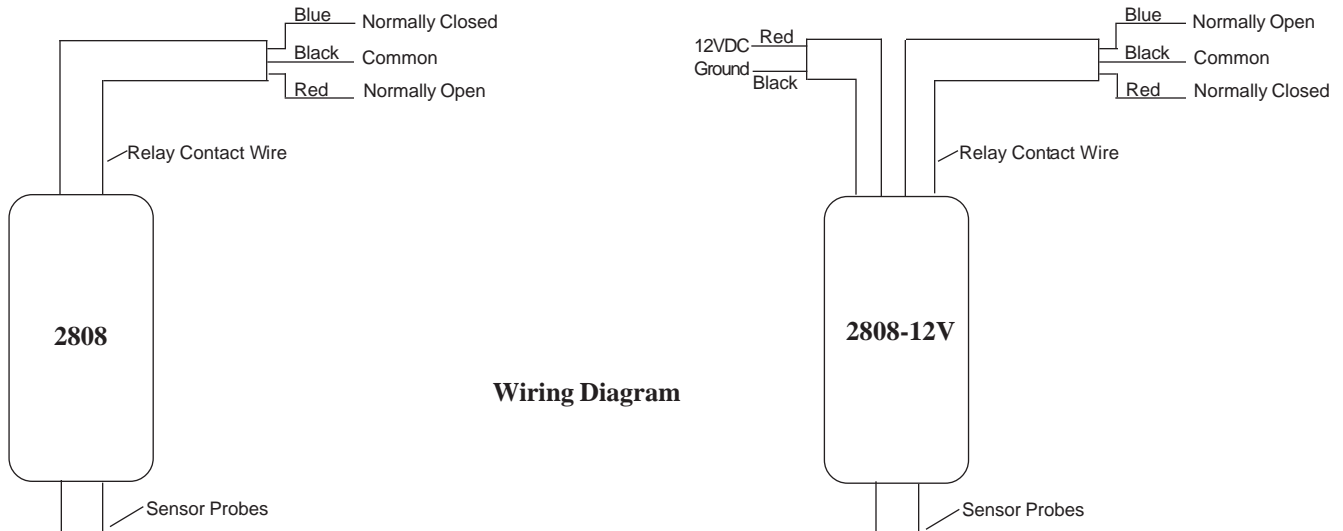
The G.R.I. Absence of Water Detector is installed by mounting the unit so that sensor probes are located at the desired fluid level position. Insertion of the 2808 into the liquid will confirm that mounting point as the **minimum** liquid level height. Mounting the 2808 above and out of the liquid will confirm that mounting point as the **maximum**

liquid level height. The latching C form relay output will set upon first initial sampling after mounting, and maintain that set during subsequent samplings up to and until a change in status occurs. At that time, the C form relay will reset, signalling that change. The device is secured in place using the provided plastic strap. Connections to the relay contact wires are made using a suitable wire connector. Note: Watertight connectors may be needed if connector location will be submerged.

These detectors should be inspected and tested annually. If there is damage the detector should be replaced.



The latching C form relay output will set upon first initial sampling after mounting, and maintain that set during subsequent samplings up to and until a change in status occurs. At that time, the C form relay will reset, signalling that change. The device is secured in place using the provided plastic strap. Connections to the relay contact wires are made using a suitable wire connector. Note: Watertight connectors may be needed if connector location will be submerged.



### SPECIFICATIONS:

#### 2808-12V Only

|                             |                 |
|-----------------------------|-----------------|
| Operating Voltage           | 12 volts DC     |
| Operating Current           | 7 mA nominal    |
| <b>2808 and 2808-12V</b>    |                 |
| Operating Temperature:      | 70° C to -40° C |
| <b>Contact Rating:</b>      |                 |
| Nominal Switching Capacity: | 2A @ 30VDC      |
| Maximum Switching Power:    | 60W             |
| Maximum Switching Voltage:  | 220VDC          |
| Maximum Switching Current:  | 2A              |

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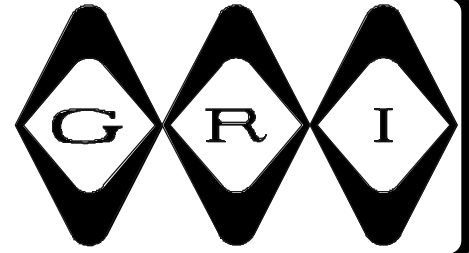


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# LIQUID LEVEL DETECTOR



## 2826 & 2826FS

- ◆ Detects Non-Volatile Liquids
- ◆ For Use With Wireless Transmitters
- ◆ Microprocessor Controlled
- ◆ Installs Easily
- ◆ "C" Form Relay Contacts
- ◆ Fail Safe Version Available



2826



2826FS

### APPLICATION:

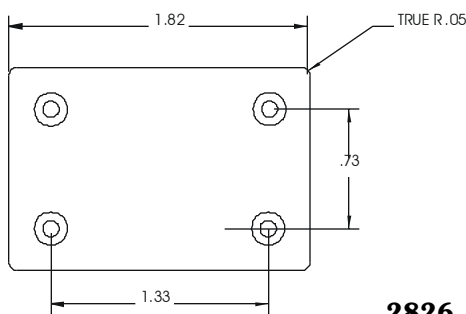
The G.R.I. 2826 Detector was designed in response to a direct request for a small electronic sensor capable of detecting non-volatile liquids in remote hard to reach locations. The sensor, in conjunction with your favorite wireless transmitter, can be used to detect and report the encroachment of non-volatile liquids into an isolated sensitive location.

The new 2826FS from GRI provides remote probes plus a **fail safe** capability. When the on board battery expends the last of its power, 3 to 5 years under normal conditions, the 2826FS automatically places itself in a **safe** mode to help prevent danger to devices, property and/or people. This safe mode keeps the zone assigned to the 2826FS in an alarm condition. This causes an authorized person or an alarm technician to physically inspect the 2826FS and replace the battery, prior to resetting and re-arming the system.

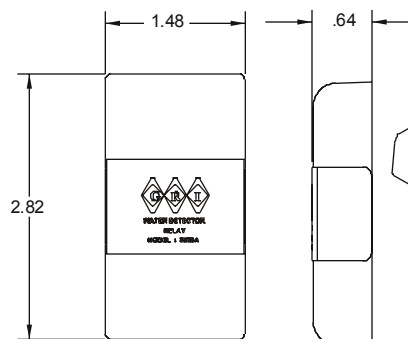
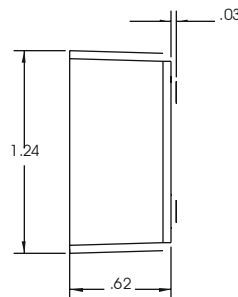
### DESCRIPTION:

The G.R.I. 2826 Detector is an internally powered, microprocessor controlled device that samples the conductivity between any two adjacent sensor points located on the bottom of the device. Power consumption is less than 1 micro-amp while in the standby mode. This allows for an extended duty cycle.

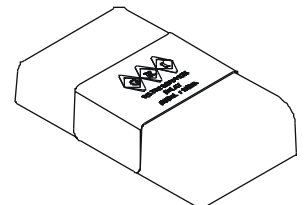
Relay contacts are latched in an open or closed position based on the conductivity measured between the sensors. External wire connections are provided to allow access to the "C" form relay contacts for output control of an external device.



2826



2826FS



### WARRANTY:

One year warranty against workmanship, material and factory defects.

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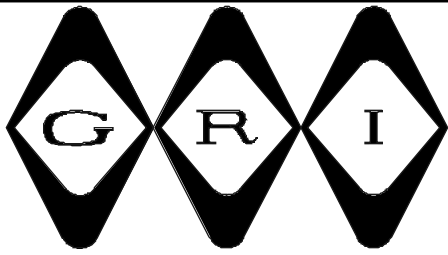
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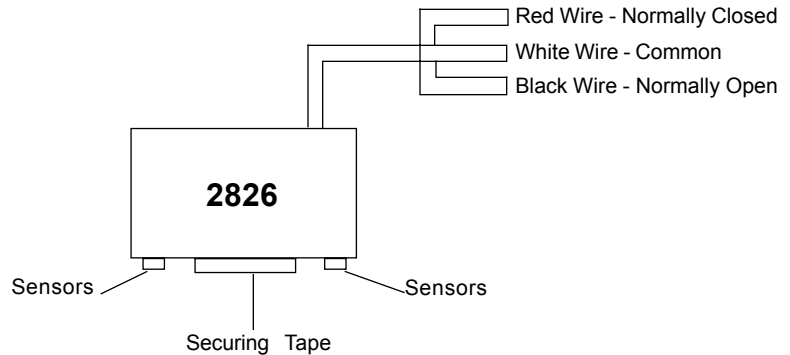
# LIQUID LEVEL DETECTOR

## 2826 Installation Instructions:

To install the G.R.I. 2826 Detector, place the unit where liquid is most likely to accumulate. Clean and dry the desired placement location. A smooth surface is preferable and preparing surface by using an alcohol wipe is recommended. Remove protective paper from double sided tape, then stick the unit to the cleaned surface.

To connect the 2826 Detector wires to an external device, see the installation instructions for that device.

Use the white and red wires for a closed loop circuit, or the white and black wires for an open loop circuit. After installation these units should be tested with water and inspected annually. If there is any corrosion or damage the sensor should be replaced.



### SPECIFICATIONS:

Average Duty Cycle at Manufacture      Approximately 5 years

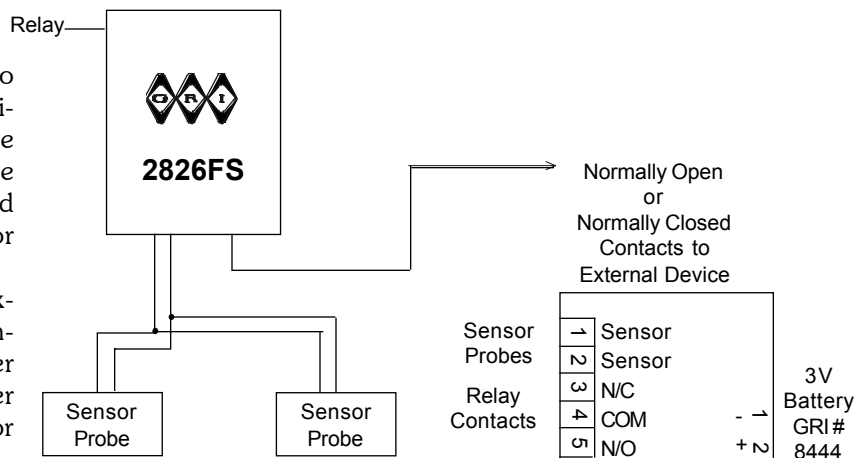
#### Contact Rating

|                       |       |
|-----------------------|-------|
| Max Switching Power   | 250mW |
| Max Switching Voltage | 30VDC |
| Max Switching Current | 500mA |

## 2826FS Installation Instructions:

Mount the 2826FS Detector Relay on a wall no more than 100 feet from desired location to be monitored. Mount the sensor probes at locations where liquid pooling is most likely to occur. Run probe wires from sensor probes to the detector relay and connect wires to sensor terminals. Wire all sensor probes in **parallel**.

Use the relay contact terminals to connect to external devices such as wireless transmitters or connect directly to alarm or controller systems. After installation these units should be tested with water and inspected annually. If there is any corrosion or damage the sensor should be replaced.



### SPECIFICATIONS:

|                        |                       |
|------------------------|-----------------------|
| Probe with 36" Leads   | GRI # 2826-P          |
| Battery with Connector | GRI # 8444            |
| Battery Life           | Approximately 4 years |

#### Contact Rating

|                                       |         |
|---------------------------------------|---------|
| Max Switching Power                   | 250mW   |
| Max Switching Voltage                 | 30VDC   |
| Max Switching Current                 | 500mA   |
| Max Number Sensor Probes              | 10      |
| Max Wire Length for Detector to Probe | 100 ft. |

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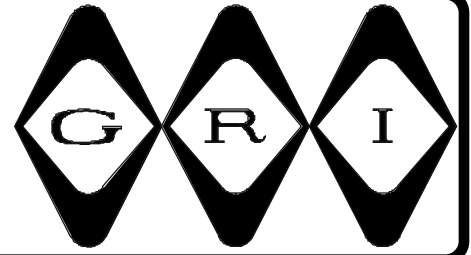
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# HOME WATER LEAK ALARM SYSTEM



## WS-20

- ◆ Instant Alarm
- ◆ Signaling Device
- ◆ Self Contained
- ◆ Local Alarm and Flashing LED
- ◆ Low Battery Indicator
- ◆ 6' Jacketed Lead
- ◆ Form C Relay



### APPLICATION:

The WS-20 is designed as a signaling device for use as a self contained Home Water Leak Alarm System. The Model WS-20 will sound a local alarm and flash an LED indicator, should water come in contact with the WS-20 water sensing probe.

### DESCRIPTION:

The Home Water Leak Alarm System uses a microprocessor to monitor a Water Sensing Probe, a Cancel Button, Supply Voltage and provides control for a Sounder, LED indicator and a Form C Relay. The Water Alarm System is set to alarm the instant water is bridged across the two stainless steel wire straps on the water sensor probe. The sounder will continue to sound until the reset/cancel button is depressed. Other features for the WS-20 would include an adjustable sounder volume, power/alarm LED indicator, a latching relay and a low battery signal.

### INSTALLATION INSTRUCTIONS:

The WS-20 Home Water Leak Alarm System mounts easily to walls or most any clean flat surface with the supplied double stick tape or mounting screws. The Alarm Sounder box should be mounted about 4 to 5 feet off the ground at the location water leaks are most likely to occur. Avoid locations where spraying or splashing water could come in contact with the Sounder box.

The Water Sensor Probe should be mounted in a location where water pooling or spraying from a leaking appliance will most likely occur. The stainless steel wire straps should be at least 1/16" above any flooring surface. The Probe can be mounted to a wall with the stainless steel straps facing down or the Probe can be mounted to the floor surface.

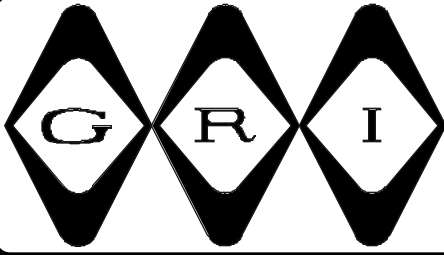
A 9-volt alkaline battery can then be connected to the battery strap or powered from an external 12VDC Power Supply, connected to the + and - terminals.

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# HOME WATER LEAK ALARM SYSTEM

## OPERATION:

After installation, proper operation is confirmed by verifying the following conditions:

### NORMAL CONDITION

1. A short periodic flash from the green LED indicates Normal Operation in dry condition.
2. While in normal operating condition, depressing the cancel button will place the unit in a standby condition (sensor probe disabled). This will be indicated by continually flashing green LED. The unit will remain in this condition for approximately 1 minute then will reset back to Normal Operation.
3. While in the standby condition, a second depression of the cancel button will cause the device to perform a battery test. If the battery voltage is low, the unit will sound a low battery annunciation (3 short beeps 3 times). Immediately after the battery test the unit returns to normal operation. If battery voltage is not low, the unit returns to normal operation without the low battery annunciation.

### ALARM CONDITION

4. Testing the alarm is performed by holding a damp paper towel or sponge across the two stainless steel wire straps on the probe until the unit enters the alarm mode. This mode is indicated by a continually annunciating sounder and a continually flashing red LED.
5. While in alarm condition, depressing the cancel button will silence the annunciator and place the unit into either an alarm standby condition (probe still sensing water), or places the unit back to normal operation (probe not sensing water). If the probe is still sensing water and the unit enters the alarm standby mode, an alarm standby annunciation will be sounded (6 short beeps 1 time).
6. When in the alarm standby condition, this will be indicated by a slow continuous flashing red LED, and a periodic sounding of the alarm standby annunciation. Depressing the cancel button while in the alarm standby mode will only cause re-sounding of the alarm standby annunciation. The unit will automatically return to normal operation only after the sensor probe no longer senses water.

After installation these units should be tested with water and inspected annually. If there is any corrosion or damage the sensor should be replaced.

### SPECIFICATIONS:

|                            |                         |
|----------------------------|-------------------------|
| Battery Type               | 9 Volt Alkaline         |
| Battery Life Approximately | 6 Months                |
| Recommended External Power | 9 to 12 VDC @ 100 mA    |
| Low Battery Mode           | 6.5 VDC                 |
| Sounder Rated              | 85 dB at 10 ft. (3.5 M) |
| Relay Contacts             |                         |
| Nominal Switching Capacity | 2A 30 VDC               |
| Max Switching Power        | 60 Watts                |
| Max Switching Current      | 2 Amps                  |

### TERMINAL TM1

1. External 12 VDC
2. Ground
3. Remote Reset
4. Sensor Black Wire
5. Sensor White Wire
6. Sensor Red Wire

### TERMINAL TM2

1. Relay N/O
2. Relay Common
3. Relay N/C

### Sounder Volume Control JP-1

Full Volume

3/4 Volume

1/2 Volume

## WARRANTY:

One year warranty against workmanship, material and factory defects.

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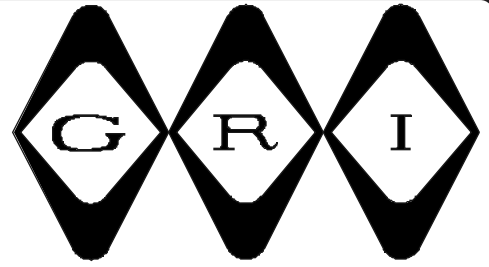


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# WATER VALVE SHUTOFF



## WVS

- ◆ Monitors Flooding From Leaking or Broken Water Line
- ◆ Automatic Control of Main Water Supply Line
- ◆ Form C Relay Output For External Monitoring Devices
- ◆ Visual and Audible Status Indicators
- ◆ Automatic Self Testing
- ◆ Covers Large Area When Used With Multiple Sensors
- ◆ Low Voltage Design With Battery Backup



WVS

The G.R.I. Water Valve Shutoff System was designed as a flood prevention device. This system utilizes an electronic controller to provide automatic control of an electronic water valve that is installed in the main water supply line. The controller continually monitors water sensors that are placed in areas where flooding from water line breaks are most likely to occur; washing machine, hot water heater, sinks, dishwasher.

When water is sensed by the water sensor, the sensor will signal the controller of the presence of water. The controller then automatically powers the electronic valve and signals it to close. Once the controller senses that the valve is in the closed position, the controller will then trigger the C form relay that can be used to signal a remote monitoring device, such as an alarm panel or auto dialer. While in this alarm condition, the controller will annunciate an audible alarm and flash an alarm indication LED. The controller will stay in this alarm condition with the valve closed up until the reset button is depressed. When the reset is depressed while in the alarm mode, the controller will either open the valve and return to the normal monitoring mode or if the sensor still senses the presence of water, the controller will annunciate an alarm condition and the valve remains in the closed position.

At any time, the position of the valve can be changed with the use of the controller simply by depressing and holding down the reset button. If the valve is open, a press and hold will cause the valve to close. If the valve is closed, a press and hold will open the valve.

### WARRANTY:

One year warranty against workmanship, material and factory defects.

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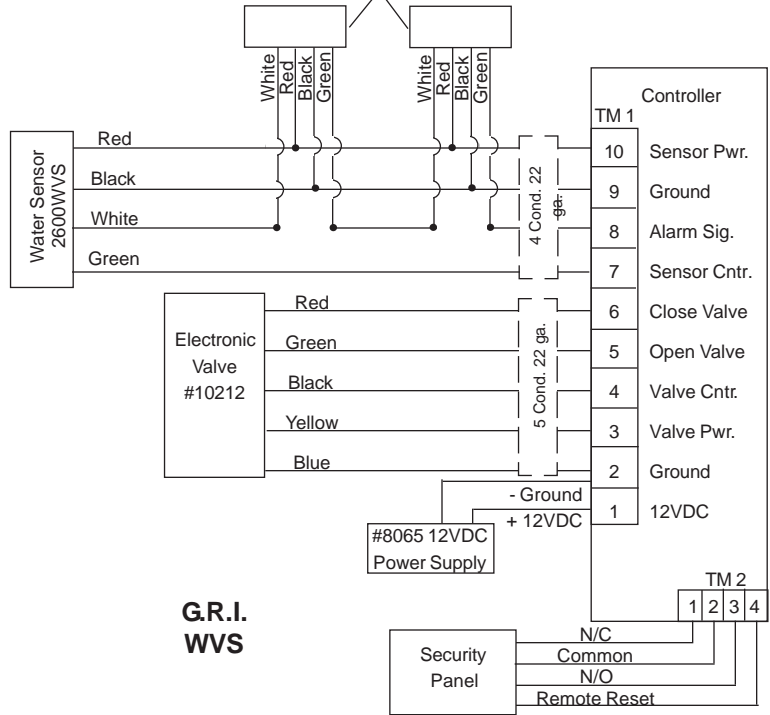
# WATER VALVE SHUTOFF

## WVS:

The G.R.I. Water Valve Shutoff System was also designed to monitor itself. The controller periodically checks for a signal sent to the controller from both the water sensor and the electronic valve. If either signal is missing or incorrect, the controller will enter a trouble mode. When a trouble occurs a trouble annunciation is sounded and a flashing LED will be displayed. Four green LED flashes indicate a trouble with the water sensors and four red LED flashes indicate a trouble with the valve. Common troubles include loose or broken connecting wires or improper installation.

Another self test feature is a monthly cycling of the electronic valve. Once a month the controller will automatically close and reopen the valve to prevent corrosion buildup inside the valve and to physically check for proper operation of the electronic valve. A trouble condition will be displayed if the test fails.

Optional Not Included: 2600/2600T (max. 4)



**G.R.I.  
WVS**

## SPECIFICATIONS:

|                   |                     |
|-------------------|---------------------|
| Operating Voltage | 9 to 12 VDC         |
| Max. Voltage      | 13.5 VDC            |
| Average Current   | 55mA with 5 Sensors |
| Max. Current      | 300mA               |
| Backup Battery    | 9V Alkaline         |

### Valve

|           |        |
|-----------|--------|
| Pipe Size | 1" NPT |
| Height    | 4 1/2" |
| Width     | 3 1/4" |
| Length    | 3 1/4" |

### Relay Contacts:

|                        |                   |
|------------------------|-------------------|
| Contact Resistance     | 100 mOhms         |
| Max. Switching Power   | DC 30W - AC 60 VA |
| Max. Switching Volts   | 60 VDC - 120 VAC  |
| Max. Switching Current | 2A DC/AC          |

|                             |         |
|-----------------------------|---------|
| Max. Water Sensors          | 5       |
| Max. Wire Length to Sensors | 200 ft. |
| Max. Wire Length to Valve   | 50 ft.  |

## Items Included:

- 1 - Electronic Controller
- 1 - Electronic Water Valve
- 1 - Water Sensor 2600WVS
- 1 - 12 VDC Regulated Power Supply 8065
- 9 - Connectors

## Optional Items:

- 2600 Water Switches 2600/2600T

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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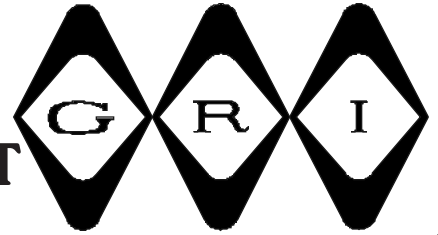


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# WATER MOCCASIN SENSOR STRIP WITH RELAY CONTACT



- ◆ 2600 Water Sensor Built Into A 10 Foot Mesh Water Strip Sensor For Perimeter Or Large Area Flood Detecting
- ◆ Ideal For Basement Floors/Walls, Computer Server Rooms, Water Pipes, Attics Or Anywhere Water Damage Could Occur
  - ◆ Automatic Reset
  - ◆ 12 VDC Closed Loop
- ◆ Up To Five 10 Foot Extension Probes With The WM10-P



**WM2600-10**

Undetected water damage, such as that caused by leaking pipes or corroded water heaters, cost homeowners tens of thousands of dollars each year. Such repairs are time consuming and costly to correct. Applications could include computer room sub-floor areas, telephone equipment rooms, bathrooms, laundry rooms, any areas adjacent to a water storage tank or piping. Also evaporative air conditioners, drip pans, overflows and/or drains.

Using no mechanical parts, the GRI Water Sensors are triggered by a moisture bridge across the sensor contacts.

**The 2600 Closed Loop Sensors** use an external power source to energize a built-in relay contact so battery power is not recommended. Used in a closed loop configuration, an alarm condition will occur when moisture is detected, or if power to the sensor is lost, and if the sensor should fail. The relay output can be wired directly to any alarm panel or can be used to actuate an external device, i.e. transmitter, annunciator, etc.

The WM10-P is a ten foot extension probe which can be wired to the WM2600-10 or used with the GRI 2600T, 2500T or 2826FS for wireless detection.

## **Part Numbers:**

WM2600-10

WM10-P

## **Configuration**

Normally closed for a closed loop circuit 12 Volts DC

10ft. extension probe series connected

## **WARRANTY:**

One year warranty against workmanship, material and factory defects.

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# WATER MOCCASIN SENSOR STRIP WITH RELAY CONTACT

## INSTALLATION NOTES: WM2600-10

For installation to an alarm panel, the Red wire is connected to the auxiliary 12 volt supply and the Black wire is connected to negative. The Green and White wires can then be connected to any pre-selected Closed Loop terminal. A resistor can be connected in series with either the Green or White wire for those panels that require end-of-line resistance.

For area flood detecting, this sensor can be installed by securing the supplied cable ties to the mesh stripping then mount the cable tie to floor or wall base board at the area to be monitored using the supplied screws.

For water pipe leak detecting, the sensor can be installed by securing the mesh stripping to the water pipe with either the supplied cable tie or water proof tape. For horizontal installed pipe the mesh should be secured along the bottom of the pipe, and for vertical piping the mesh should spiral around the pipe.

### SPECIFICATIONS:

#### Power Requirements:

Operating Voltage 12 Volts DC  
Operating Current 10 mA

#### Wire Connections:

Red +12 volts DC  
Black -Ground  
Green Relay Contact  
White Relay Contact

#### Contact Characteristics:

Contact Resistance 100mΩ  
Switching Voltage 200 Volts DC Max  
Switching Current 500 mA Max  
Carry Current 1 Amp Max  
Power 10 VA Max

#### Temperatures:

Operating temperature -40°C to +75°C  
Storage Temperature -40°C to +85°C  
Polyester Mesh +125°C Max

#### WM10-P Extension Probes

Series Connected 5 Max

## INSTALLATION NOTES: WM10-P

Series connecting the WM10-P to another WM10-P is done by connecting the 2 conductor cable of one probe to the 2 conductor cable of another probe with the provided connectors. Start by slipping the included 5" piece flexible mesh and the two 1/4" pieces of shrink tubing over the end of the first WM10-P. Crimp the cables red wire of the first probe to the red wire of the second probe with one of the provided connectors and then crimp the black wires together with the other connector, crimp tight with pliers to insure good connections. If additional WM10-Ps will be added to the strip follow the above same procedure to the end of the second extension probe. Repeat same procedure for up to 5 extension probes per strip.

Test probe assembly by either connecting the starting cable to a preinstalled working water switch, and wet the farthest end of strip with water and check for proper switch operation. Or test probe assembly with an ohm meter for good continuity between the red wire of one end of strip, to the red wire on the other end. A good connection would read less than one ohm. Repeat continuity test on black wires then check for an open circuit between the red and black wires. After testing, slide each 5" piece flexible mesh over installed connectors, overlap ends of flexible mesh and secure by heating the two 1/4" pieces of shrink tubing at both ends.

### Connecting the WM10-P to a GRI Water Switch:

#### WM2600-10 Water Switch

To connect the WM10 -P to a WM2600-10 follow the same procedure above for connecting WM10-P to another WM10-P.

#### 2600T and 2500T Water Switch

To connect the WM10-P to either a 2600T or 2500T connect probe cable end to water switch terminal screws, Red wire to one terminal and the black wire to the other terminal, polarity does not matter.

#### 2826FS Water Switch

To connect the WM10-P to 2826FS, connect probe cable end to water switch terminal block. Red wire to terminal block pin 1 and the black wire to terminal block pin 2.

\* All water switches should be installed per manufacture instructions and should be annually tested with water from farthest end of extension probes. If there is any corrosion or damage the sensors should be replaced.

### WM10-P SPECIFICATIONS

|                      |                              |                      |           |
|----------------------|------------------------------|----------------------|-----------|
| <b>Wire:</b>         | 2 Conductor 22 ga PVC Jacket | <b>Mesh Material</b> | Polyester |
| <b>Temperatures:</b> | -70°C Min to +125°C Max      | <b>Length</b>        | 10Ft      |

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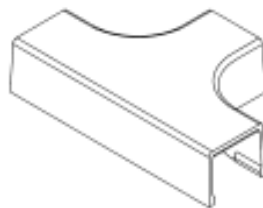
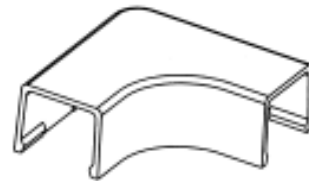
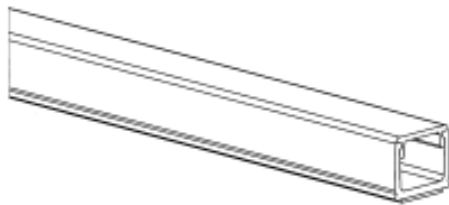
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# ELECTRICAL PRODUCTS



# CURRENT CONTROLLER



**CC-01**  

- ◆ U.L. & U.L.C. Listed
- ◆ Designed For Lamp Switching
- ◆ Use For Walk-in Closets, Pantries, And Cabinets
- ◆ Automatic AC Voltage Switching System
- ◆ Monitors The State Of A Low Voltage Switch Connected To The Door



**CC-01**  
**1.85" x 1.25"**

The GRI Current Controller is an encapsulated circuit with connecting wires to AC power, a light fixture and door monitor switch. A microprocessor circuit is safely isolated from the 120 volts AC. This control signal through the door switch will control the AC power to the light fixture. The GRI Current Controller is designed to fit into an electrical junction box along with the connecting wires.

**NOTE: Open Loop Switch required. GRI 60-12 included. Also available with recessed switch: CC-01-3030-T, CC-01-RB-02, or with no switch CC-01 NS, call factory for other options.**

#### **SPECIFICATIONS:**

|                         |         |
|-------------------------|---------|
| Maximum Input Voltage   | 125 VAC |
| Maximum Output Current  | 1 A     |
| Maximum Output Power    | 125 VA  |
| Recommended Output Load | 60 VA   |
| Door Switch Voltage     | 3 VDC   |
| Door Switch Current     | 3 uA    |

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# CURRENT CONTROLLER

## INSTALLATION:

### A) Installing the Door Sensor

**NOTE:** Open Loop Switch Required (included). Install the switch on the door, according to the manufacturer's installation instructions. Run wires from the door switch to the electrical junction box.

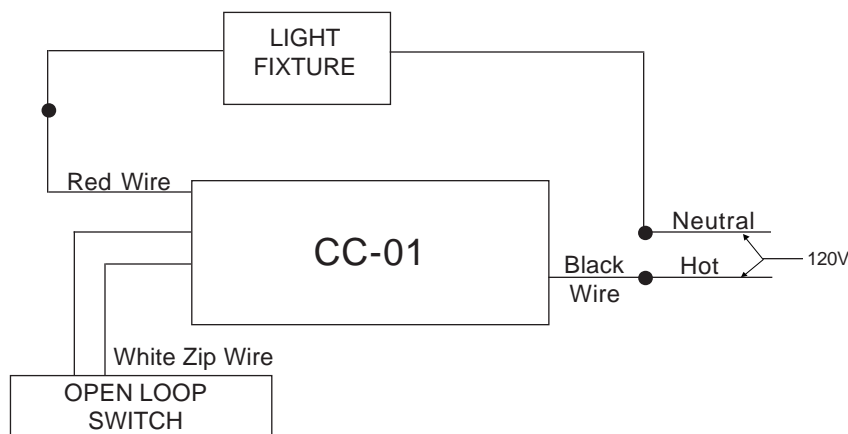
### B) Installing the GRI Current Controller

**NOTE:** The installation of the GRI Current Controller must be performed by a licensed Electrician.

**CAUTION:** Remove branch power before installing CC-01.

Run light fixture wires from the light fixture to the electrical junction box. Run electrical wires from branch circuit to the electrical junction box. Connect the white zip wire from CC-01 to the door switch wires using the supplied blue wire connectors. Connect the red wire from CC-01 to the hot wire of the light fixture. The other light fixture wire is connected to neutral using the supplied wire connectors. Connect the black wire from CC-01 to the electrical hot wire from the AC branch using the supplied yellow wire connectors. After all the connections have been made, the CC-01 can be placed into the electrical junction box. Secure the box lid and reapply power to the branch circuit.

## WIRE DIAGRAM



## WARRANTY:

One year warranty against workmanship, material and factory defects

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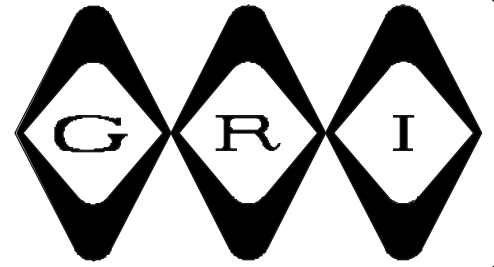
BA-169 Rev J 6/04/09



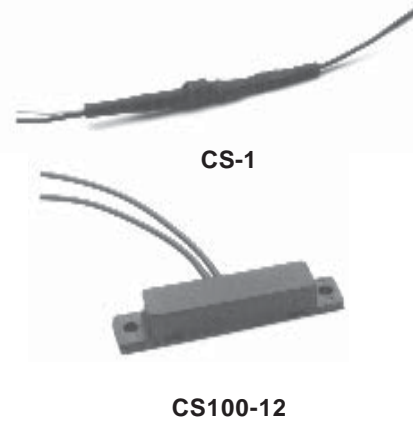
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# CURRENT SENSORS



- ◆ Fails Safe With Excessive Current
- ◆ Micro-Weld Switch Protection
- ◆ Channels Voltage Above 60 V To Ground
- ◆ Available In Recessed & Surface Styles
- ◆ Plus Heat Shrink For In-Line Installations



Two things cause switch failure:

- 1) Excessive Current: Switch protected from excessive current by Quick Blow fuse. Maximum reed switch rating is .5 amp. = 500 mA switching. If current exceeds .5 amp. fuse will blow. In Fail Safe condition, switch must be replaced.
- 2) High Voltage: SIDActor threshold 60 AC/DC volts. If voltage exceeds 60 volts, SIDActor will clamp down, channeling any voltage above 60 directly to ground but will not cause switch device to fail or mis-operate and will continue to work.

The new sensors can be purchased with the protection built directly into your reed switch or you may prefer the G.R.I. CS-1 heat shrink version, which you connect in-line with your switches.

Please see diagrams on reverse for installation information on switch protection plus minimum and maximum zone protection. When using the CS-1, it should be installed directly in front of the contact(s).

|                    |                   |
|--------------------|-------------------|
| <b>CIRCUIT</b>     | Fuse and SIDActor |
| Internal Fuse      | .500 A            |
| Break Over Voltage | 60 to 100 Volts   |

**PART NUMBERS:**

|               |           |          |          |
|---------------|-----------|----------|----------|
| Heat Shrink:  | CS-1      |          |          |
| Fused Switch: | CS2020-12 | CS2020-T | CS100-12 |
|               | CS29A     | CS4400   | CS400    |
|               | CS200-36  |          |          |

**GRI products meet or exceed these minimum general specifications:**

| PART NUMBER | LOOP TYPE | ELECTRICAL CONFIG. | REED FORM | MAXIMUM INITIAL CONTACT RESISTANCE (Ω) | MAXIMUM CONTACT RATING (W) | MAXIMUM SWITCHING VOLTAGE (VDC) | MAXIMUM SWITCHING CURRENT (A) |
|-------------|-----------|--------------------|-----------|--|----------------------------|---------------------------------|-------------------------------|
| CS400       | Closed    | N/O                | A         | .100                                   | 10                         | 100                             | .500                          |
| CS4400-A    | Closed    | N/O                | A         | .100                                   | 10                         | 100                             | .500                          |
| CS100-12    | Closed    | N/O                | A         | .100                                   | 10                         | 100                             | .500                          |
| CS29A       | Closed    | N/O                | A         | .100                                   | 10                         | 100                             | .500                          |
| CS2020-12   | Closed    | N/O                | A         | .100                                   | 10                         | 100                             | .500                          |
| CS2020-T    | Closed    | N/O                | A         | .100                                   | 10                         | 100                             | .500                          |
| CS200-36    | Closed    | N/O                | A         | .100                                   | 10                         | 100                             | .500                          |

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# CURRENT SENSORS

## Switch and Zone Protection

### CURRENT PROTECTION SWITCH



### MINIMUM ZONE PROTECTION

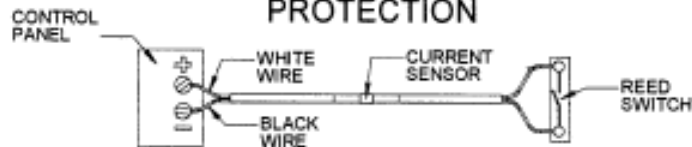


### MAXIMUM ZONE PROTECTION

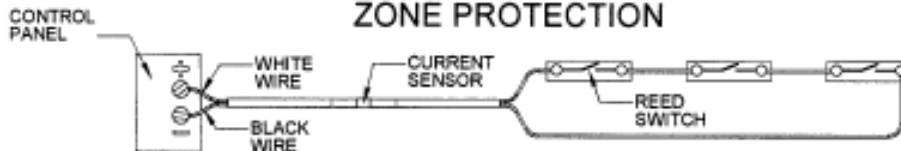


CS-1

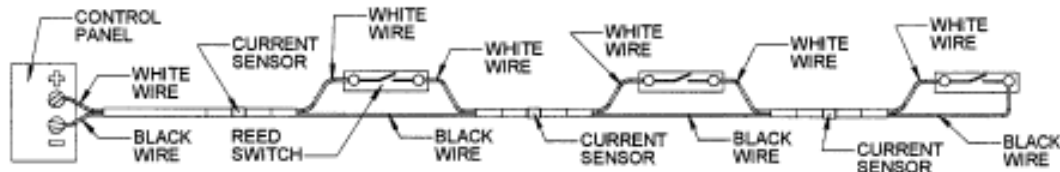
### SWITCH PROTECTION



### MINIMUM ZONE PROTECTION



### MAXIMUM ZONE PROTECTION



CS2020-12, CS2020-T, CS100-12, CS29A, CS4400

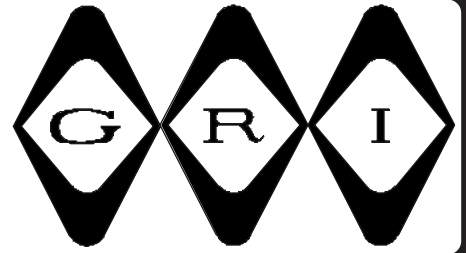
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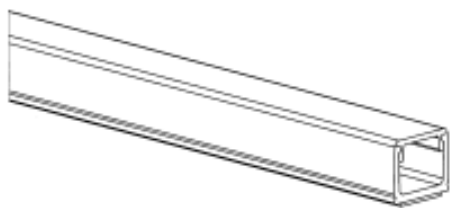
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# E-Z DUCT RACEWAY



## Wire & Cabling Raceway & Connectors For Low Voltage Applications

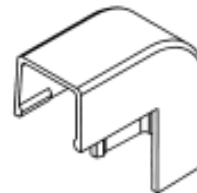
- ◆ 3/8" x 3/8" Mini Raceway
- ◆ 5/8" x 1/2" Raceway
- ◆ 5/8" x 1 1/4" Raceway
- ◆ Adhesive Backing
- ◆ White Or Brown
- ◆ Mounting Screw Holes
- ◆ 6' Lengths
- ◆ Flame Retardant PVC & ABS UL 94-V-0
- ◆ New E-Z QR, 1" Quarter Round (See back page for description)



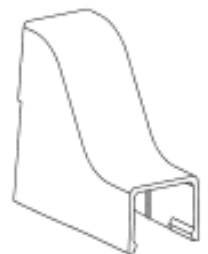
**E-Z Duct Raceway**



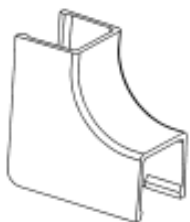
**E-Z RA**



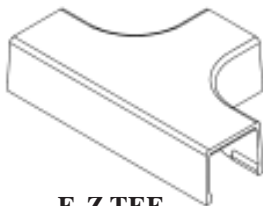
**E-Z OC**



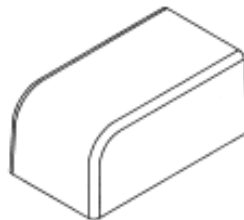
**E-Z DC (5/8" Only)**



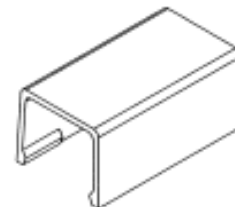
**E-Z IC**



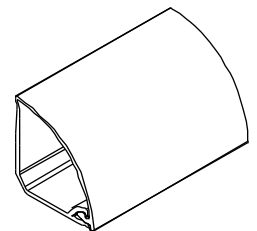
**E-Z TEE**



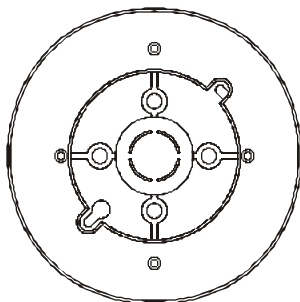
**E-Z EC**



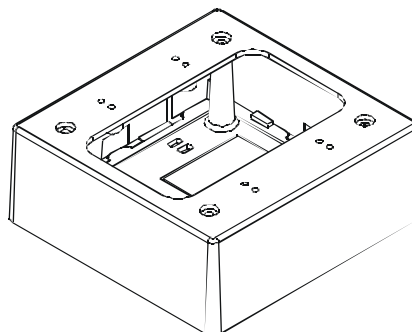
**E-Z SP**



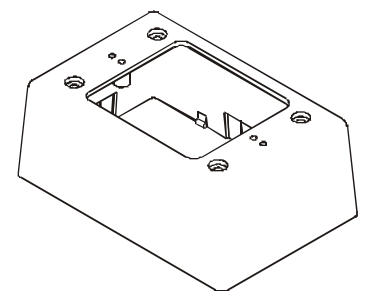
**E-Z QR-W**



**E-Z SB**



**E-Z 75 DG-W**  
Available in Red  
for Horn Strobes  
**E-Z 75 DG-R**



**E-Z 58 SG-W**  
Available in Red  
for Pull Stations  
**E-Z 58 SG-R**

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# E-Z DUCT RACEWAY

E-Z DUCT is G.R.I.'s new product line of wire and cabling raceway and connectors for low voltage applications. Manufactured by G.R.I., this line of high quality, two piece surface raceway features 5/8" x 1/2" or 5/8" x 1 1/4", six foot lengths of PVC 94V-0, with adhesive backing and pre-drilled mounting screw holes for quick installation. The raceway can be purchased in bags of 6 or in bulk boxes of 50 pieces. G.R.I. offers a variety of connectors in flame retardant ABS plastic. These connectors are available in bags of 6 of one type or a combo pack of 2 each. Call factory or visit one of our Distributors for ordering information.

| Part Number | Quantity     | Description   |
|-------------|--------------|---|
| E-Z 38-W    | Bag of 10    | 3/8" x 3/8" Raceway Six Foot Lengths White Only                                   |
| E-Z 58 50   | Box of 50    | 5/8" x 1/2" Raceway Six Foot Lengths  |
| E-Z 58 6    | Bag of 6     | 5/8" x 1/2" Raceway Six Foot Lengths  |
| E-Z DUO     | Bag of 6     | 6 E-Z 58 Sticks to fit into 3 E-Z 75 Covers Six Ft. Lengths White or Brown        |
| E-Z 58 IC   | Bag of 6     | Inside Corner   |
| E-Z 58 OC   | Bag of 6     | Outside Corner  |
| E-Z 58 SP   | Bag of 6     | Splices   |
| E-Z 58 RA   | Bag of 6     | Right Angles  |
| E-Z 58 TEE  | Bag of 6     | Tee   |
| E-Z 58 EC   | Bag of 6     | End Cap   |
| E-Z 58 DC   | Bag of 6     | Drop Ceiling  |
| E-Z 58 COM  | Combo Pack   | 2 Each: Inside Corner, Outside Corner, Splice/Coupling, Right Angle, Tee, End Cap |
| E-Z 58 SG   | One Box      | Junction Box: W - 3.50" x H - 5.20" x D - 2" White or Red                         |
| E-Z 75 50   | Box of 50    | 5/8" x 1 1/4" Raceway Six Foot Lengths  |
| E-Z 75 6    | Bag of 6     | 5/8" x 1 1/4" Raceway Six Foot Lengths  |
| E-Z 75 IC   | Bag of 6     | Inside Corner   |
| E-Z 75 OC   | Bag of 6     | Outside Corner  |
| E-Z 75 SP   | Bag of 6     | Splices   |
| E-Z 75 RA   | Bag of 6     | Right Angles  |
| E-Z 75 TEE  | Bag of 6     | Tee   |
| E-Z 75 EC   | Bag of 6     | End Cap   |
| E-Z 75 COM  | Combo Pack   | 2 Each: Inside Corner, Outside Corner, Splice/Coupling, Right Angle, Tee, End Cap |
| E-Z 75 DG   | One Box      | Junction Box: W - 5" x H - 5" x D - 2" White or Red                               |
| E-Z SB      | One Box      | Smoke Box: 5.50" Diameter (fits both E-Z 58 and E-Z 75)                           |
| E-Z QR 6-W  | Bag of 6     | 1" Quarter Round, Six Foot Lengths, White Only, Not Taped or Drilled              |
| E-Z 7553    | 12 Yard Roll | 1/2" x 1/16" Double Coat Foam Tape  |

## WARRANTY:

One year warranty against workmanship, material and factory defects.

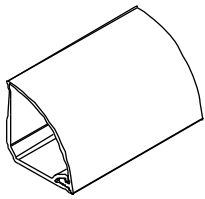
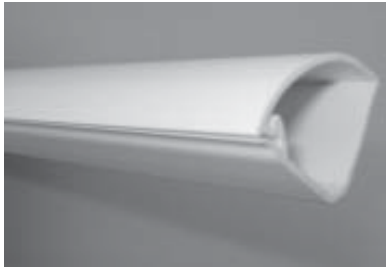
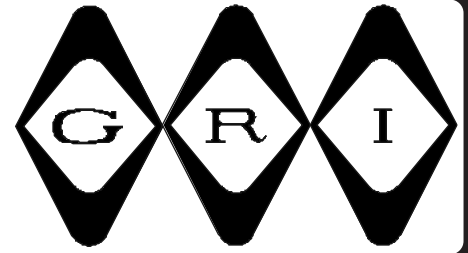
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G.R.I. Plaza  
KIMBALL, NE 69145



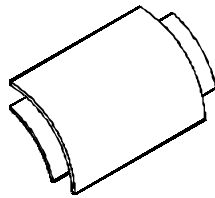
BA-177 Rev Q 7/01/10

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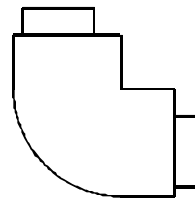
# E-Z DUCT RACEWAY QUARTER ROUND & CONNECTORS



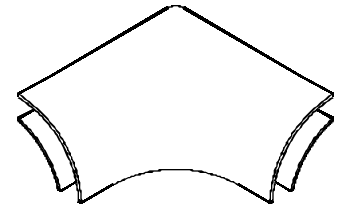
E-Z QR 6-W



Splice/Coupling



Outside Corner



Inside Corner

- ◆ 1" Quarter Round      ◆ One Piece Extrusion; Hinged and Interlocking
- ◆ Ideal For Hiding Wire Along Floorboards and Corners
- ◆ White Only      ◆ Splice Has Knock Outs For E-Z 38, E-Z 58 & E-Z 75
- ◆ Bag of 6 Six-Foot Lengths; Not Taped or Drilled For Mounting Holes
- ◆ UV Stabilizer      ◆ Flame Retardant PVC & ABS UL 94-V-0
- ◆ 12 Yard Roll 1/2" x 1/16" Double Coat Foam Tape. Sold Separately PN # E-Z 7553

| Part Number  | Quantity     | Description  |
|--------------|--------------|--|
| E-Z QR 6-W   | Bag of 6     | 1" Quarter Round, Six Foot Lengths, White Only, Not Taped or Drilled |
| E-Z 7553     | 12 Yard Roll | 1/2" x 1/16" Double Coat Foam Tape                                   |
| E-Z QR IC-W  | Bag of 6     | Inside Corner Quarter Round  |
| E-Z QR OC-W  | Bag of 6     | Outside Corner Quarter Round   |
| E-Z QR SP-W  | Bag of 6     | Splice/Coupling Quarter Round  |
| E-Z QR COM-W | Combo Pack   | 2 Each: Inside Corner, Outside Corner, Splice/Coupling               |

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GRI PLAZA  
KIMBALL, NE 69145

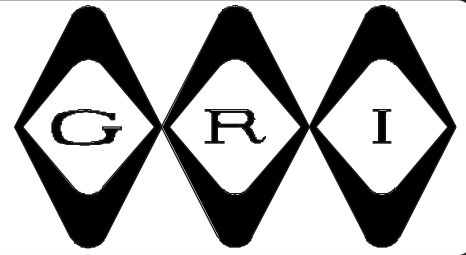


MADE IN U.S.A.

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# POWER SUPPLIES AND REGULATORS



**6973**  
Non-regulated Plug-In Power Supply  
9VDC 50 mA Output  
U.L. Listed E152985(S)



**2935T**  
Regulated Power Supply  
+5V @ 700 mA



**8065**  
AC/DC Adaptor  
Regulated 12V DC 500 mA  
U.L. Listed  
Screw Terminal Connections



**2933**  
Regulated 24V - 5V  
DC Converter  
@350 mA Output



**2930**  
Regulated 12V - 5V  
DC-DC Converter  
@350 mA Output

Designed to accommodate the new lower power consumption electronics the GRI DC to DC regulated power supplies, will maintain a set +5V DC output at 350 mA from a 12 V DC supply in the model 2930 or from a 24V DC supply in the model 2933.

For applications requiring a plug in AC to DC conversion the model 2935T will convert and step down 110V AC to a +5V DC regulated output at 700 mA.

Standard applications capable of utilizing a non-regulated plug-in AC to DC power supply can best use the model 6973 to convert 110V AC to a non-regulated 9V DC at 50 mA output. For use with PRM-1 Programmable Relay Module.

The G.R.I. 8065 is a Class II U.L. 12V DC Regulated 500 mA Power Supply with Red LED indicator for power supervision, and built in cable strain relief. It comes with a mounting tab and mounting screw. Recommended for use with the 189/289 G.R.I. Series Pool Alarm.

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G.R.I. PLAZA  
KIMBALL, NE 69145

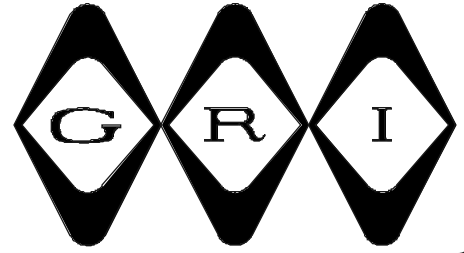


MADE IN U.S.A.

BA-192 Rev F 5/27/04

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# POWER TRANSFER DEVICE



- ◆ 18" Armored Cable
- ◆ 180° Door Opening
- ◆ Metal End Caps & Ferrules
- ◆ Holds Wire Up To .180" Diameter



PTD-1

The G.R.I. PTD-1 Power Transfer Device provides a reliable and attractive method for routing the electrical power from the door into the door frame when installing electric mortise locks or other electrical devices.

The PTD-1 comes complete with 18" of armored cable which provides for a 180° door opening. Also, G.R.I. includes metal end caps and ferrules along with all mounting hardware.

The armored cable allows for up to .180" wire diameter.

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G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

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TOLL-FREE 1-800-523-1227

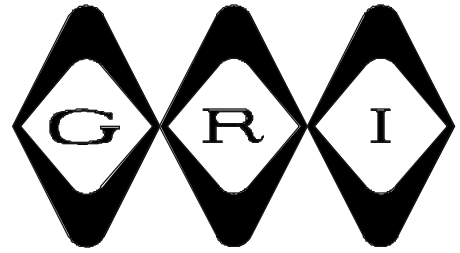
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WEB SITE: [www.grisk.com](http://www.grisk.com)

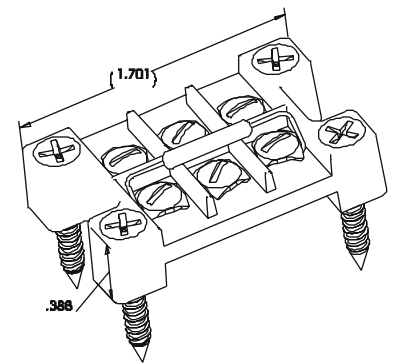
# JUNCTION BOXES



- ◆ Wire Capture Terminals
- ◆ Reed Tamper
- ◆ Barrier Wall Design to Prevent Shorting
  - ◆ Provides For Wire Concealment
  - ◆ Expert Appearing Installation
  - ◆ Private Labeling Available



Cover



6601  
With Tamper

## PART NUMBERS:

- 6600** 6 Terminal Junction Box With Cover  
Wire Capture Style Terminals  
Box Size: 1 7/8" L x 1 1/4" W x 5/8" H  
Includes 4 - #4 x 1 Flathead Screws
- 6601** 6 Terminal Junction Box With Tamper and Cover  
Wire Capture Style Terminals  
Box Size: 1 7/8" x 1 1/4" W x 5/8" H  
Includes 4 - #4 x 1 Flathead Screws

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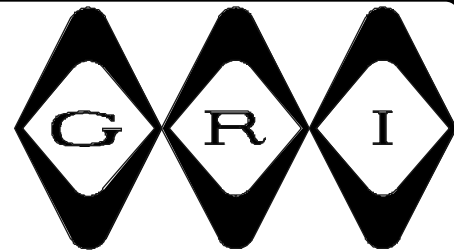
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# POOL ALARMS



# ETL LISTED POOL ALARM



## CLOSED LOOP



- ◆ ETL Tested To Be In Compliance With Standard for Safety, UL 2017, and Florida Building Commission Code Requirements, Per ETL Listing Number 3035022
- ◆ Exceeds Operational Requirements of Model Barrier Codes
- ◆ Microprocessor Controlled
- ◆ Monitors Entry to Pool and Spa Areas
- ◆ Instant On Or 7 Second Delay Models Available
- ◆ Surface or Flush Mount Models
- ◆ 15 Second Adult Shunt
- ◆ Built-in Back-up Battery Capable
- ◆ Must Be Hard Wired To Remote 12 Volt maximum 500 mA Source or To Plug In Power Source. Applied Voltage Must Not Exceed 15 VDC. Battery for Backup Only.

The new GRI DOOR ALERT/POOL ALARM was designed as an aid for prevention of an unattended access to a pool/spa area by a small child. Monitoring all doors or windows with CLOSED LOOP magnetic reed switches, the DOOR ALERT/POOL ALARM will sound an alarm should anyone too small to manage the adult pass thru feature attempt access to the pool/spa area. For maximum protection all moveable openings should be protected in such a manner by the GRI DOOR ALERT/POOL ALARM.

The 289-1, 289-2, 289-3 and 289-4 can be operated with an on-board 9 volt battery with a 12 volt externally supplied DC power source, in which case the battery will perform a back-up function should the externally supplied source fail for any reason. Both power sources have been designed to maintain a minimum sound pressure level of 85db at 10'. Should the battery voltage drop below 7 volts while in the backup mode, a low battery mode will be initiated and the unit will sound 2 beeps approximately every 3 seconds for one to two weeks prior to total battery failure. Battery must be replaced at this time.

It is suggested that some type of surge protection, such as the GRI CS-1 Current Sensor, be used between the power supply and all GRI Pool Alarms using external power.

NOTE: Unit will function at minimum 5VDC at a very limited sounder volume. This power level is considered total battery failure.

### PART NUMBERS

### DESCRIPTION

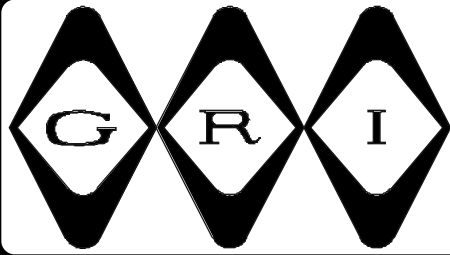
|        |  |
|--------|--|
| 289-1  | Recessed DoorAlert/Pool Alarm 7 Second Delay - Closed Loop                           |
| 289-2  | Surface Mount Door Alert/Pool Alarm 7 Second Delay - Closed Loop                     |
| 289-3  | Recessed Door Alert/Pool Alarm - Instant On - Closed Loop                            |
| 289-4  | Surface Mount Door Alert/Pool Alarm - Instant On - Closed Loop                       |
| 289-1C | Recessed DoorAlert/Pool Alarm 7 Second Delay - Closed Loop - With C Form Relay       |
| 289-2C | Surface Mount Door Alert/Pool Alarm 7 Second Delay - Closed Loop - With C Form Relay |
| 289-3C | Recessed Door Alert/Pool Alarm - Instant On - Closed Loop - With C Form Relay        |
| 289-4C | Surface Mount Door Alert/Pool Alarm - Instant On - Closed Loop - With C Form Relay   |

**WARNING: THIS IS NOT A LIFE SAVING DEVICE.**

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GRI PLAZA  
KIMBALL, NE 69145



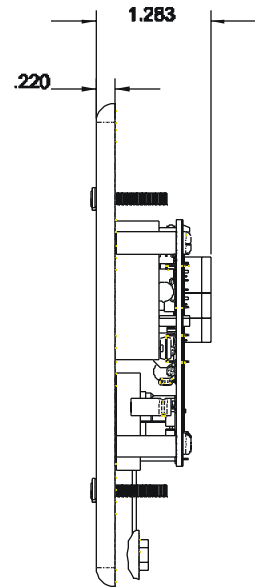
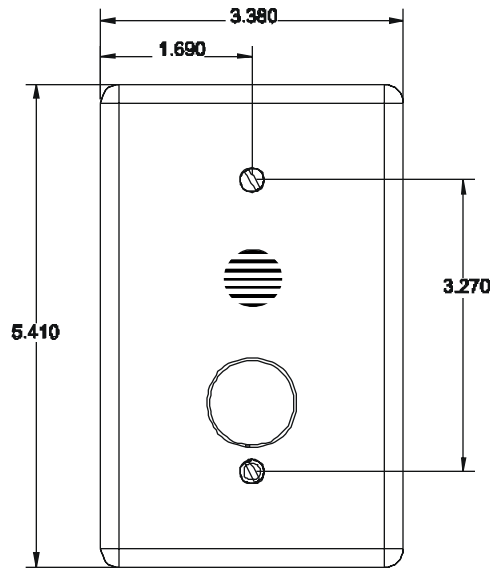
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# ETL LISTED POOL ALARM

## INSTALLATION INSTRUCTIONS:

The GRI DOOR ALERT/POOL ALARM mounts easily to the wall by any door or window which allows access to the pool/spa area. Using a CLOSED LOOP magnetic reed switch, the unit will detect and announce an open access by sounding a loud continuous alarm. Two timed options are offered: A maximum seven (7) second delay mode prior to sounding upon door opening, or an instant alarm sounding upon activation. A surface mount and a recessed mount model are offered in both time options for a total of 4 different versions. All versions incorporate a built-in pass thru feature and deactivation button to allow adult access without alarm sounding. Although the DOOR ALERT/POOL ALARM cannot be turned off, this feature will simply deactivate the alarm function for a maximum of fifteen (15) seconds. During this time span the adult must exit and close the door before alarm sounds. Once the alarm is sounding it can not be silenced by simply closing the door. The deactivation button must also be depressed. The sounder cannot be disabled by holding down the deactivation button.



If a screen is present on the opening giving access to the pool, a second CLOSED LOOP switch should be mounted on it and both switches wired in parallel. This configuration will allow the door to be open for ventilation since the unit will activate only when both the screen and the door or window are opened.

If multiple openings lead to the area, the GRI DOOR ALERT/POOL ALARM can monitor all by installing CLOSED LOOP switches which are wired in series. In this way, any opening will be detected by the GRI DOOR ALERT/POOL ALARM. A single deactivation button can also be wired at each opening to utilize the pass thru feature. Additional remote sounders may be wired in to extend sounder coverage. Please contact your local GRI Distributor for information on remote options. Part numbers and wiring diagrams are available from the factory.

## WARRANTY:

One year warranty against workmanship, material and factory defects.

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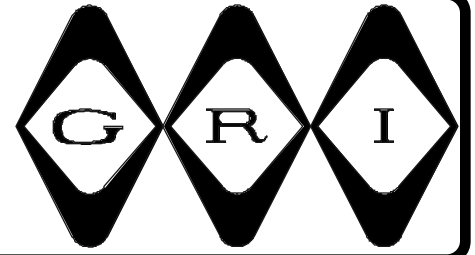


MADE IN U.S.A.

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# POOL ALARM



## CLOSED LOOP



- ◆ Exceeds Operational Requirements of Model Barrier Codes
- ◆ Microprocessor Controlled
- ◆ Monitors Entry to Pool and Spa Areas
- ◆ Instant On Or 7 Second Delay Models Available
- ◆ Surface or Flush Mount Models
- ◆ 15 Second Adult Shunt
- ◆ Optional A or C Form Relay Output Upon Request
- ◆ Built-in Back-up Battery Capable
- ◆ Must Be Hard Wired To Remote 12 Volt Maximum 500 mA Source

or To Plug In Power Source. Applied Voltage Must Not Exceed 15 VDC. Battery for Backup Only.

The new GRI DOOR ALERT/POOL ALARM was designed as an aid for prevention of an unattended access to a pool/spa area by a small child. Monitoring all doors or windows with CLOSED LOOP magnetic reed switches, the DOOR ALERT/POOL ALARM will sound an alarm should anyone too small to manage the adult pass thru feature attempt access to the pool/spa area. For maximum protection all moveable openings should be protected in such a manner by the GRI DOOR ALERT/POOL ALARM.

The 289N-1, 289N-2, 289N-3 and 289N-4 can be operated with an on-board 9 volt battery with a 12 volt externally supplied DC power source, in which case the battery will perform a back-up function should the externally supplied source fail for any reason. Both power sources have been designed to maintain a minimum sound pressure level of 85db at 10'. Should the battery voltage drop below 7 volts while in backup mode, a low battery mode will be initiated and the unit will sound 2 beeps approximately every 3 seconds for one to two weeks prior to total battery failure. Battery must be replaced at this time.

It is suggested that some type of surge protection, such as the GRI CS-1 Current Sensor, be used between the power supply and all GRI Pool Alarms using external power.

NOTE: Unit will function at minimum 5VDC at a very limited sounder volume. This power level is considered total battery failure.

### PART NUMBERS

289N-1  
289N-2  
289N-3  
289N-4

### DESCRIPTION

Recessed DoorAlert/PoolAlarm 7 Second Delay - Closed Loop  
Surface Mount DoorAlert/PoolAlarm 7 Second Delay - Closed Loop  
Recessed DoorAlert/PoolAlarm - Instant On - Closed Loop  
Surface Mount DoorAlert/PoolAlarm - Instant On - Closed Loop

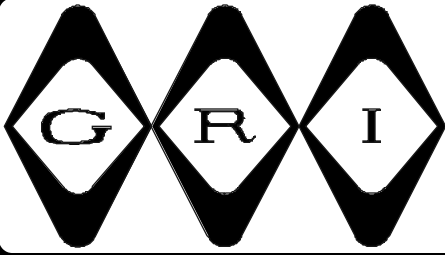
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GRI PLAZA  
KIMBALL, NE 69145

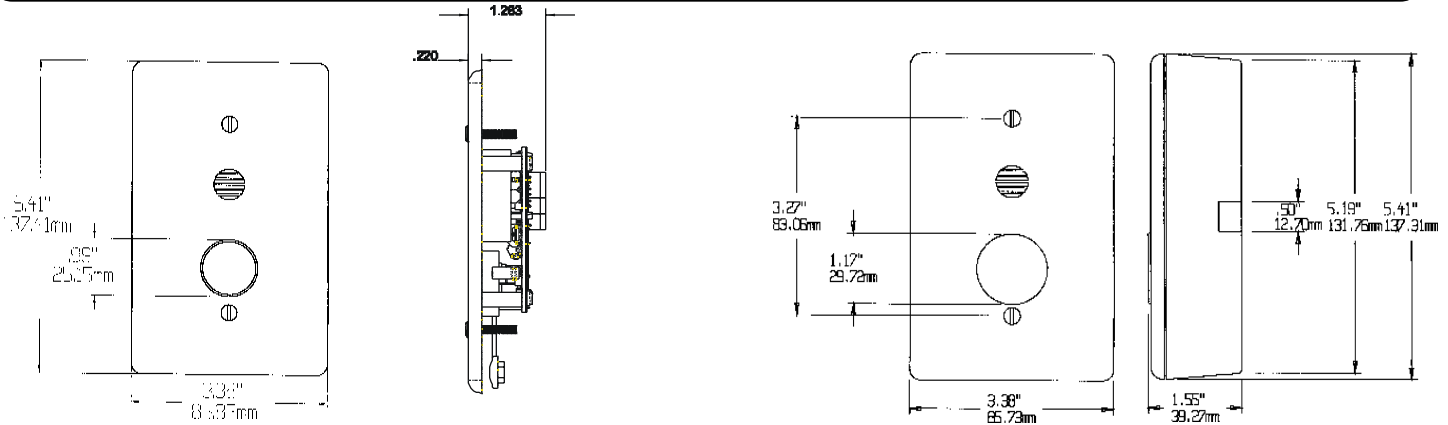


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WEB SITE: [www.grisk.com](http://www.grisk.com)



# POOL ALARM



289N-1/289N-3

289N-2/289N-4

## INSTALLATION INSTRUCTIONS:

The GRI DOOR ALERT/POOL ALARM mounts easily to the wall by any door or window which allows access to the pool/spa area. Using an CLOSED LOOP magnetic reed switch, the unit will detect and announce an open access by sounding a loud continuous alarm. Two timed options are offered: A maximum seven (7) second delay mode prior to sounding upon door opening, or an instant alarm sounding upon activation. A surface mount and a recessed mount model are offered in both time options for a total of 4 different versions. All versions incorporate a built-in pass thru feature and deactivation button to allow adult access without alarm sounding. Although the DOOR ALERT/POOL ALARM cannot be turned off, this feature will simply deactivate the alarm function for a maximum of fifteen (15) seconds. During this time span the adult must exit and close the door before alarm sounds. Once the alarm is sounding it can not be silenced by simply closing the door. The deactivation button must also be depressed. The sounder cannot be disabled by holding down the deactivation button.

If a screen is present on the opening giving access to the pool, a second CLOSED LOOP switch should be mounted on it and both switches wired in parallel. This configuration will allow the door to be open for ventilation since the unit will activate only when both the screen and the door or window are opened.

If multiple openings lead to the area, the GRI DOOR ALERT/POOL ALARM can monitor all by installing CLOSED LOOP switches which are wired in series. In this way, any opening will be detected by the GRI DOOR ALERT/POOL ALARM. A single deactivation button can also be wired at each opening to utilize the pass thru feature. Additional remote sounders may be wired in to extend sounder coverage. Please contact your local GRI Distributor for information on remote options. Part numbers and wiring diagrams are available from the factory.

## WARRANTY:

One year warranty against workmanship, material and factory defects.

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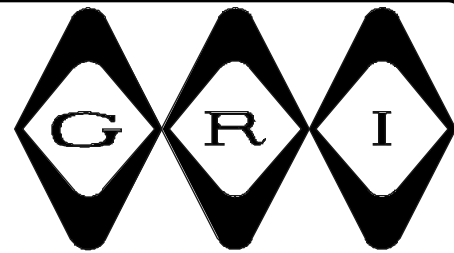
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# ETL LISTED POOL ALARM



## OPEN LOOP



- ◆ ETL Tested To Be In Compliance With Standard for Safety, UL 2017, and Florida Building Commission Code Requirements, Per ETL Listing Number 3035022
- ◆ Exceeds Operational Requirements of Model Barrier Codes
- ◆ Microprocessor Controlled
- ◆ Monitors Entry to Pool and Spa Areas
- ◆ Instant On Or 7 Second Delay Models Available
- ◆ Surface or Flush Mount Models
- ◆ 15 Second Adult Shunt    ◆ Low Battery Alert
- ◆ Built-in Back-up Battery Capable
- ◆ Must Be Hard Wired To Remote 12 Volt maximum 500 mA Source or To Plug In Power Source.  
Applied Voltage Must Not Exceed 15 VDC.

The new GRI DOOR ALERT/POOL ALARM was designed as an aid for prevention of an unattended access to a pool/spa area by a small child. Monitoring all doors or windows with OPEN LOOP magnetic reed switches, the DOOR ALERT/POOL ALARM will sound an alarm should anyone too small to manage the adult pass thru feature attempt access to the pool/spa area. For maximum protection all moveable openings should be protected in such a manner by the GRI DOOR ALERT/POOL ALARM.

The 189-1, 189-2, 189-3 and 189-4 must be operated with a 12 volt externally supplied DC power source. An onboard 9-volt battery may be installed, in which case the battery will perform a back-up function should the externally supplied source fail for any reason. Both power sources have been designed to maintain a minimum sound pressure level of 85db at 10'. Should the battery voltage drop below 7 volts, a low battery mode will be initiated and the unit will sound 2 beeps approximately every 3 seconds for one to two weeks prior to total battery failure. Battery must be replaced at this time, and the cause of power failure determined and restored.

It is suggested that some type of surge protection, such as the GRI CS-1 Current Sensor, be used between the power supply and all GRI Pool Alarms using external power.

NOTE: Unit will function at minimum 5VDC at a very limited sounder volume. This power level is considered total battery failure.

| PART NUMBERS | DESCRIPTION  |
|--------------|--|
| 189-1        | Recessed DoorAlert/Pool Alarm 7 Second Delay - Open Loop                           |
| 189-2        | Surface Mount Door Alert/Pool Alarm 7 Second Delay - Open Loop                     |
| 189-3        | Recessed Door Alert/Pool Alarm - Instant On - Open Loop                            |
| 189-4        | Surface Mount Door Alert/Pool Alarm - Instant On - Open Loop                       |
| 189-1C       | Recessed DoorAlert/Pool Alarm 7 Second Delay - Open Loop - With C Form Relay       |
| 189-2C       | Surface Mount Door Alert/Pool Alarm 7 Second Delay - Open Loop - With C Form Relay |
| 189-3C       | Recessed Door Alert/Pool Alarm - Instant On - Open Loop - With C Form Relay        |
| 189-4C       | Surface Mount Door Alert/Pool Alarm - Instant On - Open Loop - With C Form Relay   |

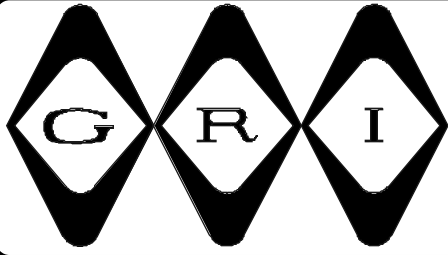
**WARNING: THIS IS NOT A LIFE SAVING DEVICE.**

GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

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# ETL LISTED POOL ALARM

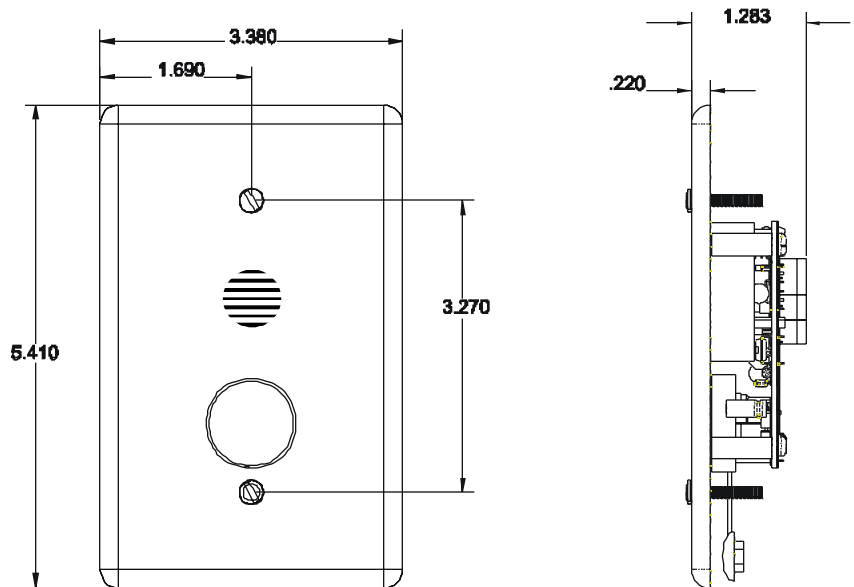
## INSTALLATION INSTRUCTIONS:

The GRI DOOR ALERT/POOL ALARM mounts easily to the wall by any door or window which allows access to the pool/spa area. Using an OPEN LOOP magnetic reed switch, the unit will detect and announce an open access by sounding a loud continuous alarm. Two timed options are offered: A maximum seven (7) second delay mode prior to sounding upon door opening, or an instant alarm sounding upon activation. A surface mount and a recessed mount model are offered in both time options for a total of 4 different versions. All versions incorporate a built-in pass thru feature and deactivation button to allow adult access without alarm sounding. Although

the DOOR ALERT/POOL ALARM cannot be turned off, this feature will simply deactivate the alarm function for a maximum of fifteen (15) seconds. During this time span the adult must exit and close the door before alarm sounds. Once the alarm is sounding it can not be silenced by simply closing the door. Deactivation button must also be depressed. The sounder cannot be disabled by holding down the deactivation button.

If a screen is present on the opening giving access to the pool, a second OPEN LOOP switch should be mounted on it and both switches wired in series. This configuration will allow the door to be open for ventilation since the unit will activate only when both the screen and the door or window are opened.

If multiple openings lead to the area, the GRI DOOR ALERT/POOL ALARM can monitor all by installing OPEN LOOP switches which are wired in parallel. In this way, any opening will be detected by the GRI DOOR ALERT/POOL ALARM. A single deactivation button can also be wired at each opening to utilize the pass thru feature. Additional remote sounders may be wired in to extend sounder coverage. Please contact your local GRI Distributor for information on remote options. Part numbers and wiring diagrams are available from the factory.



## WARRANTY:

One year warranty against workmanship, material and factory defects.

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KIMBALL, NE 69145

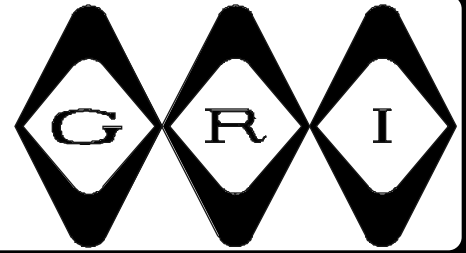


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BA-204 Rev C 12/03/07

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# POOL ALARM



## OPEN LOOP

- ◆ Exceeds Operational Requirements of Model Barrier Codes
- ◆ Microprocessor Controlled
- ◆ Monitors Entry to Pool and Spa Areas
- ◆ Instant On Or 7 Second Delay Models Available
- ◆ Surface or Flush Mount Models
- ◆ 15 Second Adult Shunt Option
- ◆ Low Battery Indicator
- ◆ Optional A or C Form Relay Output Upon Request
- ◆ Built-in Back-up Battery Capable
- ◆ Must Be Hard Wired Using Remote 12 Volt Maximum 500 mA Source or Plug In Power Source. Applied Voltage Must Not Exceed 15 VDC.



189N-1/189N-3  
Recessed



189N-2/189N-4  
Surface Mount

The new GRI DOOR ALERT/POOL ALARM was designed as an aid for prevention of an unattended access to a pool/spa area by a small child. Monitoring all doors or windows with OPEN LOOP magnetic reed switches, the DOOR ALERT/POOL ALARM will sound an alarm should anyone too small to manage the adult pass thru feature attempt access to the pool/spa area. For maximum protection all moveable openings should be protected in such a manner by the GRI DOOR ALERT/POOL ALARM.

The 189N-1, 189N-2, 189N-3 and 189N-4 must be operated with a 12 volt externally supplied DC power source. An onboard 9-volt battery may be installed, in which case the battery will perform a back-up function should the externally supplied source fail for any reason. Both power sources have been designed to maintain a minimum sound pressure level of 85db at 10'. Should the battery voltage drop below 7 volts, a low battery mode will be initiated and the unit will sound 2 beeps approximately every 3 seconds for one to two weeks prior to total battery failure. Battery must be replaced at this time, and the cause of power failure determined and restored.

It is suggested that some type of surge protection, such as the GRI CS-1 Current Sensor, be used between the power supply and all GRI Pool Alarms using external power.

NOTE: Unit will function at minimum 5VDC at a very limited sounder volume. This power level is considered total battery failure.

### PART NUMBERS

189N-1  
189N-2  
189N-3  
189N-4

### DESCRIPTION

Recessed DoorAlert/Pool Alarm 7 Second Delay - Open Loop  
Surface Mount Door Alert/Pool Alarm 7 Second Delay - Open Loop  
Recessed Door Alert/Pool Alarm - Instant On - Open Loop  
Surface Mount Door Alert/Pool Alarm - Instant On - Open Loop

**WARNING: THIS IS NOT A LIFE SAVING DEVICE.**

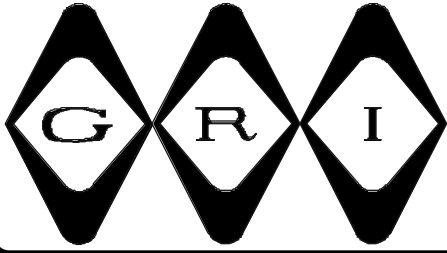
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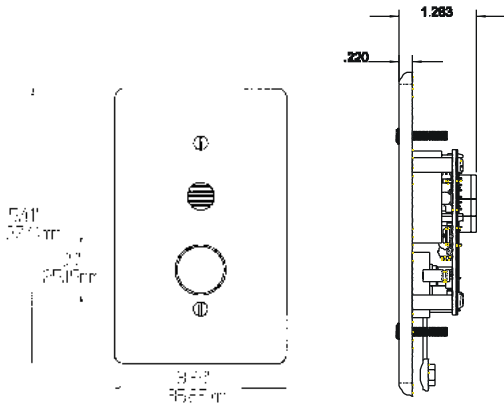
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FAX (308) 235-3561

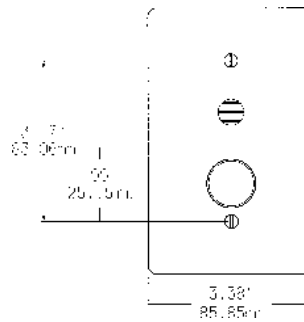
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# POOL ALARM



189N-1/189N-3



189N-2/189N-4

## INSTALLATION INSTRUCTIONS:

The GRI DOOR ALERT/POOL ALARM mounts easily to the wall by any door or window which allows access to the pool/spa area. Using an OPEN LOOP magnetic reed switch, the unit will detect and announce an open access by sounding a loud continuous alarm. Two timed options are offered: A maximum seven (7) second delay mode prior to sounding upon door opening, or an instant alarm sounding upon activation. A surface mount and a recessed mount model are offered in both time options for a total of 4 different versions. All versions incorporate a built-in pass thru feature and deactivation button to allow adult access without alarm sounding. Although the DOOR ALERT/POOL ALARM cannot be turned off, this feature will simply deactivate the alarm function for a maximum of fifteen (15) seconds. During this time span the adult must exit and close the door before alarm sounds. Once the alarm is sounding it can not be silenced by simply closing the door. Deactivation button must also be depressed. The sounder cannot be disabled by holding down the deactivation button.

If a screen is present on the opening giving access to the pool, a second OPEN LOOP switch should be mounted on it and both switches wired in series. This configuration will allow the door to be open for ventilation since the unit will activate only when both the screen and the door or window are opened.

If multiple openings lead to the area, the GRI DOOR ALERT/POOL ALARM can monitor all by installing OPEN LOOP switches which are wired in parallel. In this way, any opening will be detected by the GRI DOOR ALERT/POOL ALARM. A single deactivation button can also be wired at each opening to utilize the pass thru feature. Additional remote sounders may be wired in to extend sounder coverage. Please contact your local GRI Distributor for information on remote options. Part numbers and wiring diagrams are available from the factory.

## WARRANTY:

One year warranty against workmanship, material and factory defects.

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# CHILD RESISTANT POOL ALARM ETL LISTED



- ◆ ETL Tested To Be In Compliance With Standard for Safety, UL 2017, and Florida Building Commission Code Requirements, Per ETL Listing Number 3035022
- ◆ Exceeds Operational Requirements of Model Barrier Codes
- ◆ Microprocessor Controlled
- ◆ Monitors Entry to Pool and Spa Areas
- ◆ Instant On Or 7 Second Delay Models Available
- ◆ Surface or Flush Mount Models
- ◆ 7 Second Adult Shunt. Changeable to 15 Seconds.
- ◆ Built-in Back-up Battery Capable
- ◆ Must Be Hard Wired To Remote 12 Volt maximum 500 mA Source or To Plug In Power Source.  
Applied Voltage Must Not Exceed 15 VDC. Battery for Backup Only.



**289CP-4**

The new GRI DOOR ALERT/POOL ALARM was designed as an aid for prevention of an unattended access to a pool/spa area by a small child. Monitoring all doors or windows with CLOSED LOOP magnetic reed switches, the DOOR ALERT/POOL ALARM will sound an alarm should anyone too small to manage the adult pass thru feature attempt access to the pool/spa area. For maximum protection all moveable openings should be protected in such a manner by the GRI DOOR ALERT/POOL ALARM.

The 289CP-1, 289CP-2, 289CP-3 and 289CP-4 can be operated with an on-board 9 volt battery with a 12 volt externally supplied DC power source, in which case the battery will perform a back-up function should the externally supplied source fail for any reason. Both power sources have been designed to maintain a minimum sound pressure level of 85db at 10'. Should the battery voltage drop below 7 volts while in backup mode, a low battery mode will be initiated and the unit will sound 2 beeps approximately every 3 seconds for one to two weeks prior to total battery failure. Battery must be replaced at this time.

It is suggested that some type of surge protection, such as the GRI CS-1 Current Sensor, be used between the power supply and all GRI Pool Alarms using external power.

NOTE: Unit will function at minimum 5VDC at a very limited sounder volume. This power level is considered total battery failure.

## PART NUMBERS

289CP-1  
289CP-2  
289CP-3  
289CP-4

## DESCRIPTION

Recessed DoorAlert/Pool Alarm 7 Second Delay - Closed Loop  
Surface Mount Door Alert/Pool Alarm 7 Second Delay - Closed Loop  
Recessed Door Alert/Pool Alarm - Instant On - Closed Loop  
Surface Mount Door Alert/Pool Alarm - Instant On - Closed Loop

## WARRANTY:

One year warranty against workmanship, material and factory defects.

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GRI PLAZA  
KIMBALL, NE 69145



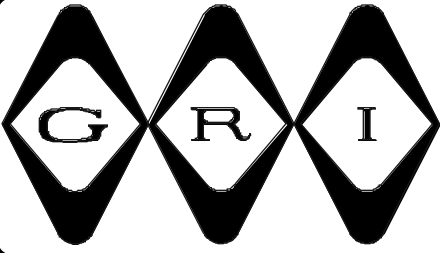
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TOLL-FREE 1-800-523-1227  
(308) 235-4645

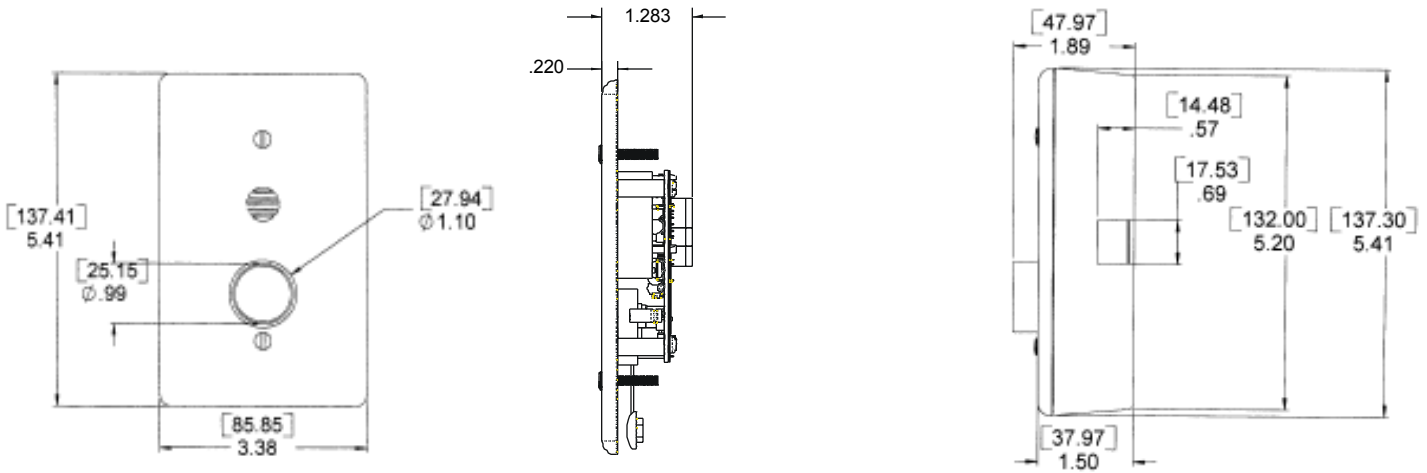
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# CHILD RESISTANT POOL ALARM ETL LISTED



## CHILD RESISTANT POOL ALARM ACCESSORIES

### Remote Shunt Button:

If two doors are to be monitored by a G.R.I. 289CP Series Pool Alarm, a remote shunt button, Model No. 184CP-3 or 184CP-6 can be added. The Pool Alarm is mounted next to one door and the remote button by the other. The remote shunt button will function the same as the button on the 289CP Series Pool Alarm. The shunt button is recessed and has a child-resistant guard ring.

### Remote Sounder and Shunt Buttons:

This is a combination unit that provides both a remote sounder and a shunt button. The 184CP-4 and 184CP-8 can be added when needed for additional windows and doors. This helps to distribute the piercing sound of an alarm through more parts of the house while also offering the pass through and silence features at those exits. This shunt button also is recessed and has a child resistant protective guard ring.



**Surface Mount  
Button & Sounder**



**Surface Mount  
Shunt Button  
Only**

### PART NUMBERS:

|         |   |
|---------|---|
| 184CP-3 | Recessed Mount Button Only, Child Resistant       |
| 184CP-4 | Recessed Sounder and Button, Child Resistant      |
| 184CP-6 | Surface Mount Button Only, Child Resistant        |
| 184CP-8 | Surface Mount Sounder and Button, Child Resistant |
| 8065    | AC/DC 12 VDC Regulated Adaptor                    |

### WARRANTY:

One year warranty against workmanship, material and factory defects.

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# GATE MOUNT POOL ALARM



## CLOSED LOOP

- ◆ Microprocessor Controlled
- ◆ Monitors Entry to Pool and Spa Areas
- ◆ Weather Resistant For Outdoor Use
- ◆ Instant On or 7 Second Delay Models Available
- ◆ Low Battery Indicator
- ◆ Closed Loop 410P Switch Set With 5' 2-Conductor Cable
- ◆ Color: Grey



The new GRI GATE MOUNT POOL ALARM was designed as an aid for prevention of an unattended access to a pool/spa area by a small child. Monitoring all gates with CLOSED LOOP magnetic reed switches, the GATE MOUNT POOL ALARM will sound an alarm should anyone too small to manage the adult pass thru feature attempt access to the pool/spa area. For maximum protection all moveable openings should be protected in such a manner by the GRI GATE MOUNT POOL ALARM.

The GT10-2 and GT10-4 can be operated independently with an on-board 9 volt battery or with a 12 volt externally supplied DC power source. Both power sources have been designed to maintain a maximum sound pressure level of 85db at 10'. Estimated battery life is approximately 180 days based on no alarm soundings during that time lapse. Should the battery voltage drop below 7 volts, a low battery mode will be initiated and the unit will sound 3 beeps approximately every 30 minutes for one to two weeks prior to total battery failure. Battery must be replaced at this time, and the cause of power failure determined and restored.

NOTE: Unit will function at minimum 5VDC at a very limited sounder volume. This power level is considered total battery failure.

CLEANING: Periodic cleaning of sounder and box are required to maintain sound level.

CAUTION: To prevent a memory failure or circuit damage, external power source not to exceed 15 VDC.

WARNING: Environmental conditons, such as wind, may affect the sound level.

### PART NUMBERS

GT10-2  
GT10-4

### DESCRIPTION

Gate Mount Pool Alarm - 7 Second Delay - Closed Loop  
Gate Mount Pool Alarm - Instant On - Closed Loop

**WARNING: THIS IS NOT A LIFE SAVING DEVICE.**

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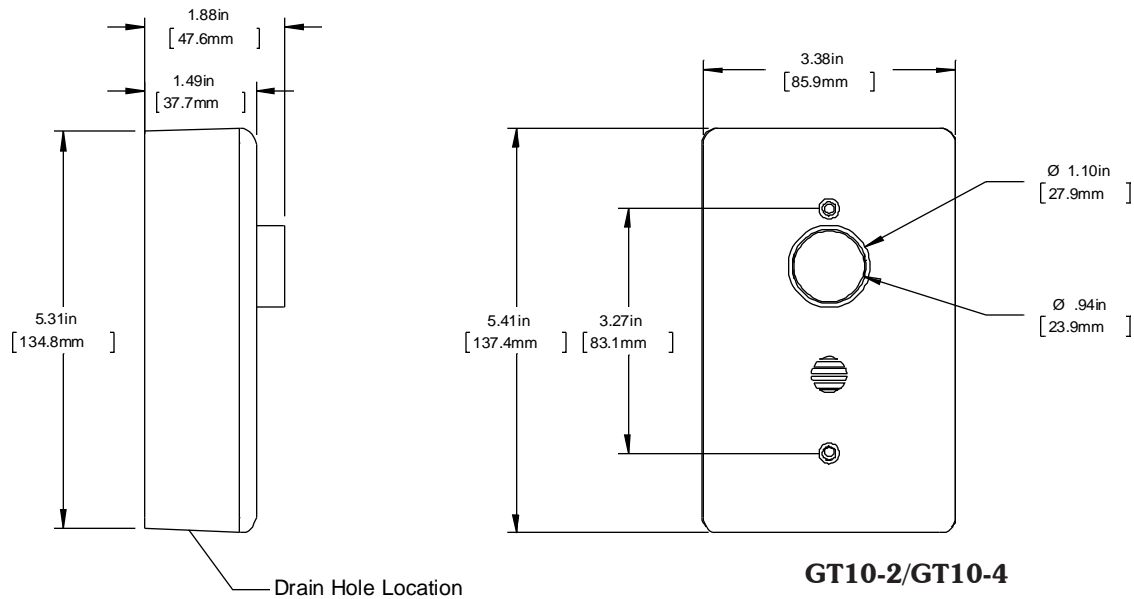
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# GATE MOUNT POOL ALARM



## INSTALLATION INSTRUCTIONS:

The GRI GATE MOUNT POOL ALARM mounts easily to the fence by any gate which allows access to the pool/spa area. Using a CLOSED LOOP magnetic reed switch, the unit will detect and announce an open access by sounding a loud continuous alarm. Two timed options are offered: A maximum seven (7) second delay mode prior to sounding upon gate opening, or an instant alarm sounding upon activation. Both versions incorporate a built-in pass thru feature shunt button to allow adult access without alarm sounding. Although the GATE MOUNT POOL ALARM cannot be turned off, this feature will simply deactivate the alarm function for a maximum of fifteen (15) seconds. During this time span the adult must exit and close the gate before alarm sounds. Once the alarm is sounding it can not be silenced by simply closing the gate. The shunt button must also be depressed. The sounder cannot be disabled by holding down the shunt button.

## WARRANTY:

One year warranty against workmanship, material and factory defects.

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KIMBALL, NE 69145



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# POOL ALARM REMOTES



**Surface Mount Button and Sounder**



**Recessed Sounder Only**

### **Remote Sounder:**

A remote sounder, Model No. 184-2 or 184-7 can be added to all G.R.I. 189 and 289 Series Pool Alarms to increase the area that the alarm can be heard. Tested to 2017 Audibility Standards as per ITS, Report #J20041913-001.

### **Remote Shunt Button:**

If two doors are to be monitored by a G.R.I. 189 or 289 Series Pool Alarm/Door Alert, a remote shunt button, Model No. 184-3 or 184-6 can be added. The Pool Alarm is mounted next to one door and the remote button by the other. Either button will cause the Door Alert to go into its shunt mode.

### **Remote Sounder and Shunt Button:**

A Remote Sounder and Shunt Button combination unit, Model 184-4 or 184-8 can be added to additional exits. This will not only extend sounder coverage, but also provide the adult pass thru feature and alarm shunt control functions to each remote location chosen.

#### **PART NUMBERS:**

|       |   |
|-------|---|
| 084-1 | Recessed Remote Button - All Weather Stainless Steel                      |
| 084-2 | Steel Surface Mount - All Weather Remote Button, Stainless Steel Screws   |
| 084-3 | Plastic Surface Mount - All Weather Remote Button, Stainless Steel Screws |
| 184-2 | Recessed Sounder Only   |
| 184-7 | Surface Mount Sounder Only  |
| 184-3 | Recessed Button Only  |
| 184-6 | Surface Mount Button Only   |
| 184-4 | Recessed Sounder and Button   |
| 184-8 | Surface Mount Sounder and Button  |

### **WARRANTY:**

One year warranty against workmanship, material and factory defects.

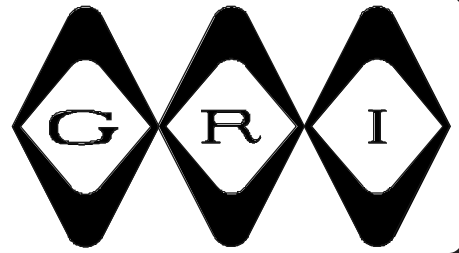
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# PLUG-IN POWER SUPPLIES



## #6973

- ◆ Non-regulated Power Supply
- ◆ 9 VDC 50mA Output
- ◆ Input 120VAC±10%, 60 Hz
- ◆ EMI: Meets FCC Part 15 Class B
- ◆ Short Circuit Protection
- ◆ Thermal Protection Built-in
- ◆ 100% Testing
- ◆ Material: ABS Resin/UL 94-V0
- ◆ Color: Black
- ◆ No Audible Noise
- ◆ For Use With PRM-1 Programmable Relay Module



**6973**  
**UL Listed**  
**E152985(S)**

## AC/DC Adaptor #8065

- ◆ Screw Terminal Connections
- ◆ 12V DC Regulated
- ◆ 500 mA Power Supply
- ◆ Red LED Indicator
- ◆ Built-in Cable Strain Relief
- ◆ Mounting Tab & Mounting Screw
- ◆ Recommended For Use With 189/289 Series Pool Alarms



**8065**  
**Class II U.L.**

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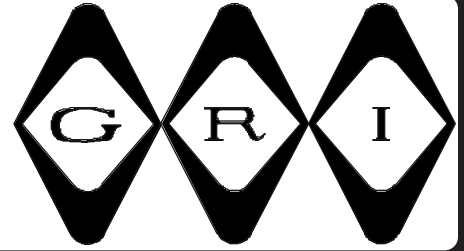


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# U.L. LISTED POOL ALARM



## CLOSED LOOP

- ◆ Monitors Entry To Pool/Spa Areas
- ◆ Listed per U.L. 2017
- ◆ Microprocessor Controlled
- ◆ Battery Operated
- ◆ Low Battery Indicator
- ◆ Exceeds Operational Requirements of Model Barrier Codes

### PART NUMBERS

|         |                    |
|---------|--------------------|
| DPA-10  | Instant On         |
| DPA-10D | Seven Second Delay |



DPA-10

### Application:

The GRI DPA-10 Series is designed as an aid to detect unsupervised access to a pool/spa area by a small child. Monitoring a door or window with a magnetic reed switch(es), the DPA-10 Series will sound an alarm should anyone too small to manage the adult pass through feature attempt entrance to the pool/spa area. For maximum protection all moveable openings should be protected in such a manner by the GRI DPA-10 Series. The self contained surface mounted alarm may easily be mounted to the wall of an existing structure.

### SPECIFICATIONS:

|                      |                                       |
|----------------------|---------------------------------------|
| Battery Type         | 9 Volt Alkaline Duracell Model MN1604 |
| Typical Battery Life | Approximately 3 to 6 months           |
| Low Battery Mode     | 8.5 VDC                               |
| Mounting Height      | Ref. Local Code                       |
| Sounder volume       | 85 dB at 10 Ft. (3.5 M)               |
| Switch               | Closed Loop                           |

### Description:

The GRI DPA-10 uses a microprocessor to monitor the CLOSED LOOP magnetic reed switch(es), shunt/cancel button, and battery voltage and provides the timing options. Model DPA-10 is set to alarm instantly if the protected door is opened before pressing the shunt/cancel button. Model DPA-10D is set to an initial seven second delay. In which case, the unit will wait 7 seconds upon door opening before alarming. In all cases, depressing the shunt/cancel button will provide a maximum 15 second window of alarm deactivation and automatically reset upon expiration.

The GRI DPA-10 Series operate on a 9 volt battery. U.L. requires that a Duracell alkaline battery Model MN1604 be used.

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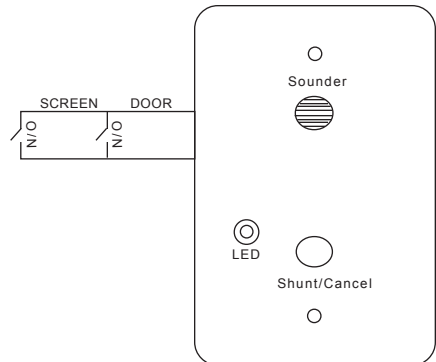
# U.L. LISTED POOL ALARM

## Installation:

Remove the DPA-10 from the surface mount case. A knockout is provided on the back of the case for wire exit. Attach the surface mount case directly to the wall or it may be mounted to cover a single gang electrical box. Attach the 36 inch lead which extends from the Alarm to the door sensor. Connect the Duracell MN1604 alkaline 9 volt battery. The alarm will beep once during power up indicating a successful diagnostics test. Lay the battery in the bottom of the case and reassemble the DPA-10 with the button toward the bottom of the case and the sounder above. Secure with the two screws provided.

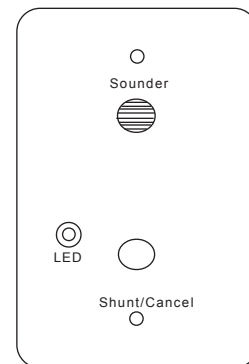
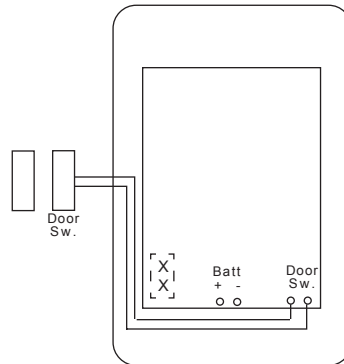
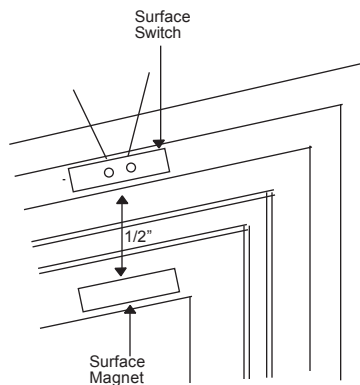
To maintain maximum sounder volume, a low battery mode will be initiated. Should the voltage drop below 8.5 volts, the low battery mode will be triggered and the unit will sound 1 beep approximately every 10 seconds. The battery must be replaced at this time. It is recommended to replace the battery at least once annually.

When the alarm is sounding, it can only be turned off by pressing the cancel button. If the door is still open 15 seconds after the cancel button is pressed, the alarm will sound again and continue until the door is closed and the button is pressed. The LED will flash once every 10 seconds to provide a visual indication that the unit is working correctly. It will flash in rapid succession to visually indicate the unit is in the alarm mode.



Wiring Diagram

3.38" W x 5.41" H x 1.56" D



**WARNING: THIS IS NOT A LIFE SAVING DEVICE.**

## WARRANTY:

One year warranty against workmanship, material and factory defects.

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145

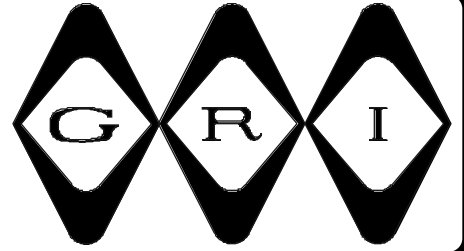


MADE IN U.S.A.

TOLL-FREE 1-800-445-5218  
TOLL-FREE 1-800-523-1227  
(308) 235-4645  
FAX (308) 235-3561

E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
WEB SITE: [www.grisk.com](http://www.grisk.com)

# CLOSED LOOP POOL ALARM



## DPARM

- ◆ Exceeds Operational Requirements of Model Barrier Codes
- ◆ Battery Power and/or External Power Source
- ◆ Instant On or 7 Second Delay
- ◆ Microprocessor Controlled
- ◆ Low Battery Alert
- ◆ Surface or Recessed Models
- ◆ S.P.D.T. Relay Output Available
- ◆ Remote Sounders and Buttons Available



**DPARM (Instant On)**  
**DPARM-D (Delay)**

### APPLICATION:

The GRI POOL ALARM is designed as an aid to detect unsupervised access to a pool/spa area by a small child. Monitoring a door or window with a magnetic reed switch(es), the POOL ALARM will sound an alarm should anyone too small to manage the adult 'pass through' feature tries to enter the pool/spa area. For maximum protection all moveable openings should be protected in such a manner by the GRI POOL ALARM. The self contained surface mounted alarm may easily be mounted to the wall of any structure or mounted inside a single gang utility box.

### DESCRIPTION:

The GRI POOL ALARM uses a microprocessor to monitor the CLOSED LOOP magnetic reed switch(es), shunt/cancel button, and supply voltage, and to provide the timing options. The POOL ALARM is set to alarm instantly if the protected door is opened before pressing the shunt/cancel button. Model DPARM-D is set to an initial seven second delay. In which case, alarm will wait 7 seconds upon door opening before alarming. In all cases, depressing the shunt/cancel button will provide a maximum 15 second window of alarm deactivation and automatically reset upon expiration.

GEORGERISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



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# CLOSED LOOP POOL ALARM

## INSTALLATION WIRING DIAGRAM

Single Door with Screen

If there is a screen door, a switch should be installed on it as well. The switches should be connected in parallel as in Figure 1. In this configuration the DOOR ALERT/POOL ALARM will only activate if both doors are open.

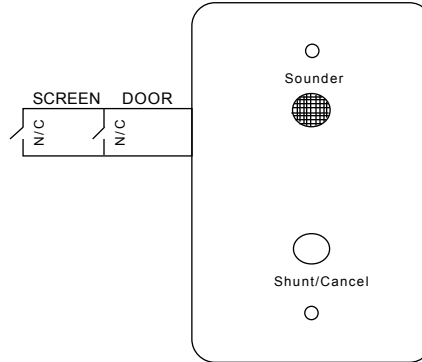
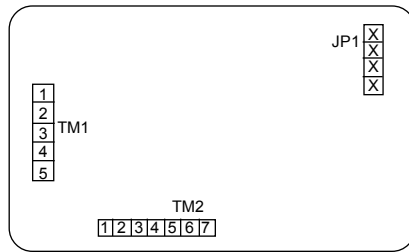


Figure 1. Wiring Diagram

Figure 2. Terminal Connections & Jumpers



### TERMINAL TM1

1. External Power (+)
2. Ground
3. Remote Reset/Delay Switch
4. Not Used
5. Door Contact

### TERMINAL TM2

1. Remote Sounder Control
2. Remote Power
3. Not Used
4. Relay N/O
5. Relay Common
6. Relay N/C
7. Ground

### Sounder Volume Control JP-1

|                                     |             |
|-------------------------------------|-------------|
| <input checked="" type="checkbox"/> | Full Volume |
| <input type="checkbox"/>            |             |
| <input type="checkbox"/>            |             |
| <input type="checkbox"/>            |             |
| <input checked="" type="checkbox"/> | 3/4 Volume  |
| <input type="checkbox"/>            |             |
| <input type="checkbox"/>            |             |
| <input type="checkbox"/>            |             |
| <input checked="" type="checkbox"/> | 1/2 Volume  |
| <input checked="" type="checkbox"/> |             |

It is suggested that surge protection, such as the GRI CS-1 Current Sensor, be used between the power supply and all GRI Pool Alarms using external power.

NOTE: Unit will function at minimum 5VDC at a very limited sounder volume. This power level is considered total battery failure.

### SPECIFICATIONS:

|                       |   |
|-----------------------|---|
| Battery Type          | Standard 9 Volt                             |
| Battery Life          | Approximately 3-6 months                    |
| External Power Supply | 12V DC 500 mA Output                        |
|                       | Applied Voltage must not exceed 15 Volts DC |
| Low Bat Mode          | 6.5V DC                                     |
| Mounting Height       | Ref. Local Code                             |
| Sounder Rated Switch  | 85 dB at 10 Ft. (3.5 M)<br>Closed Loop      |

### Relay Contacts

|                            |           |
|----------------------------|-----------|
| Nominal Switching Capacity | 2A 30 VDC |
| Max Switching Power        | 60 Watts  |
| Max Switching Current      | 2 Amps    |

**WARRANTY:** One year against workmanship, material and factory defects.

### DISCLAIMER

The G.R.I. Door Alert/Pool Alarm is not a life saving device. Its' intent is to serve strictly as a monitoring device on doors and windows to help prevent unattended access to pool and spa areas.

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

GEORGE RISK INDUSTRIES, INC.  
GRI PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.

TOLL-FREE 1-800-445-5218  
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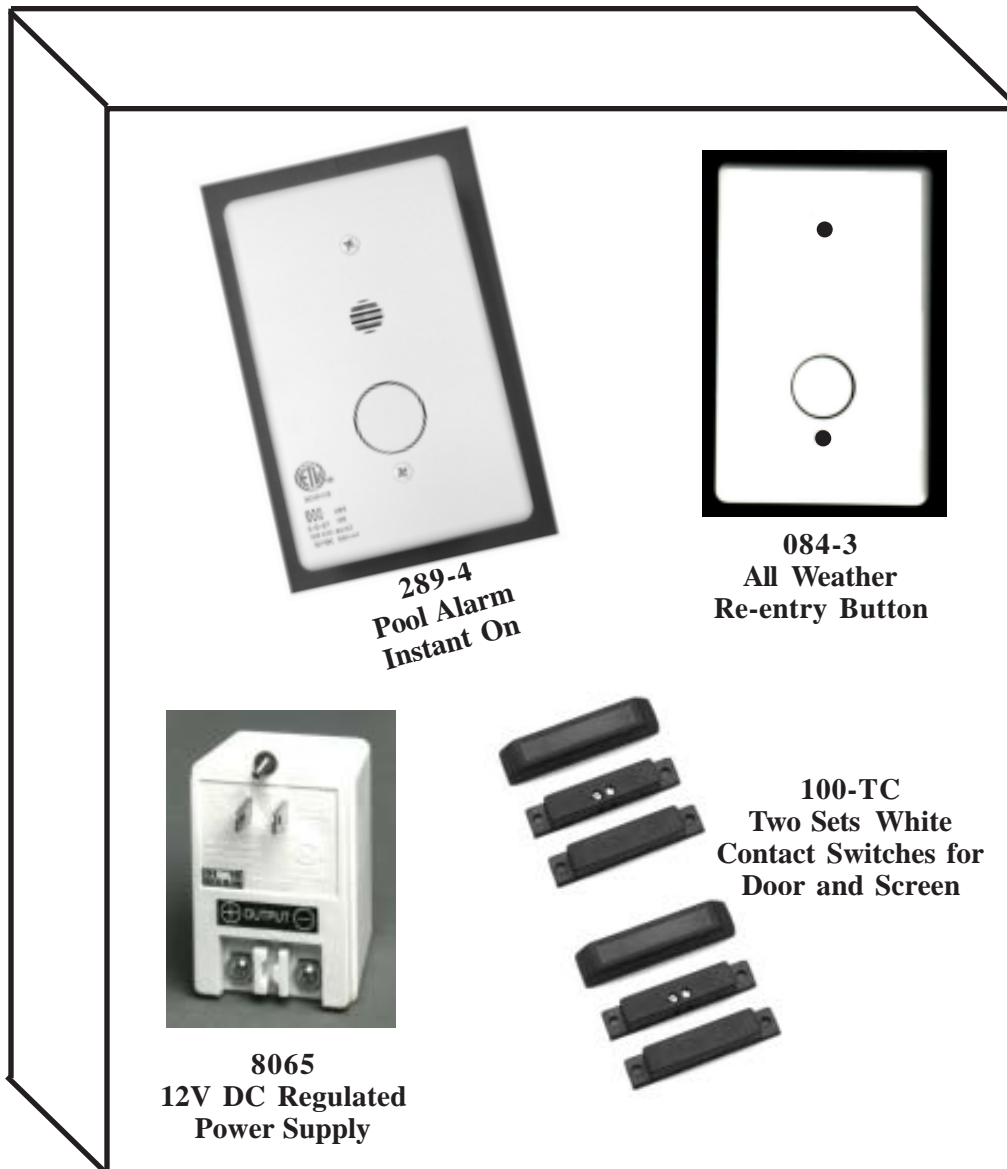
# POOL ALARM KIT

## ETL LISTED

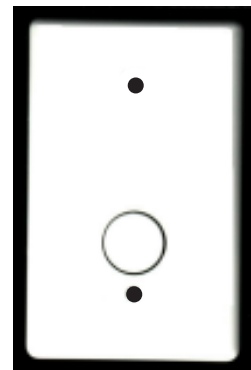


**289-4KIT**

*It's all in the bag. Monitors one door.*



**289-4  
Pool Alarm  
Instant On**



**084-3  
All Weather  
Re-entry Button**



**8065  
12V DC Regulated  
Power Supply**



**100-TC  
Two Sets White  
Contact Switches for  
Door and Screen**

To Recess remove back boxes  
To make delayed see jumper block instructions.

**WARNING: THIS IS NOT A LIFE SAVING DEVICE.**

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KIMBALL, NE 69145

BA-238 9/09/2008

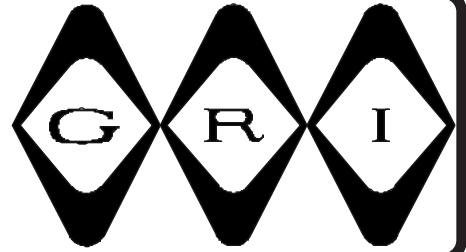


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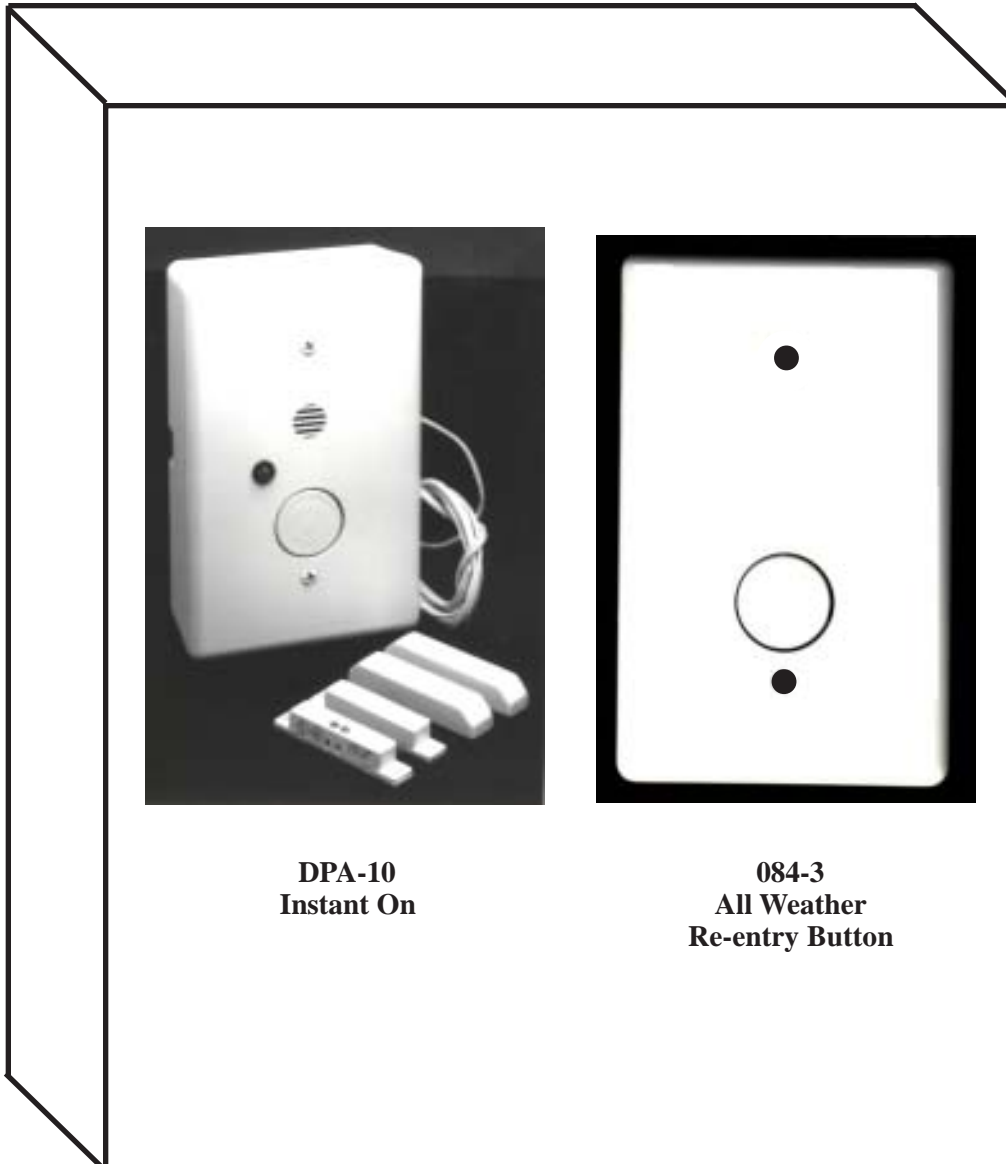
# POOL ALARM KIT

**UL LISTED** 



## DPA-10R

*Now available with re-entry button.*



**DPA-10  
Instant On**

**084-3  
All Weather  
Re-entry Button**

**WARNING: THIS IS NOT A LIFE SAVING DEVICE.**

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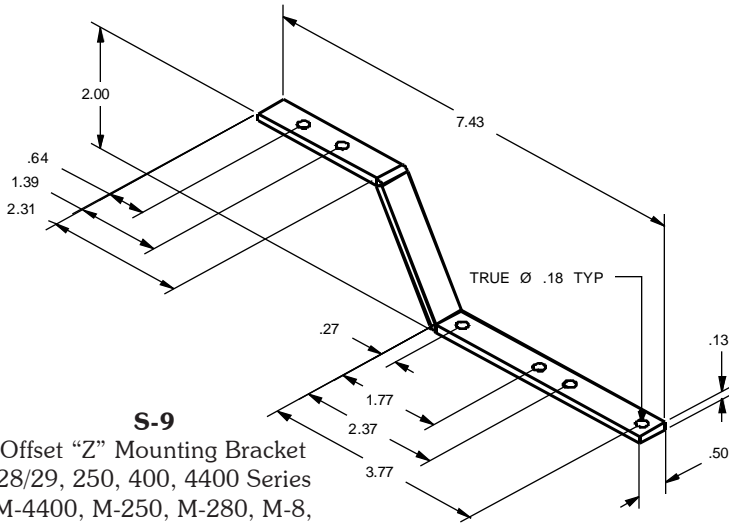




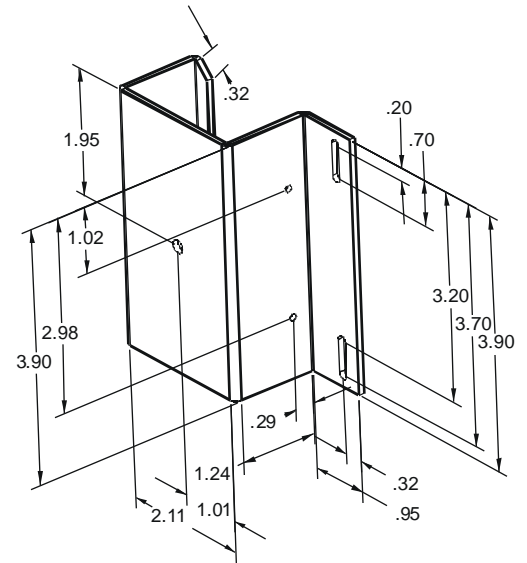
# ACCESSORIES



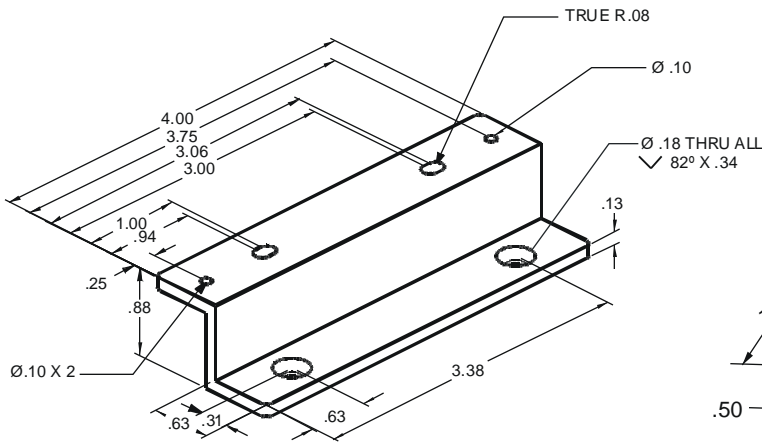
# BRACKETS



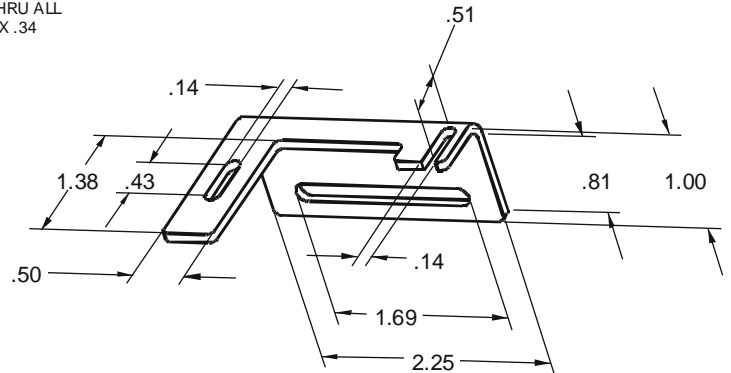
**S-9**  
Offset "Z" Mounting Bracket  
28/29, 250, 400, 4400 Series  
M-4400, M-250, M-280, M-8,  
M-14, M-15, M-20, M-401, M-402



**S-200**  
Garage Door Track Bracket  
400 Series  
M-401, M-402, M-15, M-20



**S-10**  
"Z" Mounting Bracket  
28/29, 250, 400, 4400 Series  
M-4400, M-250, M-280, M-8, M-14  
M-15, M-20, M-401, M-402



**S-41**  
Mounting Bracket  
4110, 4110A, 4112, 4112A

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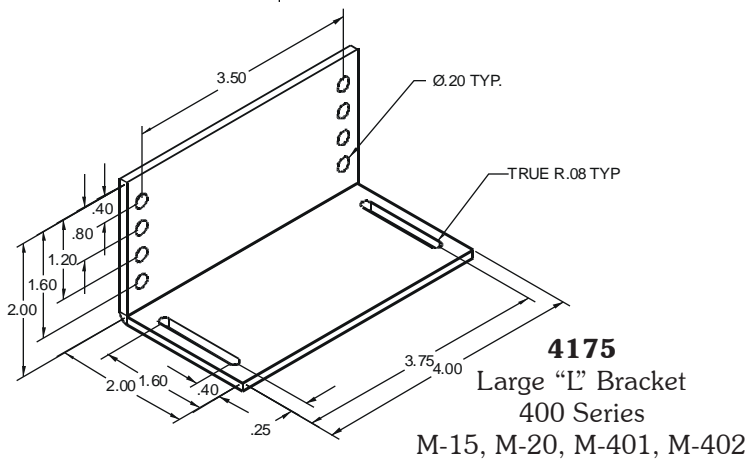
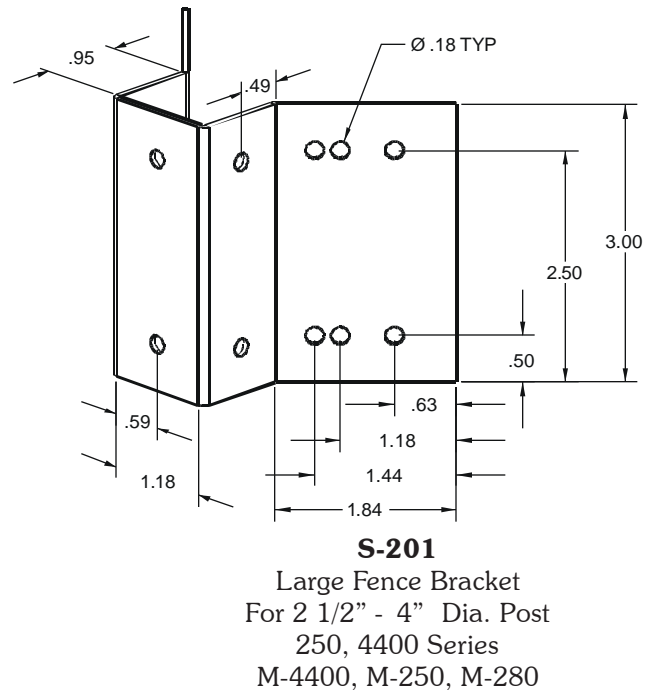
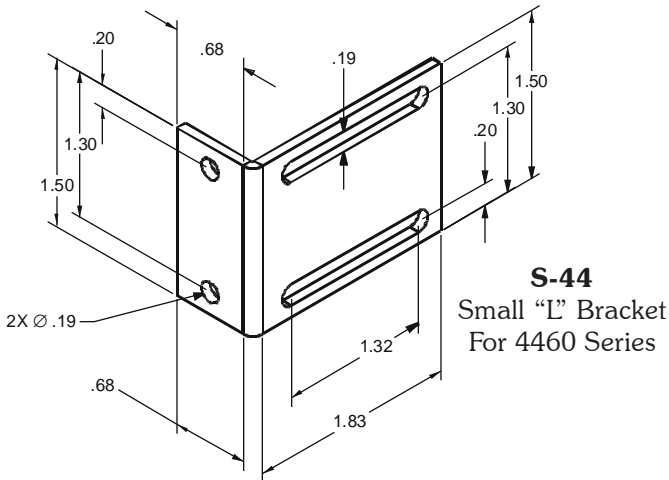
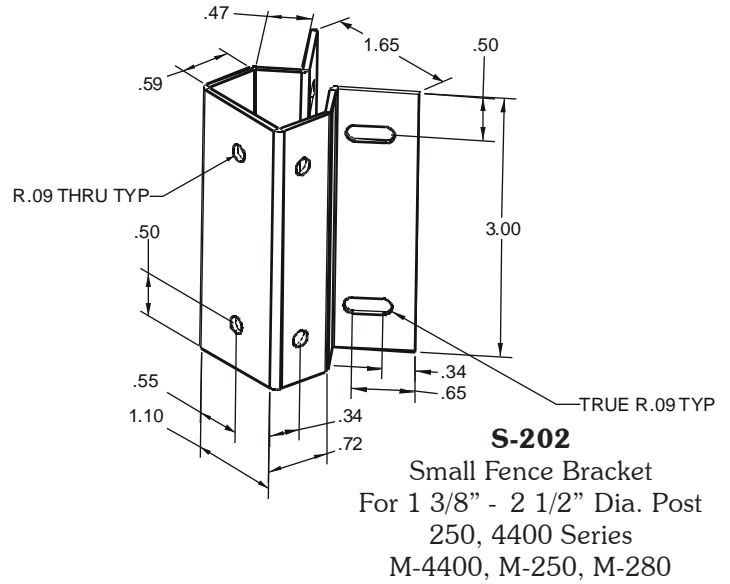
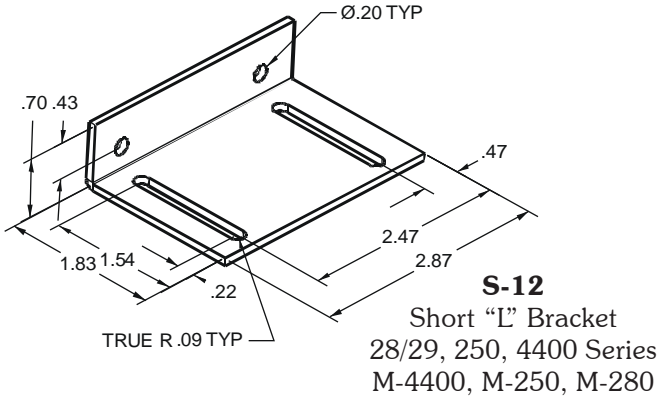


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# BRACKETS



**CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:**

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KIMBALL, NE 69145



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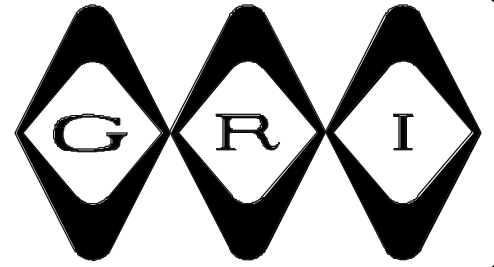
TOLL-FREE 1-800-445-5218  
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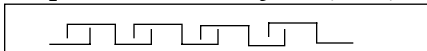
WEB SITE: [www.grisk.com](http://www.grisk.com)

# BULK ARMORED CABLE



G.R.I offers three different SquareLok armored cable sizes and is capable of producing our commercial and industrial switches with special length leads to fit our customers' requirements. The cable is also available by the foot; strung or unstrung. Contact your G.R.I. Distributor or call factory for more information and quotes.

## SquareLok Style (SL)



SquareLok tubing is produced from a continuous metal strip, and is held in position by locking one leg of one profile over the leg of the adjacent profile.

| Part Number | Size           | Inside Diameter  | Outside Diameter  | Coiling Diameter  | Weight                    | Breaking Load     |
|-------------|----------------|------------------|-------------------|-------------------|---------------------------|-------------------|
| 5702        | 3/16"<br>5mm   | 0.188"<br>4.76mm | 0.266"<br>6.76mm  | 1.750"<br>44.45mm | 0.036 lb/ft<br>0.054 kg/m | 185 lbs<br>84 kgs |
| 8296        | 7/32"<br>5.5mm | 0.218"<br>5.55mm | 0.303"<br>7.7mm   | 1.750"<br>44.45mm | 0.042 lb/ft<br>0.63 kg/m  | 210 lbs<br>96 kgs |
| 8449        | 5/16"<br>8mm   | 0.313"<br>7.94mm | 0.410"<br>10.91mm | 2.000"<br>50.80mm | 0.065 lb/ft<br>0.095 kg/m | 220 lbs<br>100kg  |

Dimensional Tolerance is +/- 0/008 inches (.2mm) Breaking load may vary 10%.  
Other sizes available upon request.

## Armored Cable Accessories

| Part Numbers: |   |
|---------------|---|
| 8868          | Water Resistant Armored Cable Electrical Knock-out Junction Box Connector. Fits 5702 & 8296 |
| 8979          | Water Resistant Armored Cable Electrical Junction Box Connector. Fits 8449.                 |
| 8949          | Steel Cable Clamp - .25 Diameter  |
| 8950          | Steel Cable Clamp - .312 Diameter   |
| 8681          | Nylon Cable Clamp - 1/4" Diameter   |
| 7412          | Nylon Cable Clamp - 5/16" Diameter  |



**8868/8979**



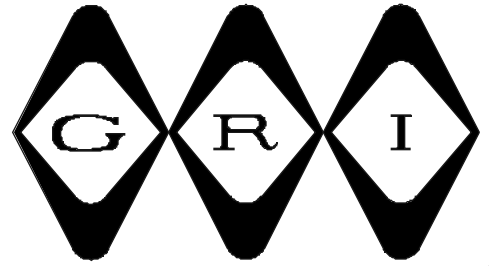
**Steel Cable Clamp**  
8949 - .25 dia.  
8950 - .312 dia.



**Nylon Cable Clamp**  
8681 - 1/4" dia.  
7412 - 5/16" dia.



# TRACK AND GATE MOUNTING KITS



**8450-3**

## Combination Post Mount

Part No. 8450-3 consists of:

- 1 - S4402-A
- 1 - M-4400
- 1 - S-202 1 3/8" - 2 1/2" dia. Fence Gate Post Bracket
- 1 - S-201 2 1/4" - 4" Fence Gate Post Bracket
- 4 - #699 nut, 6-32 x 5/16 Hex - Zinc
- 4 - #4186 washer, #6 external lock - zinc fed. Screw 1322
- 4 - #4209 screw, 6-32 x 3/4 PH PHIL (200L) machine screw - zinc
- 8 - #735 screw, 8 x 1 self tap combo pan head type A steel/zinc plate



**8299-G**

## Economy Track Mount

Part No. 8299-G consists of:

- 1 - S412P-G
- 1 - M-402-G
- 1 - S-200 Garage Door Track Bracket
- 1 - 4175 Large "L" Bracket
- 4 - #699 nut, 6-32 x 5/16 Hex - Zinc
- 4 - #4186 washer, #6 external lock - zinc fed. Screw 1322
- 4 - #4209 screw, 6-32 x 3/4 PH PHIL (200L) machine screw - zinc
- 2 - #735 screw, 8 x 1 self tap combo pan head type A steel/zinc plate
- 2 - #6231 screw, 6 x 3/4 sheet metal combo panhead (for 1100) 40/B

## 8450-1

### Fits 2 1/4" - 4" Fence Gate Posts

Part No. 8450-1 consists of:

- 1 - S4402-A
- 1 - M-4400
- 2 - S-201, 2 1/4" - 4" dia. Fence Gate Post Brackets
- 4 - #699 nut, 6-32 x 5/16 Hex - Zinc
- 4 - #4186 washer, #6 external lock - zinc fed. Screw 1322
- 4 - #4209 screw, 6-32 x 3/4 PH PHIL (200L) machine screw - zinc
- 8 - #735 screw, 8 x 1 self tap combo pan head type A steel/zinc plate

## 8450-2

### Fits 1 3/8" - 2 1/2" Fence Gate Posts

Part No. 8450-2 consists of:

- 1 - S4402-A
- 1 - M-4400
- 2 - S-202, 1 3/8" - 2 1/2" dia. Fence Gate Post Brackets
- 4 - #699 nut, 6-32 x 5/16 Hex - Zinc
- 4 - #4186 washer, #6 external lock - zinc fed. Screw 1322
- 4 - #4209 screw, 6-32 x 3/4 PH PHIL (200L) machine screw - zinc
- 8 - #735 screw, 8 x 1 self tap combo pan head type A steel/zinc plate





# TRACK AND GATE BRACKET KITS

SWITCH NOT INCLUDED



**8450-3-Kit**

### Combination Post Mount

Part No. 8450-3-Kit consists of:

- 1 - S-202 1 3/8" - 2 1/2" dia. Fence Gate Post Bracket
- 1 - S-201 2 1/4" - 4" Fence Gate Post Bracket
- 4 - #699 nut, 6-32 x 5/16 Hex - Zinc
- 4 - #4186 washer, #6 external lock - zinc fed. Screw 1322
- 4 - #4209 screw, 6-32 x 3/4 PH PHIL (200L) machine screw - zinc
- 8 - #735 screw, 8 x 1 self tap combo pan head type A steel/zinc plate



**8299-G-Kit**

### Economy Track Mount

Part No. 8299-G-Kit consists of:

- 1 - S-200 Garage Door Track Bracket
- 1 - 4175 Large "L" Bracket
- 4 - #699 nut, 6-32 x 5/16 Hex - Zinc
- 4 - #4186 washer, #6 external lock - zinc fed. Screw 1322
- 4 - #4209 screw, 6-32 x 3/4 PH PHIL (200L) machine screw - zinc
- 2 - #735 screw, 8 x 1 self tap combo pan head type A steel/zinc plate
- 2 - #6231 screw, 6 x 3/4 sheet metal combo panhead (for 1100) 40/B

### 8450-1-Kit

#### Fits 2 1/4" - 4" Fence Gate Posts

Part No. 8450-1-Kit consists of:

- 2 - S-201, 2 1/4" - 4" dia. Fence Gate Post Brackets
- 4 - #699 nut, 6-32 x 5/16 Hex - Zinc
- 4 - #4186 washer, #6 external lock - zinc fed. Screw 1322
- 4 - #4209 screw, 6-32 x 3/4 PH PHIL (200L) machine screw - zinc
- 8 - #735 screw, 8 x 1 self tap combo pan head type A steel/zinc plate

### 8450-2-Kit

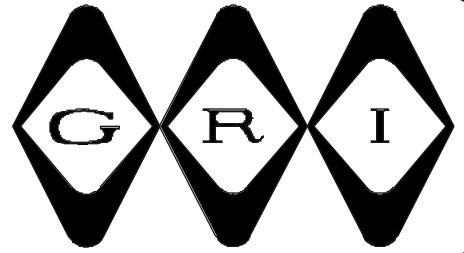
#### Fits 1 3/8" - 2 1/2" Fence Gate Posts

Part No. 8450-2-Kit consists of:

- 2 - S-202, 1 3/8" - 2 1/2" dia. Fence Gate Post Brackets
- 4 - #699 nut, 6-32 x 5/16 Hex - Zinc
- 4 - #4186 washer, #6 external lock - zinc fed. Screw 1322
- 4 - #4209 screw, 6-32 x 3/4 PH PHIL (200L) machine screw - zinc
- 8 - #735 screw, 8 x 1 self tap combo pan head type A steel/zinc plate



# WINDOW CHANNEL MAGNET

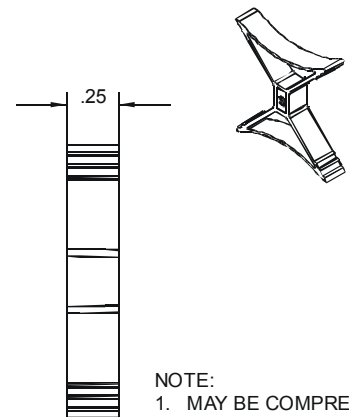
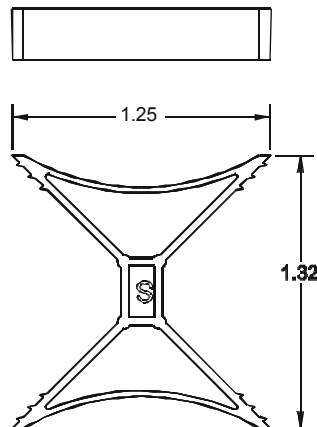


## MC-25

- ◆ The MC-25 Is Designed To Be Mounted In The Track Of Aluminum Windows & Sliders
- ◆ Rare Earth Magnet
- ◆ Fits Most Aluminum Tracks
- ◆ Grippers Hold Magnet In Place
- ◆ No Drilling Required
- ◆ 1/2" Gap When Paired With GRI's 3/8" Press-To-Fit Contacts
- ◆ Arrow Marks Polarity



MC-25



NOTE:  
1. MAY BE COMPRESSED TO FIT CHANNELS FROM 5/16" TO 1".

### WARRANTY:

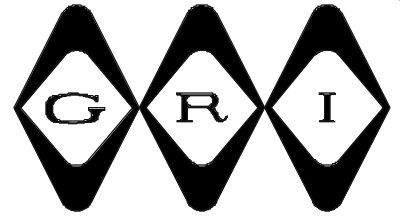
One year warranty against workmanship, material and factory defects

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GRI PLAZA  
KIMBALL, NE 69145



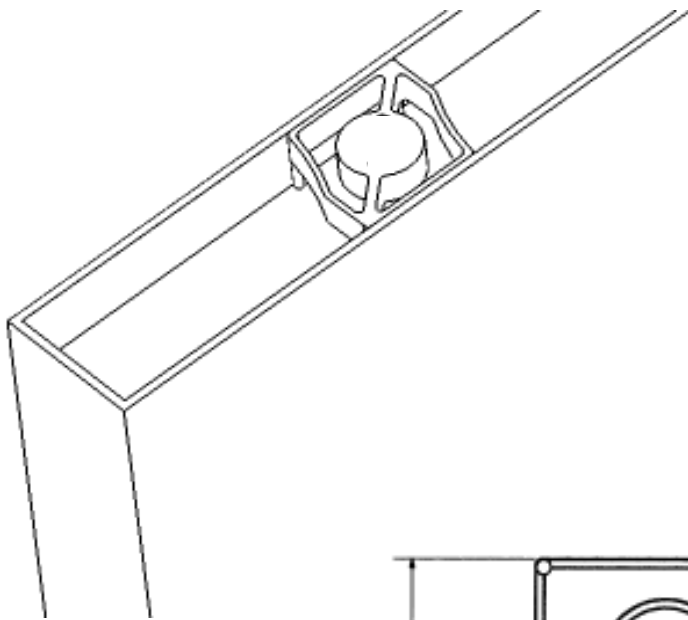
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FAX (308) 235-3561  
E-MAIL: [grisales@megavision.com](mailto:grisales@megavision.com)  
WEB SITE: [www.grisk.com](http://www.grisk.com)

# DOOR CHANNEL MAGNET

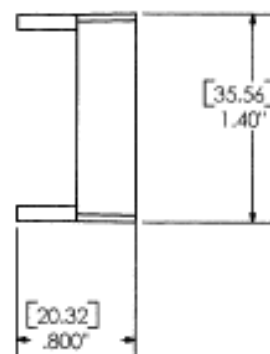
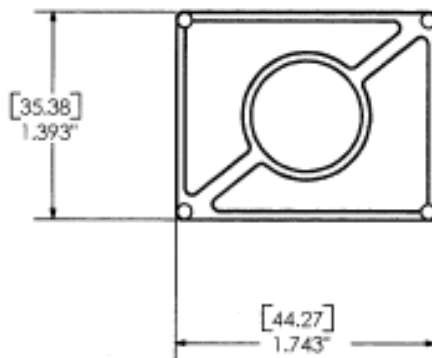


## MC-180

- ◆ The MC-180 is designed to be mounted in the top channel of a metal entry/exit door.
- ◆ Legs of the magnet case can be clipped to accommodate a more shallow channel.



MC-180



### WARRANTY:

Lifetime warranty against workmanship, material and factory defects.

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G.R.I. PLAZA  
KIMBALL, NE 69145



MADE IN U.S.A.



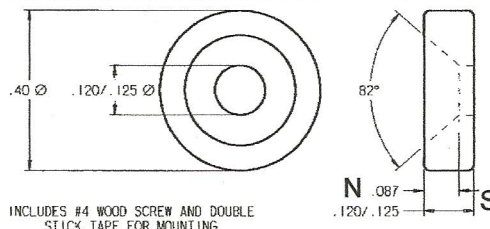
# MIGHTY MAG



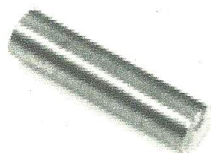
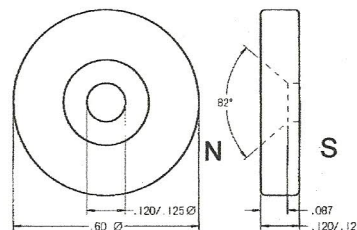
## RARE EARTH MAGNETS



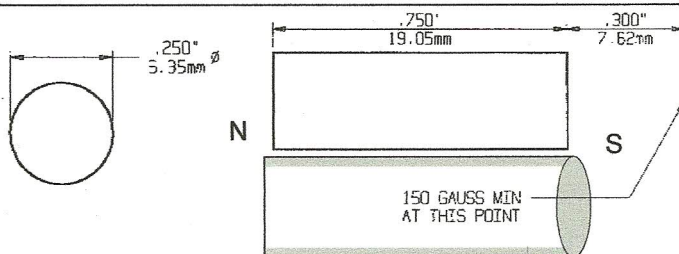
**MM-400**  
3/8" Dia. X 1/8"



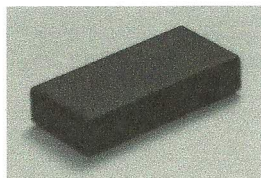
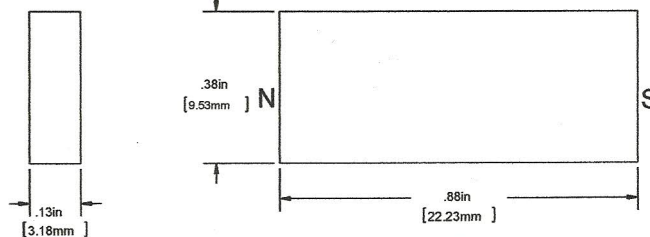
**MM-600**  
5/8" Dia. X 1/8"



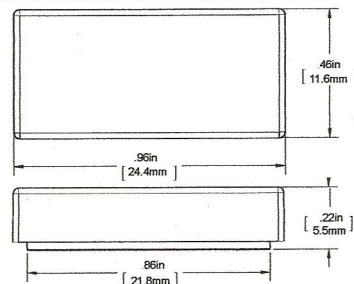
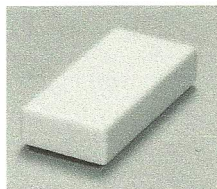
**MM-10**  
1/4" Dia. X 3/4"



**MMF-875**  
1/8" X 3/8" X 7/8"



**CMMF-875**  
In Case  
.22" X .46" X .96"



**Also Available: MM-9 (1/4" x 1/2")**

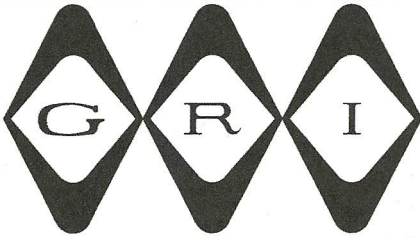
**Also Available: MM-12 (1/4" x 1")**

GRI does not guarantee exact measurements.

GEORGE RISK INDUSTRIES, INC.  
G.R.I. PLAZA  
KIMBALL, NE 69145



TOLL-FREE 1-800-445-5218 • 1-800-523-1227  
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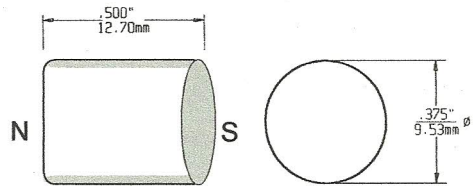


# MIGHTY MAG

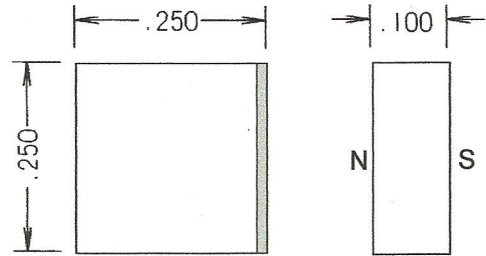
## RARE EARTH MAGNETS



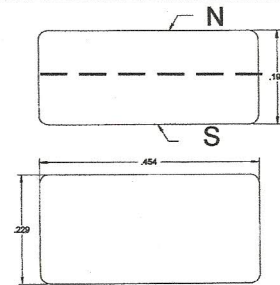
**MM-375**  
**3/8" Dia. X 1/2"**



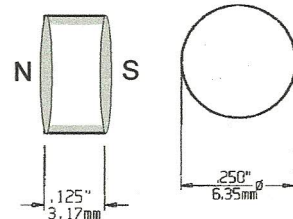
**MM-25**  
**1/4" X 1/4" X .100"**



**MM-45**  
**.19" X .45" X .23"**



**MMR-25**  
**1/4" Dia. X 1/8"**



**Note:** G.R.I. suggests using a silicone or clear nail polish sealant on the surface of installed rare earth magnets to prevent corrosion.

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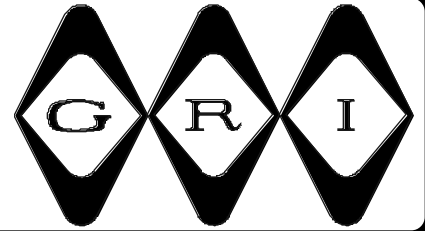


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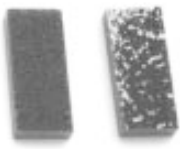

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# ALNICO V BARE MAGNETS



- ◆ Pole End Of Magnets Are Painted (Towards Switch)
  - ◆ Bare Magnets Available In Bags of 100
  - ◆ Other Sizes Available - Please Call With Your Needs
- ◆ All Sizes Are Approximate. GRI Does Not Guarantee Exact Measurements

| DESCRIPTION         |  | PART NUMBER |
|---------------------|--|-------------|
| 1/4" Dia. x 1"      |     | M-12        |
| 1/4" Dia. x 1 3/16" |     | M-13        |
| 3/8" Dia. x 1 1/2"  |    | M-16        |
| 1/4" Dia. x 3/4"    |    | M-10        |
| 3/16" Dia. x 1"     |  | M-19        |
| 1/4" Dia. x 5/8"    |  | M-17        |
| 1/8" Dia. x .937"   |  | 5278        |
| 1/8" x 3/8" x 7/8"  |  | MF-875      |
| 3/8" Dia. x 2 9/16" |  | 3938        |

### Also Available

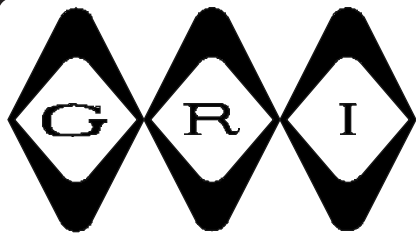
**2759** (3/8" x 5/8"); **2765** (1/4" x 1/2"); **3226** (3/8" x 3/8"); **4718** (3/8" x 1");  
**4742** (3/8" x 3/4"); **7547** (.450" x 2.500"); **8540** (1/2" x 3")

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 WEB SITE: [www.grisk.com](http://www.grisk.com)



# MAGNETS IN CASES

◆ Dimensions Given Apply To The Case

◆ Colors: White, Brown or Gray ◆ Magnets Only Available In Bags of 100



**M-5RS/MM-9RS**  
3/8" x 5/8" Stubby, Recessed



**M-5F**  
3/8" Flanged, Recessed



**M-5**  
3/8" Press Fit, Recessed



**M-8/M-14**  
1/2" x 1/2" x 2 1/2" Lg.  
Screw Mount. Surface Mount



**M-6RF**  
1/4" Press Fit, Recessed



**M-184**  
1" Dia. Steel Door, Recessed



**M-184WG**



**M-100/MM-900**  
1/4" x 3/8" x 2" Lg.  
Miniature Screw Mount



**M-7**  
1/4" Sq. x 1" Lg.  
Adhesive Back, Surface Mount



**M-180**  
3/4" Dia. Steel Door, Recessed



**M-180WG**



**M-500**  
1/4" x 1/4" x 7/8" Lg.  
Macro Surface Mount



**M-110/MM-910**  
1/4" x 3/8" x 1 1/2" Lg.  
Miniature Adhesive,  
Surface Mount



**M-7F**  
1/4" Sq. x 1" Lg.  
Surface Mount, Adhesive Back,  
With Breakaway Flange



**M-505**  
3/16" x 1/4" x 1" Lg.  
Super Miniature, Surface Mount



**M4532**  
3.10" x 2.14" Industrial  
Aluminum Housing



**M-15/M-20/M-401/M-402**  
1/2" x 1/2" x 4" Lg.  
Screw Mount, Surface Mount



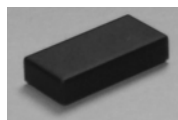
**M-250** - 3 1/4" x 1 1/8"  
**M-280** - 3 3/4" x 1 1/8"  
Extruded Case, Wall Mount



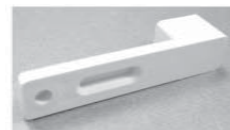
**M-4400**  
2 1/2" L x 3 1/4" W x 1/2" H  
Industrial  
Rugged Aluminum Case



**M-1100**  
3/8" x 3/8" x 2" Lg.  
Screw Mount,  
Surface Mount



**CMF-875**  
.22" x .46" x .96"



**M-SASH**  
Base 2.56" L x .450" W x .125" D  
Case .510" L x .450" W x .595" D

## Also Available

**M-150, MM-150RS, M-129, M-4460, M-4612, M-4704**

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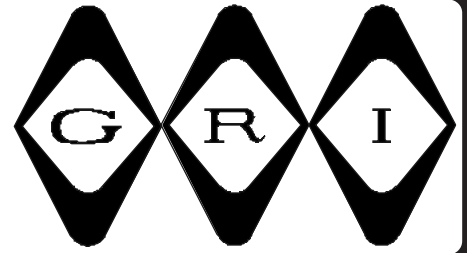


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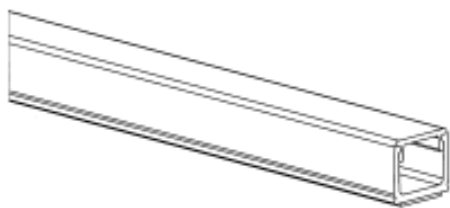
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WEB SITE: [www.grisk.com](http://www.grisk.com)

# E-Z DUCT RACEWAY



## Wire & Cabling Raceway & Connectors For Low Voltage Applications

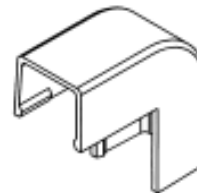
- ◆ 3/8" x 3/8" Mini Raceway
- ◆ 5/8" x 1/2" Raceway
- ◆ 5/8" x 1 1/4" Raceway
- ◆ Adhesive Backing
- ◆ White Or Brown
- ◆ Mounting Screw Holes
- ◆ 6' Lengths
- ◆ Flame Retardant PVC & ABS UL 94-V-0
- ◆ New E-Z QR, 1" Quarter Round (See back page for description)



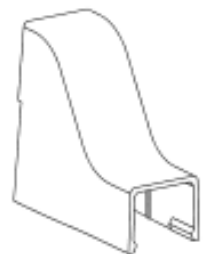
**E-Z Duct Raceway**



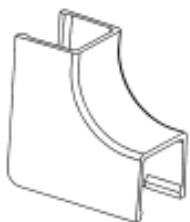
**E-Z RA**



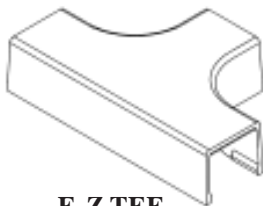
**E-Z OC**



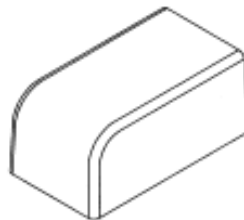
**E-Z DC (5/8" Only)**



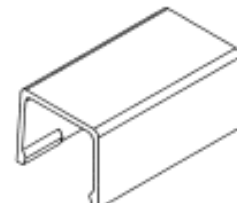
**E-Z IC**



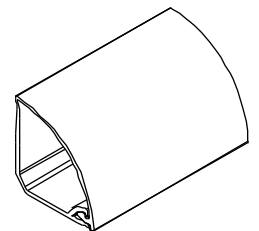
**E-Z TEE**



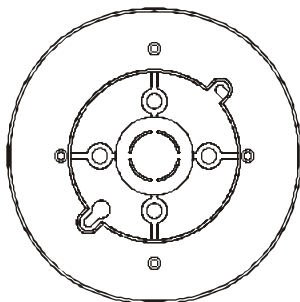
**E-Z EC**



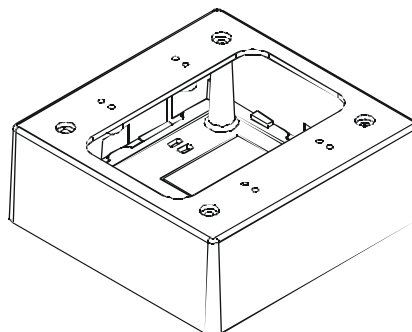
**E-Z SP**



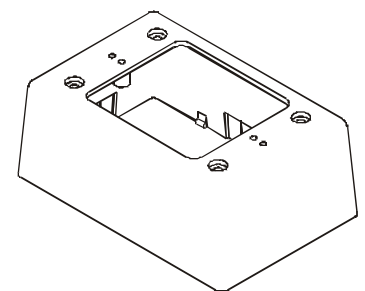
**E-Z QR-W**



**E-Z SB**



**E-Z 75 DG-W**  
Available in Red  
for Horn Strobes  
**E-Z 75 DG-R**



**E-Z 58 SG-W**  
Available in Red  
for Pull Stations  
**E-Z 58 SG-R**

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KIMBALL, NE 69145



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# E-Z DUCT RACEWAY

E-Z DUCT is G.R.I.'s new product line of wire and cabling raceway and connectors for low voltage applications. Manufactured by G.R.I., this line of high quality, two piece surface raceway features 5/8" x 1/2" or 5/8" x 1 1/4", six foot lengths of PVC 94V-0, with adhesive backing and pre-drilled mounting screw holes for quick installation. The raceway can be purchased in bags of 6 or in bulk boxes of 50 pieces. G.R.I. offers a variety of connectors in flame retardant ABS plastic. These connectors are available in bags of 6 of one type or a combo pack of 2 each. Call factory or visit one of our Distributors for ordering information.

| Part Number | Quantity     | Description   |
|-------------|--------------|---|
| E-Z 38-W    | Bag of 10    | 3/8" x 3/8" Raceway Six Foot Lengths White Only                                   |
| E-Z 58 50   | Box of 50    | 5/8" x 1/2" Raceway Six Foot Lengths  |
| E-Z 58 6    | Bag of 6     | 5/8" x 1/2" Raceway Six Foot Lengths  |
| E-Z DUO     | Bag of 6     | 6 E-Z 58 Sticks to fit into 3 E-Z 75 Covers Six Ft. Lengths White or Brown        |
| E-Z 58 IC   | Bag of 6     | Inside Corner   |
| E-Z 58 OC   | Bag of 6     | Outside Corner  |
| E-Z 58 SP   | Bag of 6     | Splices   |
| E-Z 58 RA   | Bag of 6     | Right Angles  |
| E-Z 58 TEE  | Bag of 6     | Tee   |
| E-Z 58 EC   | Bag of 6     | End Cap   |
| E-Z 58 DC   | Bag of 6     | Drop Ceiling  |
| E-Z 58 COM  | Combo Pack   | 2 Each: Inside Corner, Outside Corner, Splice/Coupling, Right Angle, Tee, End Cap |
| E-Z 58 SG   | One Box      | Junction Box: W - 3.50" x H - 5.20" x D - 2" White or Red                         |
| E-Z 75 50   | Box of 50    | 5/8" x 1 1/4" Raceway Six Foot Lengths  |
| E-Z 75 6    | Bag of 6     | 5/8" x 1 1/4" Raceway Six Foot Lengths  |
| E-Z 75 IC   | Bag of 6     | Inside Corner   |
| E-Z 75 OC   | Bag of 6     | Outside Corner  |
| E-Z 75 SP   | Bag of 6     | Splices   |
| E-Z 75 RA   | Bag of 6     | Right Angles  |
| E-Z 75 TEE  | Bag of 6     | Tee   |
| E-Z 75 EC   | Bag of 6     | End Cap   |
| E-Z 75 COM  | Combo Pack   | 2 Each: Inside Corner, Outside Corner, Splice/Coupling, Right Angle, Tee, End Cap |
| E-Z 75 DG   | One Box      | Junction Box: W - 5" x H - 5" x D - 2" White or Red                               |
| E-Z SB      | One Box      | Smoke Box: 5.50" Diameter (fits both E-Z 58 and E-Z 75)                           |
| E-Z QR 6-W  | Bag of 6     | 1" Quarter Round, Six Foot Lengths, White Only, Not Taped or Drilled              |
| E-Z 7553    | 12 Yard Roll | 1/2" x 1/16" Double Coat Foam Tape  |

## WARRANTY:

One year warranty against workmanship, material and factory defects.

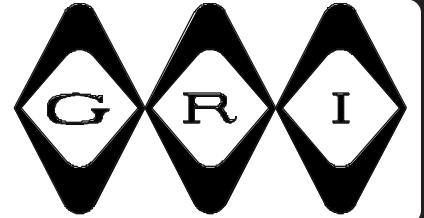
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BA-177 Rev Q 7/01/10

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# COVERS & SPACERS



## SPACER DESCRIPTION

## PART NUMBER

Spacer for 129



S-129

Spacer for 29 and 28 Series  
Standard Screw Surface Mount



S-28

Spacer for 400 and 410 Series  
Industrial Surface Mount



S-15

Spacer for Roller Ball, Dome Switch  
and Flanged Push Button Switch



S-23

Spacer for 1100/100 Series



S-11

Spacer for 4400 Series



5226

Spacer for 4460 Series



S-40

## COVER DESCRIPTION

## PART NUMBER

Cover for 29 Series



S-222

International  
Cover for 29 Series



5229

Cover for 129 Series



C-129

Cover for 1100 Series



C-11

Cover for 100-TC Series



S-111

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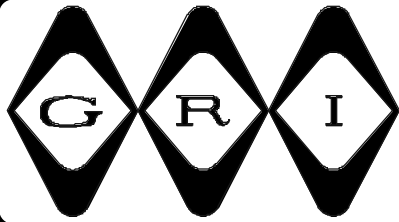
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# EMPTY CASES

- ◆ Available In White, Brown and Gray
- ◆ Empty Cases Available In Bags of Any Amount Up To 100

## DESCRIPTION

## PART NUMBER

|   |  |        |
|---|--|--------|
| 3/8" Press Fit  |     | C-5    |
| 3/8" Flanged Recessed   |     | C-5F   |
| 1/4" Flanged Recessed   |    | C-6RF  |
| Miniature<br>1/4" x 1" Surface Mount<br>Adhesive Backing                    |   | C-7    |
| Miniature Surface Mount<br>With 1/4" x 3/16" Flange<br>And Adhesive Backing |  | C-7F   |
| Standard Surface Type<br>1/2" x 1/2" x 2 1/2"                               |  | C-8    |
| Industrial Surface Type<br>1/2" x 1/2" x 4"                                 |  | C-15   |
| Surface Mount<br>3/8" x 3/8" x 2"   |  | C-1100 |
| Surface Mount<br>1.5" x 5/8"  |  | C-4460 |

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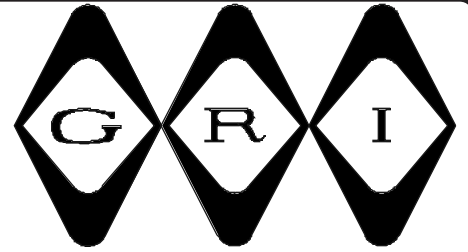


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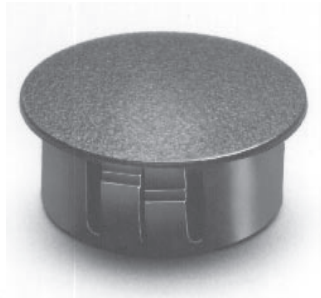
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# DUMMY PLUGS



- ◆ Reusable
- ◆ Colors: White or Black (Unless Otherwise Noted)
- ◆ Available in Bags of 100



## DESCRIPTION

- 3/8" Diameter, White or Brown
- 1/4" Diameter, Round Flanged, White or Brown
- 1/4" Diameter, Black Only
- 3/8" Diameter, Self Locking
- 1/2" Diameter, Self Locking
- 9/16" Diameter, Self Locking
- 5/8" Diameter, Self Locking
- 3/4" Diameter, Self Locking
- 7/8" Diameter, Self Locking
- 1" Diameter, Self Locking
- 1 1/4" Diameter, Self Locking
- 1.093" Diameter, For Electrical Box Knockouts, Gray Only

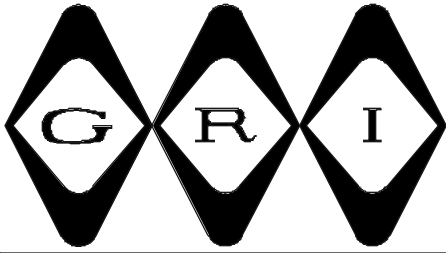
## PART NUMBER

- DP-20RS
- DP-50RF
- DP-250
- DP-375
- DP-500
- DP-562
- DP-625
- DP-750
- DP-875
- DP-1.0
- DP-1.25
- 6726

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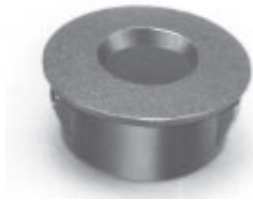


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# RECESSED ADAPTORS

- ◆ 3/8" Machined Holes
- ◆ Self-Locking
- ◆ Colors: White or Black (Unless Otherwise Noted)
  - ◆ Available in Bags of 100
- ◆ Reusable - Great For Testing
  - ◆ Snap-In — Snap-Out



## DESCRIPTION

9/16" Diameter with 3/8" Hole  
5/8" Diameter with 3/8" Hole  
3/4" Diameter with 3/8" Hole  
Available in White, Brown & Gray  
7/8" Diameter with 3/8" Hole  
1" Diameter with 3/8" Hole  
1 1/4" Diameter with 3/8" Hole  
3/4" Diameter M-80 Magnet Case

## PART NUMBER

A-562  
A-625  
PA-75  
  
A-87  
A-1.0  
A-1.25  
C-80

## CONTACT YOUR G.R.I. DISTRIBUTOR OR CALL:

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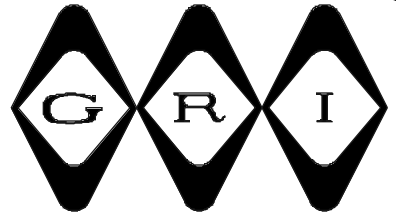


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| 1" Diameter      | CB-1.0      |
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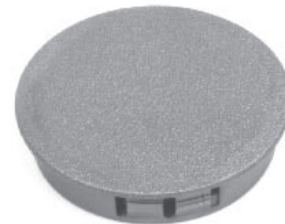
## Bushing



| DESCRIPTION | PART NUMBER |
|-------------|-------------|
| 3/4"        | 7175        |
| 7/8"        | 7174        |
| 1"          | 7128        |
| 1.375"      | 8515        |
| 1 3/4"      | 5358        |
| 2"          | 5228        |
| 2 1/2"      | 7666        |

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TRI-ED ..... (780) 448-0793  
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GRAYBAR ..... (506) 392-6084

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GRAYBAR ..... (506) 458-8265

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GRAYBAR ..... (709) 489-4161

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**HALIFAX, NS**

GRAYBAR ..... (902) 443-8311

**HAMILTON, ON**

GRAYBAR ..... (905) 547-8040

**KENTVILLE, NS**

GRAYBAR ..... (902) 678-2800

**KITCHENER, ON**

GRAYBAR ..... (519) 576-4050

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ADI/BURTEK ..... (519) 963-2100

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GRAYBAR ..... (905) 752-0767

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ADI/BURTEK ..... (905) 564-3210  
(800) 263-0803

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GRAYBAR ..... (506) 634-2094

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ADI/BURTEK ..... (418) 682-3223

**SYDNEY, NS**

GRAYBAR ..... (902) 564-5504

**TRURO, NS**

GRAYBAR ..... (902) 893-4251

**VANCOUVER, BC**

GRAYBAR ..... (604) 676-4400

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ADI/BURTEK ..... (514) 737-7733

TRI-ED ..... (514) 739-5989  
(800) 558-8899

**WABASH, NF**

GRAYBAR ..... (709) 282-3555

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GRAYBAR ..... (519) 944-4414

**WINNIPEG, MB**

ADI/BURTEK ..... (204) 633-3301

ADI/BURTEK ..... (204) 632-6999

TRI-ED ..... (204) 697-8743  
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GRAYBAR ..... (902) 742-6771

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 SECURITY DIST. AUSTRALIA ..... 011 (61) 8 9240 6281

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 EUROMATEC SA..... 011 (32) 2 726 5612  
 ADI-GARDINER SECURITY ..... 011 (32) 3 8773697  
 BOSCH SECURITY SYS. BE ..... 011 (32) 562 52610

**BELGIUM & LUXENBOURG**  
 NORBAIN BELGIUM NV-SA ..... 011 +32 (0)33698080

**BULGARIA**  
 IMPAS SECURITY ..... 011 (359 2) 9 88 87 09

**CZECH REPUBLIC**  
 KELCOM INTERNATIONAL..... 011 (420) 49 5513886  
 EUROALARM SPOL. .... 011 (420) 27 2770148

**FINLAND**  
 OY HEDPRO AB/SECURITY ..... 011 (358) 9 68 28 444  
 HEDENGREN ..... 011 358 9 673 576

**GREECE**  
 AUTOMATIC ALARM SYS. .... 011 (30)210 2922 148

**ICELAND**  
 NORTEK ..... 011 (354) 5 87 73 90  
 SECURITY CENTRES ..... 011 (354) 5 33 24 00

**IRELAND**  
 GARDINER SECURITY ..... 011 (353) 1 450 1366

**ISRAEL**  
 FILTECH TECHNOLOGIES ..... 011 972-3-9060884

**LITHUANIA**  
 EUROELEKTRONIKA ..... 011(370) 7 35 05 68

**THE NETHERLANDS**  
 NORBAIN NEDERLAND BV ..... 011 +31 (0)76 5792577

**NORWAY**  
 ELKOTEK ..... 011 (47) 63 86 20 02

**NAMIBIA, WINDHOEK**  
 ELVEY INTERNATIONAL..... 011 092-6461248480

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 BOSCH SECURITY SYS. AB ..... 011 (46) 31 722 53 37  
 ALARM EXPRESS..... 011 (46) 8 6 45 31 00

**SOUTH AFRICA**

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 ELVEY INTERNATIONAL ..... 011 2751-448-2010

**CAPE TOWN**  
 ELVEY INTERNATIONAL ..... 011 2721-448-6390

**DURBAN**  
 ELVEY INTERNATIONAL ..... 011 2731 307-5610

**EAST LONDON**  
 ELVEY INTERNATIONAL ..... 011 2743-743-8983

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 ELVEY INTERNATIONAL ..... 011 2744 884-1261

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 ELVEY INTERNATIONAL ..... 011 2723 6478-1731

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 ELVEY INTERNATIONAL ..... 011 2711 614 4230

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 ELVEY INTERNATIONAL ..... 011 2713 752-2922

**PORT ELIZABETH**  
 ELVEY INTERNATIONAL ..... 011 2741-487-2205

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# **COMPETITORS SWITCH COMPARISON**

## G.R.I. Competitor's Switch Comparison

|               |                |                | <i>ADEMCO</i>  | <i>ADEMCO</i>    |               |              |
|---------------|----------------|----------------|----------------|------------------|---------------|--------------|
| <i>G.R.I.</i> | <i>SENTROL</i> | <i>FLAIR</i>   | <i>PROLINE</i> | <i>TUFFFACTS</i> | <i>AMESCO</i> | <i>ALEPH</i> |
| 100-12WG      |                |                | PR-20445       |                  |               |              |
| 100-180WG     |                |                |                | 949              |               |              |
| 100-T         | 1138T          |                |                |                  |               |              |
| 100-TC        | 1038T          |                |                |                  |               |              |
| 110-12        | 1035           | LMS88          |                |                  |               | PS-1541      |
| 110-12WG      | 1035W          |                |                |                  |               |              |
| 110-180WG     |                |                |                | 945              |               |              |
| 111-12        | 1036W          | LMS87          |                |                  |               |              |
| 112-12        | 1037           | LMS89          |                |                  |               | PS-1542      |
| 112-12WG      | 1037W          |                |                |                  |               |              |
| 112B-12       | 1037H          |                |                |                  |               |              |
| 1100A-12      | 1085           | LMS28          |                |                  |               |              |
| 1100A-12WG    | 1085W          |                |                |                  |               |              |
| 1100B-12      | 1086           | LMS27          |                |                  |               |              |
| 1100B-12WG    | 1086W          |                |                |                  |               |              |
| 1100C-12      | 1087           | LMS29          |                |                  |               |              |
| 2100C-12WG    | 1087W          |                |                |                  |               |              |
| 120T-12       |                |                | PRO3438        |                  |               |              |
| 120T-60       |                |                |                | 944SP            |               |              |
| 129A          |                |                |                | 940              |               | PS-1523      |
| 180-12        | 1078C-1        | PFC48-1        |                | 947-75           | AMS-25A       |              |
| 180-12WG      | 1078CW         |                |                |                  | AMS-26A       |              |
| 184-12        |                |                |                | 947              |               |              |
| 184-12WG      | 1078W          |                |                |                  |               |              |
| 190-12        | 1076C-1        | PFC42-1        |                |                  | AMS-25B       |              |
| 190-12WG      | 1076CW         |                |                |                  | AMS-26B       |              |
| 194-12        | 1076           |                |                |                  | ODC-49A       |              |
| 194-12WG      | 1076W          |                |                |                  |               |              |
| 229           | 1090           | 1000-34 SW RAC |                |                  |               |              |
| 200-36        |                |                |                |                  |               | PS-2011      |
| 200-36HD      | 2205-A         |                |                |                  |               | PS-2021      |
| B200-36       | 2207AH         |                |                |                  |               |              |
| 200-36WG      | 2515A          | 1000-382       |                |                  |               |              |
| 2020-12       | 1075           | RMS94-2        |                |                  | AMS-21        | PS-1621      |
| N2020-12      | R1075          | RMS94-2N       | PRO44BTM       |                  |               |              |

## G.R.I. Competitor's Switch Comparison

|               |                |              | <i>ADEMCO</i>  | <i>ADEMCO</i>    |               |              |
|---------------|----------------|--------------|----------------|------------------|---------------|--------------|
| <i>G.R.I.</i> | <i>SENTROL</i> | <i>FLAIR</i> | <i>PROLINE</i> | <i>TUFFFACTS</i> | <i>AMESCO</i> | <i>ALEPH</i> |
| 2020-60       |                |              |                | 944              |               |              |
| 2020-12WG     | 1075W          |              |                |                  |               | PS-1624      |
| N2020-12WG    | R1075W         |              |                |                  |               |              |
| 2020-60WG     |                |              |                | 944W             |               |              |
| 2020-T        | 1075T          |              | PRO44T         |                  | AMS-T21       |              |
| N2020-T       | R1075T         |              |                |                  |               |              |
| 2020-TWG      | 1075TW         |              |                |                  |               |              |
| N2020-TWG     | R1075TW        |              |                |                  |               |              |
| 2020-TXWG     | 1065TW         |              |                |                  |               |              |
| 20F-12        | 1072           | RMS56K       |                |                  | AMS-22        | PS-1631      |
| 20F-12WG      | 1072W          |              |                |                  |               |              |
| 20RS-12       | 1125           | RMS94-1      | PRO-20451      |                  | AMS-17        |              |
| N20RS-12      | R1125          | RMS94-1N     |                |                  |               |              |
| 20RS-12WG     | 1125W          |              |                |                  |               |              |
| N20RS-12WG    | R1125W         |              |                |                  |               |              |
| 20RS-60WG     |                |              |                | 951              |               |              |
| 20RS-T        | 1125T          |              |                |                  | AMS-T17       |              |
| 20RS-TWG      | 1125TW         |              |                |                  |               |              |
| N20RS-T       | R1125T         |              |                |                  |               |              |
| N20RS-TWG     | R1125TW        |              |                |                  |               |              |
| 2120-12       | 1275           |              |                |                  |               |              |
| N2120-12      | R1275          |              |                |                  |               |              |
| 2120-12WG     | 1275W          |              |                |                  |               |              |
| 2130-12       | 1276           |              |                |                  |               |              |
| 2130-12WG     | 1276W          |              |                |                  |               |              |
| 2140-12       | 1277           |              |                |                  |               |              |
| 2140-12WG     | 1277W          |              |                |                  |               |              |
| 220-36        | 2507A          |              |                | 957-2W           | ODC-49B       | PS-2021      |
| 250-36WG      | 2515A          |              |                |                  |               |              |
| 270-36        | 2507A          |              |                |                  |               |              |
| 28A           |                | 1020-24      |                |                  | AMS-59        |              |
| 280-36        | 2507AD         |              |                |                  |               |              |
| 29A           | 1085T          | 1000-24      | PRO-20439      | 7939             | AMS-39        | PS-1531      |
| 29AWG         | 1085TW         |              |                | 7939W            | AMS-50        | PS-1534      |
| 29AXWG        | 1082TW         |              |                |                  |               |              |

## G.R.I. Competitor's Switch Comparison

|               |                |              | <i>ADEMCO</i>  | <i>ADEMCO</i>    |               |              |
|---------------|----------------|--------------|----------------|------------------|---------------|--------------|
| <i>G.R.I.</i> | <i>SENTROL</i> | <i>FLAIR</i> | <i>PROLINE</i> | <i>TUFFFACTS</i> | <i>AMESCO</i> | <i>ALEPH</i> |
| 29B           | 1086T          | 1000-22      |                |                  |               |              |
| 29C           | 1087T          | 1000-34      |                | 7939-2           | AMS-39B       | PS-1533      |
| B29C          | 1087TH         |              |                |                  |               |              |
| 29CWG         | 1087TW         |              |                |                  |               |              |
| 29CXWG        | 1084TW         |              |                |                  |               |              |
| 29PA          | 1082           | 1000-245     |                | 948              |               |              |
| 29PAXWG       | 1082W          |              |                |                  |               |              |
| 29PB          | 1083           | 1000-225     |                |                  |               |              |
| 29PBXWG       | 1083W          |              |                |                  |               |              |
| 29PC          | 1084           | 1000-345     |                |                  |               |              |
| 29PCXWG       | 1084W          |              |                |                  |               |              |
| 29PD          | 1084D          |              |                |                  |               |              |
| 3030-12       | 1071           | RMS93-2      |                |                  |               |              |
| 3030-12WG     | 1071W          |              |                |                  |               |              |
| 3030-12XWG    | 1066W          |              |                |                  |               |              |
| 30F-12        | 1073           | RMS60K       |                |                  |               |              |
| 30F-12WG      | 1073W          |              |                |                  |               |              |
| 30F-12XWG     | 1073W          |              |                |                  |               |              |
| 400           | 1045T          | 1020-37      |                | 950              |               |              |
| 400WG         | 1042TW         |              |                | 950W             |               |              |
| 401           |                | 1020-58      | 46             |                  | AMS-36        |              |
| 401WG         | 1043TW         |              |                |                  |               |              |
| 402           | 1047TW         | 1020-48      |                |                  |               |              |
| B402          | 1047TH         |              |                |                  |               |              |
| 402WG         | 1044TW         |              |                |                  |               |              |
| 4040-12       | 1070           | RMS95-2      |                |                  |               | PS-1622      |
| 4040-60       |                |              |                | 944-2GY          |               |              |
| 4040-12WG     | 1070W          |              |                |                  |               |              |
| 4040-12XWG    | 1067W          |              |                |                  |               |              |
| 40FB-12       | 1074H          |              |                |                  |               |              |
| 40F-12        | 1074           | RMS70K       |                |                  |               | PS-1632      |
| 40F-12XWG     | 1074W          |              |                |                  |               |              |
| 410           |                | 1000-37      |                |                  | AMS-37        |              |
| 410P          | 1045           | 1000-37S     |                | 7945             | AMS-37L       |              |
| 410PWG        | 1045W          |              |                |                  |               |              |

## G.R.I. Competitor's Switch Comparison

|               |                |              | <i>ADEMCO</i>  | <i>ADEMCO</i>    |               |              |
|---------------|----------------|--------------|----------------|------------------|---------------|--------------|
| <i>G.R.I.</i> | <i>SENTROL</i> | <i>FLAIR</i> | <i>PROLINE</i> | <i>TUFFFACTS</i> | <i>AMESCO</i> | <i>ALEPH</i> |
| 411P          | 1046           | 1000-58S     |                |                  |               |              |
| 411PWG        | 1046W          |              |                |                  |               |              |
| 412P          | 1047           | 1000-48S     |                |                  |               |              |
| B412P         | 1047H          | AMS-36       |                |                  |               |              |
| 412PWG        | 1047W          |              |                | 7945-2           |               |              |
| 4400-A        | 2505A          | 1000-65      |                |                  |               |              |
| 4473          |                |              | PRO-3438T      |                  |               |              |
| 4510A         | 2227A          |              |                |                  |               |              |
| 4532          | 2202AU         | 1000-98Z     |                | 957W             |               |              |
| 4532C         | 2204AU         | 10000-96Z    |                |                  |               |              |
| 4532L         |                | 1000-98L     |                | 958              | ODC-59A       |              |
| 4545-12       | 1070D          |              |                |                  |               |              |
| 45F-12        | 1074D          |              |                |                  |               |              |
| 4612          |                |              |                |                  | ODC-51A       |              |
| 4613          |                |              |                |                  | ODC-51B       |              |
| 4702          | 2105           |              |                |                  |               |              |
| 4702-A        | 2105A          |              |                |                  |               |              |
| 4704          | 2107           |              |                |                  |               |              |
| 4704-A        | 2107-A         |              |                |                  |               |              |
| 4834          |                |              | PRO515P        |                  |               | PS-1650      |
| 4834T         | 1125TW         |              |                |                  |               |              |
| 50F-12-BA     |                | LMS13-1      | PR20443        |                  | AMS-10S       | PS-1551      |
| 50F-60        |                |              |                | 943              |               |              |
| 50R-12        | 1055           | RMS68-2      | PR20421        |                  | AMS-20        |              |
| 50R-60        |                |              |                | 941              |               |              |
| 50R-12WG      | 1055W          |              |                |                  |               |              |
| 50RF-12       | 1015           |              |                |                  |               |              |
| 50RS-12WG     | 1058           |              |                |                  | AMS-10C       |              |
| 505           | 1145           | PS2051       |                |                  | AMS-9         |              |
| 505WG         | 1145W          |              |                |                  |               |              |
| 55F-12-BA     | 1032           | LMS13-2      |                |                  | AMS-10C       |              |
| 55F-12WG-BA   | 1032W          |              |                |                  |               |              |
| 60F-12WG      | 1033W          |              |                |                  |               |              |
| 60R-12        | 1052           | RMS71-2      |                |                  |               |              |
| 60R-12WG      | 1052W          |              |                |                  |               |              |



## G.R.I. Competitor's Switch Comparison

|               |                |              | <i>ADEMCO</i>  | <i>ADEMCO</i>    |               |              |
|---------------|----------------|--------------|----------------|------------------|---------------|--------------|
| <i>G.R.I.</i> | <i>SENTROL</i> | <i>FLAIR</i> | <i>PROLINE</i> | <i>TUFFTACTS</i> | <i>AMESCO</i> | <i>ALEPH</i> |
| 60RF-12       | 1016           |              |                |                  |               |              |
| 60RF-12WG     | 1016W          |              |                |                  |               |              |
| 65F-12        | 1033           | LMS12-2      |                |                  |               |              |
| 65F-12WG      | 1033W          |              |                |                  |               |              |
| 70F-12        |                | LMS14-1      |                |                  |               | PS-1552      |
| 70R-12        | 1053           | RMS69-2      |                |                  |               | PS-1612      |
| 70R-12WG      | 1053W          |              |                |                  |               |              |
| 70RF-12       | 1017           |              |                |                  |               |              |
| 70RF-12WG     | 1017W          |              |                |                  |               |              |
| 75F-12        | 1034           | LMS14-2      |                |                  |               |              |
| 75F-12WG      | 1034W          |              |                |                  |               |              |
| 75FB-12       | 1034H          |              |                |                  |               |              |
| 8080-TWG      | 1078CTW        |              |                |                  |               |              |
| 8484-TWG      | 1078TW         |              |                |                  |               |              |
| 199-12        | 1076D          |              |                |                  |               |              |
| B190-12       | 1076CH         |              |                |                  |               |              |
| B194-12       | 1076H          |              |                |                  |               |              |
| CS400         |                |              |                | 7945             |               |              |
| PBF-100       |                |              | PRO55          |                  |               |              |
| PBF-100T      |                |              | PRO55T         |                  |               |              |
| PB-2020       |                |              |                |                  | PSW-21        |              |
| PBF-2020      |                |              |                |                  | PSW-22        |              |
| RB-01         | 3005           |              |                | 956              | RSW-21A       | PS-1711      |
| RB-02         | 3036           |              |                |                  |               |              |
| RB-03         | 3037           |              |                | 956-Z            | RSW-21B       | PS-1712      |
| TS-20         | 3015           |              |                | 955              |               |              |
| TS-30         | 3016           |              |                |                  |               |              |
| TS-40         | 3017           |              |                | 955-Z            |               |              |
| TSC-20        | 3012           |              |                |                  |               |              |
| TSC-30        | 3013           |              |                |                  |               |              |
| TSC-40        | 3014           |              |                |                  |               |              |