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When Reliability Matters!

The GRI Warranty

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

Our replacement policy is ***2 for 1***, prior to installation.

After installation, if the switch fails due to material or factory workmanship, a $10 credit will be applied, providing that the following conditions are met:

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

- If failure is due to physical abuse or contact freezing from high voltage, lightning, transient surge or capacitor discharge through the contact, the part will not be eligible for the $10 credit nor replacement.

***Consult the GRI catalog or* WWW.GRISK.COM**
for additional warranty information on specialty products.

GRI Provides Quality Products and Customer Service to Surpass Our Customer's Expectations.

GRI Products - Built to Impossibly High Standards!

Innovation, Quality & Service

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

GRI is a vertically integrated manufacturing company with in-house facilities for tool and die, injection molding, engineering and production. Our name and logo are also found on products other than security switches. GRI produces the Air Traffic Control ***board*** used by the Federal Aviation Administration in their control towers across the nation. One of our custom pushbutton switches was developed specifically for use by the F.A.A.

Our engineering department uses CAD/CAM (computer-aided design and computer-aided manufacturing) to design not only your security contacts, but also custom keyboards, switches and more. All GRI products are proudly built to rigid specifications for applications in military, aerospace, industrial and medical fields.

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! GRI's quality assurance department inspects all incoming materials, sub-assemblies and finished goods to the same exact standards demanded by our high tech applications.

GRI - Your Choice When Reliability Matters!

Securing the World into the Millennium and Beyond!



Made in U.S.A.

Glossary of GRI Part Numbers for Switches and Accessories

TERM	DESCRIPTION	EXAMPLE
-A	Armored Cable	4400-**A**
A	A Form Reed / Closed Loop	29**A**-W
A-	Adaptor	**A**-75-W
AA	2 A Form Reeds	**AA**29P
AC	1 A Form Reed, 1 C Form Reed	**AC**29P
-AL	Almond Color	50F-12-**AL**
-B	Brown Color	20RS-12-**B**
B	Biased Switch	**B**70-12-W
B	B Form Reed / Open Loop	29**B**-W
BA	Break Away Flange	50F-12-B-**BA**
-BL	Black Color	A-75-**BL**
C	C Form Reed / SPDT	29**C**-W
C-	Cases	**C**-5-W
CB-	Cat Butt (Wire Run Plug)	**CB**-75-BL
CB-	Call Button	**CB**-20
CBL-	Call Button Latching	**CBL**-20
CBM-	Call Button Momentary	**CBM**-01-B
CC-	Current Controller	**CC**-01
COM-	Raceway Connector Combo Pack	E-Z 58 **COM**-W
CP-	Child Proof Pool Alarm	289**CP**-3
CS-	Current Sensor	**CS**-1
DC-	Raceway Drop Ceiling	E-Z 58 **DC**-W
DP-	Dummy Plug	**DP**-75-W
DPA-	Dumb Pool Alarm	**DPA**-10
DPP-	Double Gang Plastic Plate	**DPP**-22
DSP-	Double Gang Stainless Steel Plate	**DSP**-22
DS-	Dome Switch	**DS**-01
EC-	Raceway End Cap	E-Z 58 **EC**-W
E-Z 58	5/8"x 1/2" Raceway	**E-Z 58** 6-W
E-Z 75	5/8"x 1 1/4" Raceway	**E-Z 75** 6-W
F-	Flange	50**F**-12-W-BA
-G	Gray Color	20RS-12-**G**
-GEN	Generic / No print (100 per bag)	2020-12-W-**GEN**
GT	Gate Mount Pool Alarm	**GT**289-1
HD	Heavy Duty	200-36**HD**
HD-	Hold-Up Device	**HD**-1
HTP-	High Temperature Probe	**HTP**-1
IC-	Raceway Inside Corner	E-Z 58 **IC**-W
-JC	Jacketed Cable with Chain	4712-**JC**
M-	Magnet	**M**-5-W
MC-	Door or Window Channel Magnet	**MC**-180-W or **MC**-25
MM-	Mighty Mag - Rare Earth Magnet	**MM**-400

TERM	DESCRIPTION	EXAMPLE
N	Rare Earth Switch Set	**N**2020-12
NSP-	Narrow Gang Stainless Plate	**NSP**-17
OC-	Raceway Outside Corner	E-Z 58 **OC**-W
OF	Oval Flange	20 **OF**-12-W
P	Pig Tail	410**P**-G
PB-	Push Button	**PB**-100-B
PBF-	Push Button With Flange	**PBF**-100-W
PL	Private Logo	29A-W(**PL**)
PP-	Single Gang Plastic Plate	**PP**-13
PW-	Pre Wire Plug	**PW**-375-W
R	Recessed (Round)	50**R**-12-W
RA-	Raceway Right Angle	E-Z 58 **RA**-W
RB-	Roller Ball	**RB**-01-W
RF	Recessed (Round) With Flange	50**RF**-12-W
RS	Recessed (Round) Short	50**RS**-12-W
R2	Resistor Pack With 2 1.5K Resistors	
S	Switch Only	**S**20RS-12-W
S-	Spacer or Bracket	**S**-28-B or **S**-9
SB-	Timed Electronic Shunt Switch	**SB**-2000
SG-	Raceway Junction Box	E-Z 58 **SG**-W
SG-	Shockguard	**SG**-1
SP-	Raceway Splice	E-Z 58 **SP**-W
SP-	Single Gang Steel Plate	**SP**-20
T-	Tape	**T**-3/8
-T	Terminal Switch	2020-**T**-W
TEE-	Raceway Tee Connector	E-Z 58 **TEE**-W
TP-	Temperature Probe	**TP**-1
TS-	Tamper Switch	**TS**-20
TSC-	Tamper Switch With Clip	**TSC**-20
VS-	Vent Switch	**VS**-06
W	White Color	20RS-12-**W**
WB	Alarmed Window Bar	**WB**-26-38
WG	Wide Gap	2020-12**WG**-W
XWG	Extra Wide Gap	2020-12**XWG**-W
Z	Zip Cord	**Z**50-12-W
-12”-36”	Wire Length	2020-**12**/200-**36**

CONTACT SPECIFICATIONS:

Closed Loop ..... Switch closed when magnet is in close proximity.
Open Loop ..... Switch open when magnet is in close proximity.
SPDT ..... Switch has common, open and closed sides.
DPDT ..... Two switches, each having common, open and closed sides.

Switch and Corresponding Magnet

Magnet Pairing Subject To Change Dependent Upon Availability & Configuration

PRODUCT	MAGNET
120T-12WG 130T-12WG 140T-12WG 2020-12WG 2020-TWG 3030-12WG 3030-T 3030-TWG 4040-12WG 4545-12 2120-12WG 2130-12WG 2140-12WG 20RS-12XWG 20RS-TXWG 30RS-12XWG 40RS-12XWG	**M-5** 1/4" x 1" M-12 Magnet in Case
20F-12 20F-12WG 30F-12 30F-12WG 40F-12 40F-12WG	**M-5F** 1/4" x 1" M-12 Magnet in Case
20-OF-12 20-OF-12WG 30-OF-12 30-OF-12WG 40-OF-12 40-OF-12WG	**M-5 OF** 1/4" x 1" M-12 Magnet in Case
20RS-TWG 20RS-12WG	**M5RS** 1/4" x 5/8" M-17 Alnico Magnet in 20RS Case
50-12 50-12WG 60-12 60-12WG 70-12 70-12WG	**M-7** 3/16" x 1" M-19 Magnet in Case

PRODUCT	MAGNET
50F-12 50F-12WG 55F-12 55F-12WG 60F-12 60F-12WG 65F-12 65F-12WG 70F-12 70F-12WG 75F-12 75F-12WG	**M-7F** 3/16" x 1" M-19 Magnet in Case
28A 29A 29PA 28B 29B 29PB 28C 29C 29PC	**M-8** .800" x .375" x .420" #7355 Magnet in Case
28AWG 28AXWG 29AWG 29AXWG 29PAWG 29PAXWG 28BWG 28BXWG 29BWG 29BXWG 29PBWG 29PBXWG 28CWG 28CXWG 29CWG 29CXWG 29PCWG 29PCXWG VSB-06 VSB-08	**M-14** 2 - .800" x .375" x .420" #7355 Magnets in Case

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
180-12 185-12 190-12 195-12 8080-T 8585-T	**M-180** 1/4" x 1" M-12 Magnet in Case
180-12WG 185-12WG 190-12WG 195-12 WG 8080-TWG 8585-TWG	**M-180WG** 3/8" x 1 1/2" M-16 Magnet in Case

PRODUCT	MAGNET
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
184-12 189-12 194-12 199-12 8484-T 8989-T	**M-184** 1/4" x 1" M-12 Magnet in Case
184-12WG 189-12WG 194-12WG 199-12WG 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

GRL

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

PRODUCT	MAGNET
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 40-12 (8187) 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 150RS-TWG	**M-17** 1/4" x 5/8" Bare 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
500 501 502 503	**M-500** .125 Dia. x .750 #10083 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

PRODUCT	MAGNET
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
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
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

PRODUCT	MAGNET
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
100-12WG 100-TWG 100-TCWG 101-TWG 101-12WG	**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 w/ resistors 100-T w/ resistors 100-TC w/ resistors	**M-100** 1/4" x 1" M-12 Magnet in Case
102-12WG 100-12WG w/ resistors 100-TWG w/ resistors 100-TCWG w/ resistors	**M-100WG** 1/4" x 1" M-12 Magnet in Case Printed "Magnet"
110-12 w/ resistors 110-T w/ resistors 111-12 w/ resistors 111-T w/ resistors 112-12 w/ resistors	**M-110** 1/4" x 1" M-12 Magnet in Case
110-12WG w/ resistors 110-TWG w/ resistors	**M-110WG** 1/4" x 1" M-12 Magnet in Case printed "Magnet"

PRODUCT	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
180RS-12 8080RS-T	**MM-180RS** 3/8" x 1/2" MM-375 In Cut Down 80 Mag. Case
4700A 4700AXL 4701A 4701AXL	**M-4700** .5 x 3 Alnico (cow magnet) In 45° Case #10155
184RS-T 8484RS-T	**MM-184RS** 3/8" x 1/2" MM-375 In Cut Down 184 Mag. Case
700-T 700CL-12 700EL-12 701CL-12 701EL-12	**MM-700** .560 x .220 Half-Moon Magnet in '700 mini' round case

GRI

Special Services

WWW.GRISK.COM

CABLE AND WIRE OPTIONS

GRI stocks three basic lead lengths at a reduced cost for our customers. Special lengths, colors and styles are available for an additional charge. Call for pricing.

12" Leads #22AWG	Standard
36" Leads #22AWG	Stock Item
72" Leads #22AWG	Stock Item
Special Lengths #22AWG	Non-Standard
Zip Cord	Non-Standard
Jacketed 2 Conductor	Non-Standard
Jacketed 4 Conductor	Non-Standard
Jacketed 6 Conductor	Non-Standard
#5702 Armored 3/16" ID Bulk SquareLok	Unstrung Cable
#8296 Armored 7/32" ID Bulk SquareLok	Unstrung Cable
#8449 Armored 5/16" ID Bulk SquareLok	Unstrung Cable
#5702 & #8296 Armored Cable	Strung Including Ferrules
#8449 Armored Cable	Strung Including Ferrules
Supervisory Loop	Using Standard Wire
Dummy Center Terminal	

DIODE & RESISTOR SWITCHES

GRI makes resistors and/or diodes built-in the switch for your convenience. Our standard tolerance is ± 5%. Other tolerances are available upon request. Call for available values and with any questions.

RESISTORS	DIODES
1 Resistor Any Value	1 Diode
2 Resistors Any Value	2 Diodes



Series Resistor



Parallel Resistor

SPDT & DPDT is available in a variety of GRI recessed and surface mount contacts as well as standard gap, wide gap & extra wide gap.

MOLEX CONNECTIVITY

GRI offers crimp connections, allowing us to accurately and efficiently add Molex, AMP/TE, and other connectors to our security switches and environmental sensors. Most suitable for high precision stripping and subsequent crimping of terminals for wires between 30-12 AWWG (0.05-4.00 sq.mm).

CUSTOM MANUFACTURING

We offer custom manufacturing to help you out in those special situations where a standard product just won't work.

All costs are approximate and subject to change without notice.

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

WWW.GRISK.COM

Proudly Made in U.S.A.

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(308) 235-4645
FAX (308) 235-3561
E-MAIL: sales@grisk.com

Special Services

WWW.GRISK.COM

When Reliability Counts — You Can Count On GRI!

The statement, ***"a switch is a switch,"*** usually comes from those we refer to as price shoppers. This type of person only seems to considers the actual cost of the contact in computing the cost of installation. The cost of repeated trips to the site of a false alarm, or complaints from customers that their system is not operating correctly, isn't typically considered. Just what is the expense in a warranty service call? Certainly more than the price of a switch!

Quality Control

GRI'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 GRI 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.

Lifetime Warranty

GRI is one of a very small group of manufacturers that continues to offer customers a lifetime warranty on standard magnetic reed contact products. We have always felt, that with this guarantee, we are showing the confidence GRI 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.

Individual Private Labeling

Private labeling adds credibility to your company. GRI 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 the $.05 per case charge. Please contact us for any mold insert labeling as they require a special quote process. All private labeling must have a minimum order of 100 sets. Camera ready art work is required.

Foil colors available for private labeling are: gold, silver, red, blue, green, black and white.

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

WWW.GRISK.COM

Proudly Made in U.S.A.

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1-800-523-1227
(308) 235-4645
FAX (308) 235-3561
E-MAIL: sales@grisk.com

Magnetic Contacts with Built-In E.O.L Resistors and Resistor Packs

WWW.GRISK.COM

- Supervision for Open and Closed Loop Systems
- Eliminates soldering on the job
- Standard Switch Sets use 1/8 or 1/4 watt Resisters
- Closed Loop Switches have Resistors in series to switch
- Open Loop Switches have Resistors parallel to switch
- Resister Only Packs are available for retro-fits
- Available in all our standard colors

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



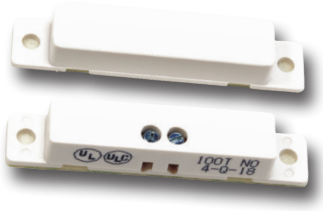
29A w/1K

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 two 1K 1/8 watt 5% carbon film resistors in our 50R brown case, with two blue and two black, 12-inch leads.



2020-12 w/5.6K

The ideal position for the end of line resistor (E.O.L.) 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 and 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 build-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 and 1/4 watt depending on size constraints. Multi-resistor configurations in conjunction with build-in switcher are offered, as well as resistor only packages. Most popular security panel resistor values are available. Please state value when ordering. Contact factory for ordering information.



100-T w/1K



Series Resistor



Parallel Resistor



180-12 w/1K

Sample Part Numbers for Magnetic Contacts with E.O.L. Resistors:

100-T-W w/1K	20RS-T-W w/3.3
180-12-B w/2K	29A-W w/10K
2020-12-W w/5.6K	4532C w/33K

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

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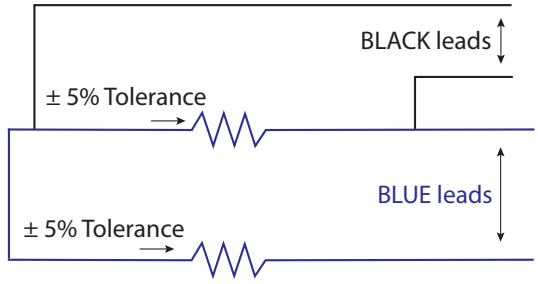
Magnetic Contacts with Built-In E.O.L Resistors and Resistor Packs

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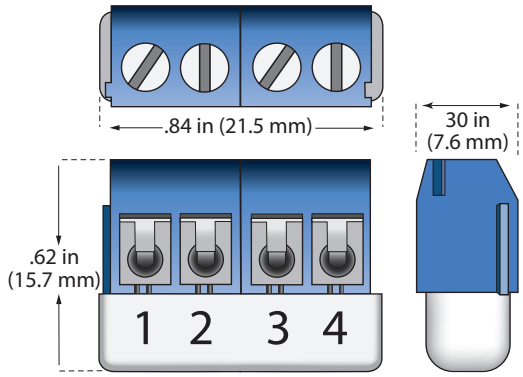
In addition to building switches with E.O.L. Resistors inside the switch case, GRI assembles just the resistors in convenient packages to help in the installation of E.O.L. loads and supervision needs. For 2 or more independent resistors in one case, call factory with specifications.

RESISTOR PACKS

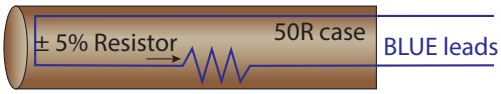
6644 *Two Resistors in 50R case. Designate your value.*



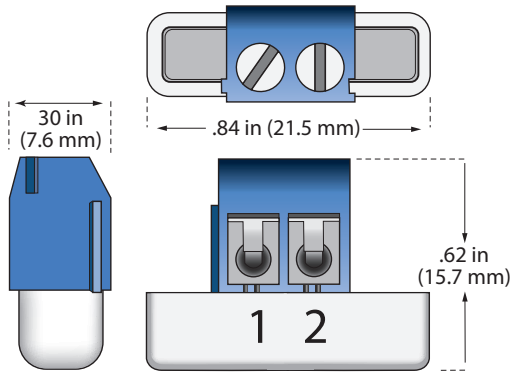
6644-T *1 and 2 Switch/Trigger 3 and 4 Panel/Device*



R1 *One Resistor in a 50R case. Designate your value.*



R1-T *Single E.O.L. Resistor with screw terminal. Specify value.*



STANDARD SERIES PARALLEL RESISTOR PACKS

Part Number	Switch or Trigger	Control Panel on Terminal	*Resistor Reading ± 5%*	
			Switch Open	Switch Closed
6644-T	1 & 2	3 & 4	2 K	1 K
8366-T	3 & 4	1 & 2	10 K	5 K

Call GRI for a sampling of Resistor Packs and Part Numbers as well as additional values.

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GEORGE RISK INDUSTRIES, INC.

802 S. Elm Street
Kimball, Nebraska 69145-1599

Telephone (308) 235-4645
Keyboard sales fax # (308) 235-2609
Security sales fax # (308) 235-3561
Email: sales@grisk.com

WWW.GRISK.COM

Private Label Information Sheet

Contact Information

Company _____ Company Contact Name _____

Address _____ Phone _____

_____ Email _____

Switch Information

Please list the product number(s) you are requesting for private labeling (29A, 400, etc.): _____

_____

_____

Exact wording for your private label: _____

_____

Attach camera ready artwork (.pdf) of the exact layout / logo for your private label plate.

Important Notice:

Plates require at least two weeks to be engraved. Please fill out form and return as soon as possible for quickest turnaround.

For GRI use only

Date submitted: _____

Requested by: _____

Authorized by: _____

GRI

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Recessed Switches

¼" Super Miniature 50RS Series

¼" Miniature 50R/50RF Series

Rare Earth Magnet N Series

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⅜" 2020 Series

⅜" Flanged 20F/20-OF Series

⅜" Ribbed 2120 Series

⅜" One Inch Gap 5065 Series

⅜" Flat Magnet 5088 Series

½" Snap Fit Short 150RS Series

½" Snap Fit 150 Series

¾" Aluminum, Vinyl or Wood Door 120T / 4473 Series

¾" Steel Door 180 / 184 / 8080-T Series

¾" Stubby Steel Door 180RS / 8080RS-T Series

MC-25 Window Channel Magnet Series

MC-180 Steel Door Channel Magnet Series

NEW! GR1840 Steel Door Channel Magnet Series

GRI

1/4" Super Miniature Recessed Switch Set

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50RS-12 Series

UL LISTED ULC LISTED



50RS-12

- 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

Part Numbers

	Closed Loop	Open Loop	SPDT
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"	50RS-12XWG	60RS-12XWG	70RS-12XWG

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

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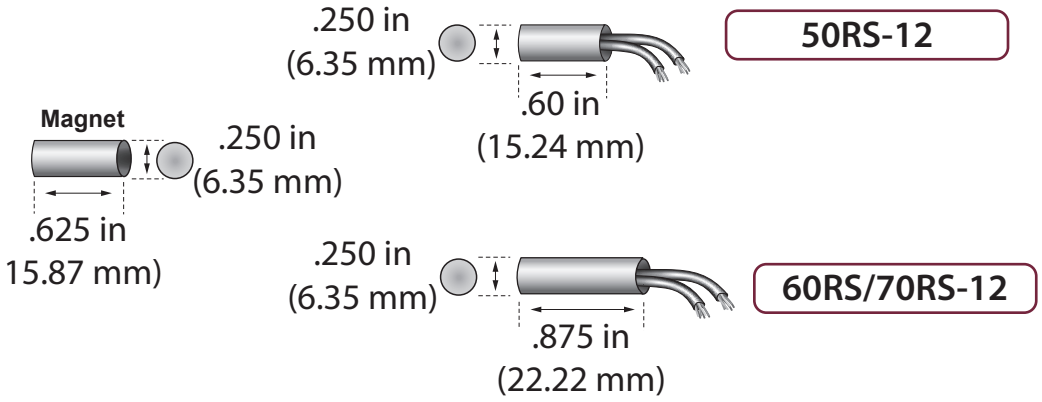
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1/4" Super Miniature Recessed Switch Set

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INSTALLATION APPLICATIONS

The GRI 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.



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
50RS-12	Closed	N/0	A	.150	10	200	.500
50RS-12WG	Closed	N/0	A	.150	10	200	.500
50RS-12XWG	Closed	N/0	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.

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1/4" Miniature Recessed Switch Set

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50R & 50RF Series

UL LISTED ULC LISTED



50R-12



50RF-12

- Ideally suited for residential & light commercial applications where aesthetics are a requirement
- Recessed Magnetic Contact
- Press to fit or Flanged styles
- Hermetically sealed
- 12" #22 AWG leads
- Longer leads, zip cord or jacketed cable upon request
- Plated contacts resist sticking or Freezing
- Built-in E.O.L. Resistors available in some models
- Supervisory Loops in some models
- Switches and Magnets available separately
- Colors: white, brown, gray
- Lifetime Warranty

Part Numbers

	Closed Loop	Open Loop	SPDT
Standard Gap 1/2"	50R-12 50RF-12	60R-12 60RF-12	70R-12 70RF-12
Wide Gap 3/4"	50R-12WG 50RF-12WG	60R-12WG 60RF-12WG	70R-12WG 70RF-12WG

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

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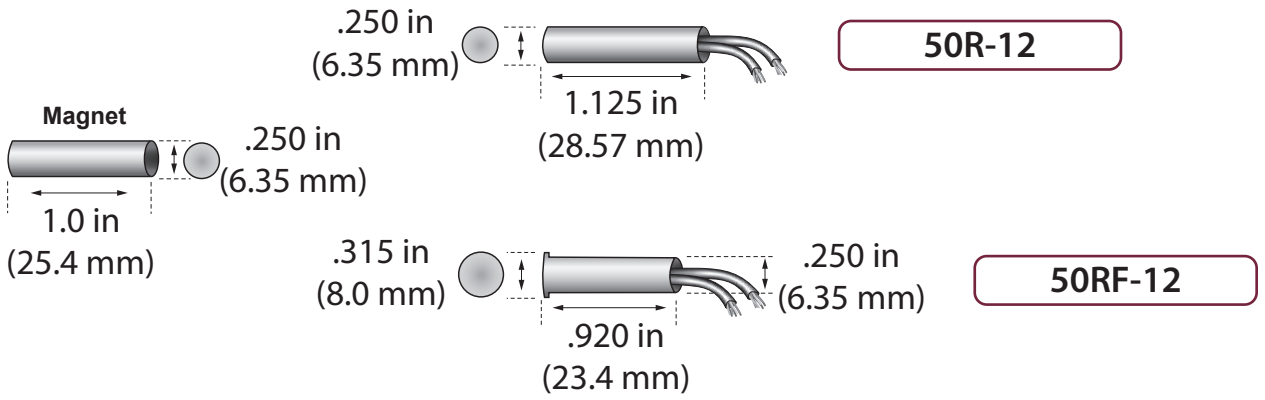
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FAX (308) 235-3561
E-MAIL: sales@grisk.com

1/4" Miniature Recessed Switch Set

WWW.GRISK.COM

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 Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
50R-12	Closed	N/0	A	.150	10	200	.500
50R-12WG	Closed	N/0	A	.150	10	200	.500
50RF-12	Closed	N/0	A	.150	10	200	.500
50RF-12WG	Closed	N/0	A	.150	10	200	.500
60R-12	Open	N/C	B	.140	5	175	.250
60R-12WG	Open	N/C	B	.140	5	175	.250
60RF-12	Open	N/C	B	.140	5	175	.250
60RF-12WG	Open	N/C	B	.140	5	175	.250
70R-12	Open/Closed	SPDT	C	.140	5	175	.250
70R-12WG	Open/Closed	SPDT	C	.140	5	175	.250
70RF-12	Open/Closed	SPDT	C	.140	5	175	.250
70RF-12WG	Open/Closed	SPDT	C	.140	5	175	.250

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

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Rare Earth Magnet N Series Switch Sets

WWW.GRISK.COM

- ♦ Rare Earth Magnets paired with GRI's press to fit contacts
- ♦ Solves problem installations
- ♦ Time saving and efficient
- ♦ 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

GRI'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 GRI's full line catalog for dimensions).

GRI'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.

GRI 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.

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

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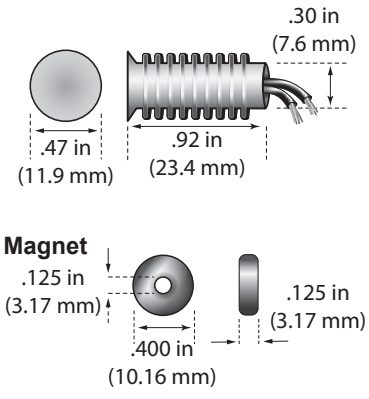
Rare Earth Magnet N Series Switch Sets

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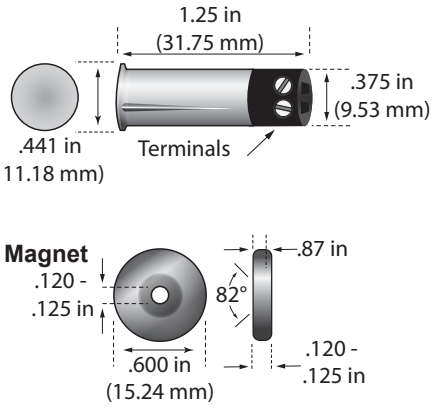
PAIR SWITCH WITH MAGNET TO GET THE FOLLOWING GAPS:							
Switch	Description	MM-25 MMR-25	MM-375	MM-10	MM-400	MM-600	MMF-875
S120T-12	3/4" Press Fit/Leads	3/8"+	1"+	Up to 1"	Up to 3/4"	1"+	3/4"+
S150-12	1/2" Press Fit/Leads	1/2"+	1 1/2"+	Up to 1"	3/4"+	1 1/2"+	1"+
S2020-12	3/8" Press Fit/Leads	Up to 1/2"	1"+	Up to 1"	1"+	1"+	1"
S2020-T	3/8" Press Fit/Terminals	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"	1"+	3/4"+	Up to 3/4"	Up to 1"	3/4"
S20RS-T	3/8" Short Press Fit/Terminals	3/8"+	1"+	3/4"+	Up to 3/4"	Up to 1"	3/4"
S2120-12	3/8" Ribbed Press Fit/Leads	5/8"+	1"+	Up to 1"	Up to 3/4"	1"+	3/4"+
S4473	3/4" Press Fit/Terminals	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 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 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"	1"+	3/4"+	Up to 1/2"	Up to 1 1/4"	3/4"
S5065	3/8" Press Fit/Leads	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.

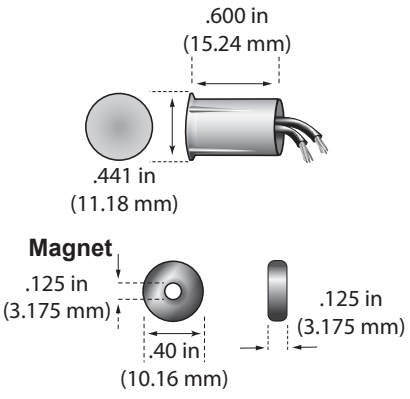
N2120-12



N2020-TWG



N20RS-12



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

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3/8" Miniature Recessed Switch Set

WWW.GRISK.COM

20RS-12 & 20RS-T Series

UL LISTED ULC LISTED

- 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"



20RS-T
.930"



30RS-12
& 40RS-12
.780

	Part Numbers		
	Closed Loop	Open Loop	SPDT
Standard Gap 1/2"+	20RS-12 20RS-T	30RS-12	40RS-12
Extra Wide Gap 1"+	20RS-12 XWG 20RS-TXWG	30RS-12XWG	40RS-12XWG

INSTALLATION APPLICATIONS

The GRI 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.

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

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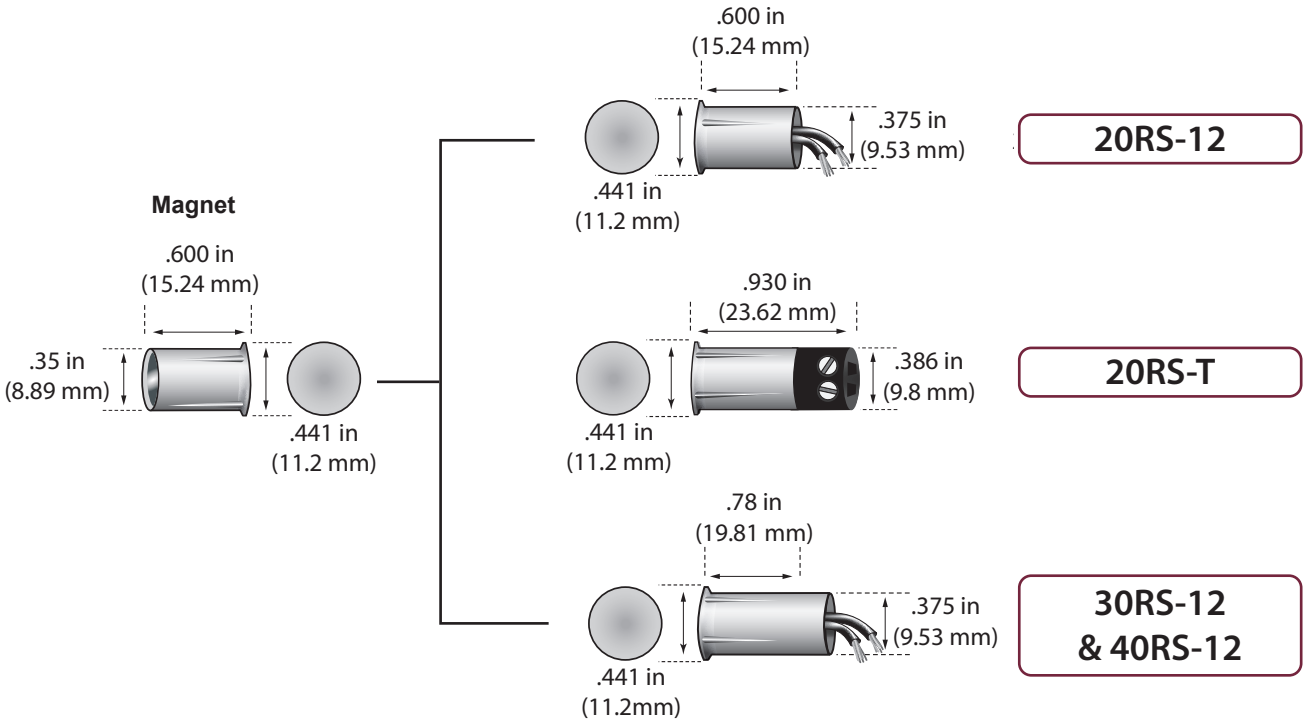
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3/8" Miniature Recessed Switch Set

WWW.GRISK.COM



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
20RS-12	Closed	N/0	A	.150	10	200	.500
20RS-12XWG	Closed	N/0	A	.150	10	200	.500
20RS-T	Closed	N/0	A	.150	10	200	.500
20RS-TXWG	Closed	N/0	A	.150	10	200	.500
30RS-12	Open	N/C	B	.140	5	175	.250
30RS-12XWG	Open	N/C	B	.140	5	175	.250
40RS-12	Open/Closed	SPDT	C	.140	5	175	.250
40RS-12XWG	Open/Closed	SPDT	C	.140	5	175	.250

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

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3/8" Recessed Switch Set

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2020-12 / 2020-T Series

UL LISTED ULC LISTED



- Recessed magnetic contact
- Press to fit
- 12" #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



Part Numbers

	Closed Loop	Open Loop	SPDT	DPDT
Standard Gap 1/2"+	2020-12 } CE 2020-T	3030-12 3030-T	4040-12	4545-12
Wide Gap 1"+	2020-12WG 2020-TWG	3030-12WG 3030-TWG	4040-12WG	4545-12WG
Extra Wide Gap 1 1/2"+	2020-12XWG 2020-TXWG	3030-12XWG 3030-TXWG	4040-12XWG	

INSTALLATION APPLICATIONS

GRI'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, GRI's PA-75 adapter should be used with a wide gap switch.

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

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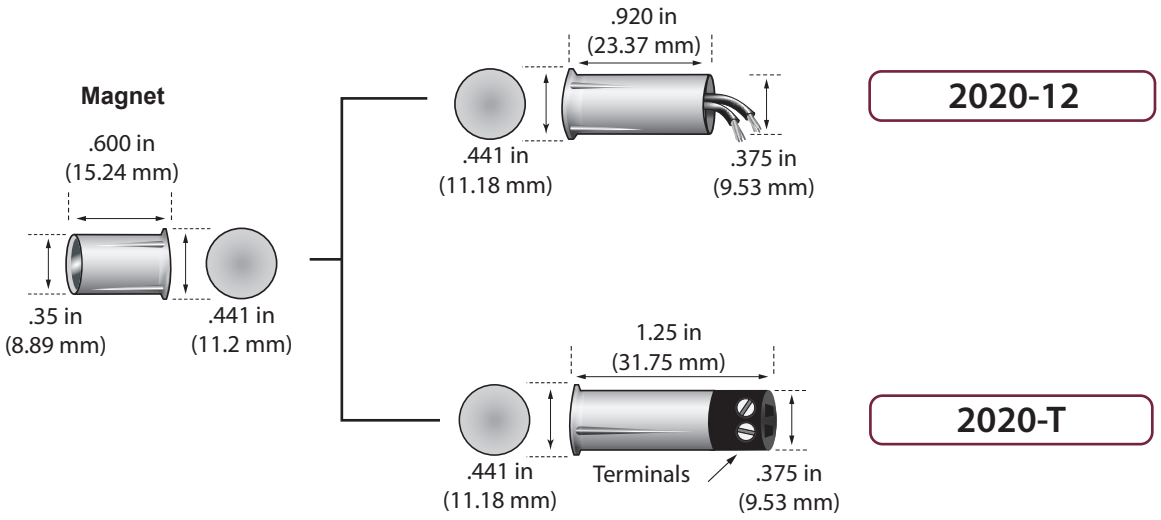
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3/8" Recessed Switch Set

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GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
2020-12	Closed	N/0	A	.150	10	200	.500
2020-12WG	Closed	N/0	A	.150	10	200	.400
2020-12XWG	Closed	N/0	A	.150	10	200	.400
2020-T	Closed	N/0	A	.150	10	160	.400
2020-TWG	Closed	N/0	A	.150	10	160	.400
2020-TXWG	Closed	N/0	A	.150	10	160	.400
3030-12	Open	N/C	B	.140	5	175	.250
3030-12WG	Open	N/C	B	.140	5	175	.250
3030-12XWG	Open	N/C	B	.140	5	175	.250
3030-T	Open	N/C	B	.140	5	175	.250
3030-TWG	Open	N/C	B	.140	5	175	.250
3030-TXWG	Open	N/C	B	.140	5	175	.250
4040-12	Open/Closed	SPDT	C	.140	5	175	.250
4040-12WG	Open/Closed	SPDT	C	.140	5	175	.250
4040-12XWG	Open/Closed	SPDT	C	.140	5	175	.250
4545-12		DPDT	Cx2	.140	5	175	.250
4545-12WG		DPDT	Cx2	.140	5	175	.250

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

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3/8" Flanged Recessed Switch Set

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20F / 20 OF Series

UL LISTED ULC LISTED

- Recessed magnetic contact
- Round or Oval screw down flange
- 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, black
- Lifetime Warranty



20F-12



20OF-12

	Part Numbers			
	Closed Loop	Open Loop	SPDT	DPDT
Standard Gap 1/2"+	20F-12 20 OF-12	30F-12 30 OF-12	40F-12 40 OF-12	45F-12 45 OF-12
Wide Gap 1"+	20F-12WG 20 OF-12WG	30F-12WG 30 OF-12WG	40F-12WG 40 OF-12WG	45F-12WG 45 OF-12WG
Extra Wide Gap 1 1/2"+	20F-12XWG 20 OF-12XWG	30F-12XWG 30 OF-12XWG	40F-12XWG 40 OF-12XWG	45F-12XWG 45 OF-12XWG

INSTALLATION APPLICATIONS

The 20F and 20 OF series are flush mount designs 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 a ½" and 1 ½" gap. Mounting hardware is provided.

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

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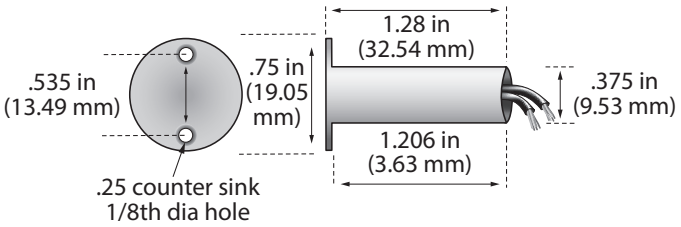
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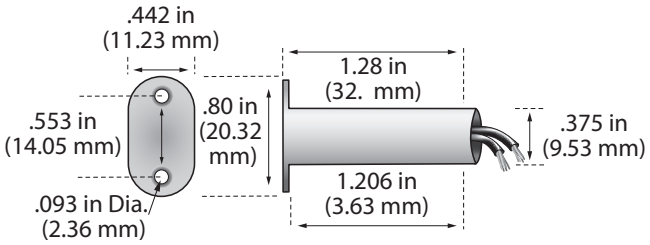
3/8” Flanged Recessed Switch Set

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20F-12



20 OF-12



Magnets
match switch in size and shape

GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
20F-12	Closed	N/0	A	.150	10	200	.500
20F-12WG	Closed	N/0	A	.150	10	200	.500
20F-12XWG	Closed	N/0	A	.150	10	200	.500
20 OF-12	Closed	N/0	A	.150	10	200	.500
20 OF-12WG	Closed	N/0	A	.150	10	200	.500
20 OF-12XWG	Closed	N/0	A	.150	10	200	.500
30F-12	Open	N/C	B	.140	5	175	.250
30F-12WG	Open	N/C	B	.140	5	175	.250
30F-12XWG	Open	N/C	B	.140	5	175	.250
30 OF-12	Open	N/C	B	.140	5	175	.250
30 OF-12WG	Open	N/C	B	.140	5	175	.250
30 OF-12XWG	Open	N/C	B	.140	5	175	.250
40F-12	Open/Closed	SPDT	C	.140	5	175	.250
40F-12WG	Open/Closed	SPDT	C	.140	5	175	.250
40F-12XWG	Open/Closed	SPDT	C	.140	5	175	.250
40 OF-12	Open/Closed	SPDT	C	.140	5	175	.250
40 OF-12WG	Open/Closed	SPDT	C	.140	5	175	.250
40 OF-12XWG	Open/Closed	SPDT	C	.140	5	175	.250
45F-12	Open/Closed	DPDT	Cx2	.140	5	175	.250
45F-12WG	Open/Closed	DPDT	Cx2	.140	5	175	.250
45F-12XWG	Open/Closed	DPDT	Cx2	.140	5	175	.250
45 OF-12	Open/Closed	DPDT	Cx2	.140	5	175	.250
45 OF-12WG	Open/Closed	DPDT	Cx2	.140	5	175	.250
45 OF-12XWG	Open/Closed	DPDT	Cx2	.140	5	175	.250

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

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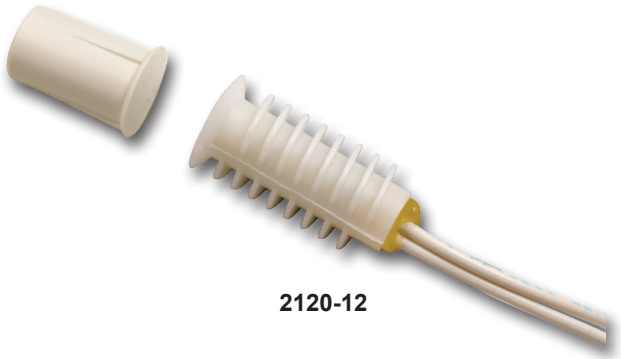
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3/8" Ribbed Recessed Switch Set

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2120-12 Series



2120-12

- ♦ Recessed magnetic contact
- ♦ Ribbed design allows secure fit
- ♦ Protects reed from swelling wood and header shift
- ♦ Cover over-drilled holes
- ♦ Self-centering
- ♦ Solves angled wire path problems
- ♦ 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 available upon request
- ♦ Switches and Magnets available separately
- ♦ Colors: white and brown
- ♦ Lifetime Warranty

Part Numbers

	Closed Loop	Open Loop	SPDT
Standard Gap 1/2"+	2120-12	2130-12	2140-12
Wide Gap 3/4"+	2120-12WG	2130-12WG	2140-12WG

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

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3/8" Ribbed Recessed Switch Set

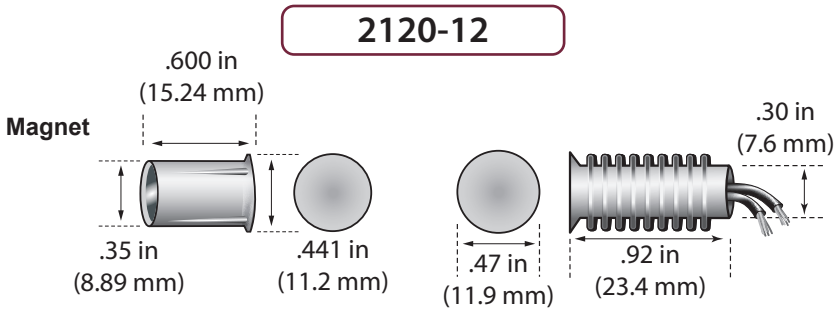
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INSTALLATION APPLICATIONS

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 mountain 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 mis-drilled hole.

Picked especially for the 2120 Ribbed Switches, a new material with enhanced memory properties allow the ribbed "O rings" to flex enough to fit an undersized hole but sill maintain a firm holding force in an oversized hole. This mix of features yields an additional bonus in that it proves a high degree of protection from crushing, such as that encountered when wood swells or headers shift.

Finally, for installations utilizing and angled wire path away from the hole drilled for the switch barrel, the 2120 merely need 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.



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
2120-12	Closed	N/0	A	.150	10	200	.500
2120-12WG	Closed	N/0	A	.150	10	200	.400
2130-12	Open	N/C	B	.140	5	175	.250
2130-12WG	Open	N/C	B	.140	5	175	.250
2140-12	Open/Closed	SPDT	C	.140	5	175	.250
2120-12WG	Open/Closed	SPDT	C	.140	5	175	.250

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

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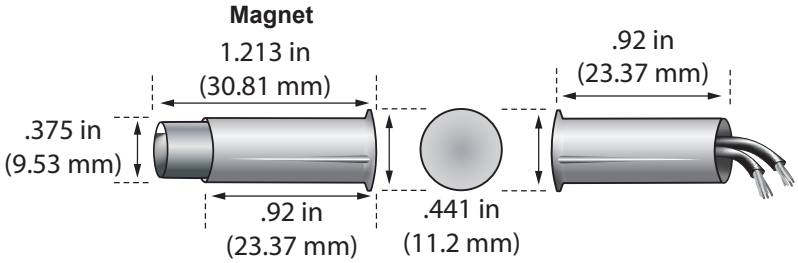
3/8" One Inch Gap Recessed Switch Set

WWW.GRISK.COM

5065 / 5066 Series

- One inch PLUS standard gap
- 3/8" diameter press fit
- Standard 12" leads #22 AWG
- Available in white as part #5065
- Available in brown as part #5066







GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Gap	Reed Form	Max. Initial Contact Resistance (Ω)	Maximum Contact Rating (W)	Maximum Switching Voltage (VDC)	Maximum Switching Current (A)
5065	Closed	N/0	1"+	A	.150	10	200	.500
5066	Closed	N/0	1"+	A	.150	10	200	.500

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

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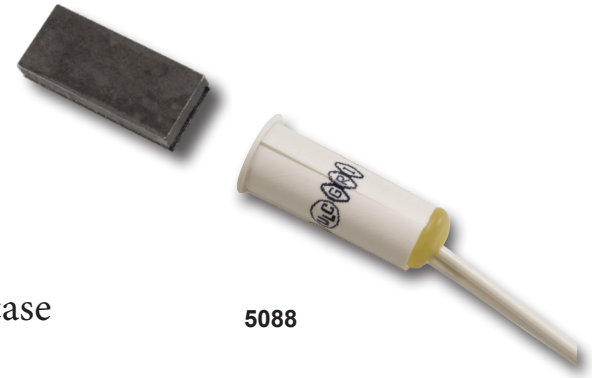
GRI

3/8” Flat Magnet Recessed Switch Set

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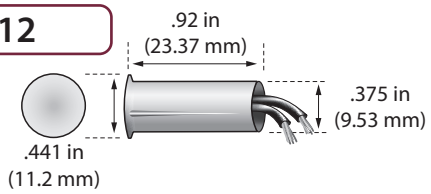
5088 / 5088RS Series

- Solves problem installs on aluminum and vinyl windows
- 3/8" diameter press fit
- 1/8" x 3/8" x 7/8" flat magnet
- Standard 12” leads #22 AWG
- Available in white, brown or gray
- Also available with GRI’s “stubby” 3/8”x 5/8” case

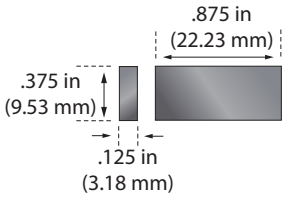


5088

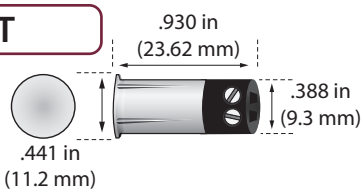
5088-12

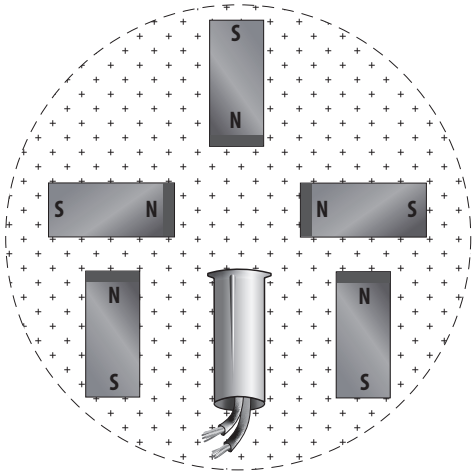


MAGNET
MF-875



5088-T





GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Gap	Reed Form	Max. Initial Contact Resistance (Ω)	Maximum Contact Rating (W)	Maximum Switching Voltage (VDC)	Maximum Switching Current (A)
5088	Closed	N/0	1/2″+	A	.150	10	200	.500
5088WG	Closed	N/0	1″+	A	.150	10	200	.500
5088-T	Closed	N/0	1/2″+	A	.150	10	200	.500
5088-TWG	Closed	N/0	1″+	A	.150	10	200	.500
5088RS	Closed	N/0	1/4″+	A	.150	10	200	.500
5088RS-WG	Closed	N/0	1/2″+	A	.150	10	200	.500
5088RS-T	Closed	N/0	1/4″+	A	.150	10	200	.500
5088RS-TWG	Closed	N/0	1/2″+	A	.150	10	200	.500

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

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GRI

1/2” Snap Fit Short Recessed Switch Set

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150RS Series

- Designed for hollow core doors and windows
- Hole size allows for extra wire, etc.
- 1/2"+ Standard gap
- Hermetically sealed
- Installs firmly in wood, vinyl and aluminum
- Recessed magnetic contact
- Press or snap to fit
- 12” #22AWG leads or screw terminals
- Longer leads, zip cord or jacketed cable upon request
- 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 and brown
- Lifetime Warranty



150RS-12



150RS-T

Part Numbers

	Closed Loop
Standard Gap 1/2”	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

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

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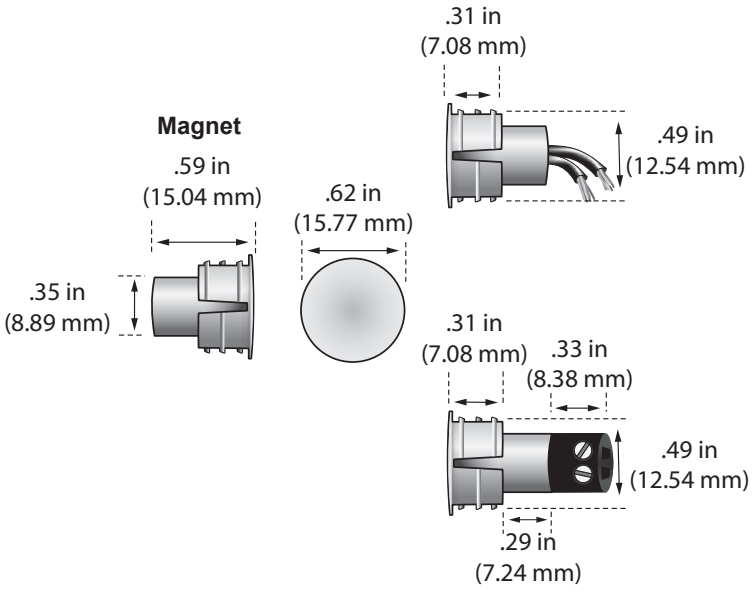
1/2" Snap Fit Short Recessed Switch Set

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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 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 GRI 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 GRI magnets to help resolve difficult installation applications, including our MF-875.

Patent Pending.



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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.

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1/2" Snap Fit Recessed Switch Set

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150 Series

- Designed for hollow core doors and 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 to fit
- 12" #22AWG leads or screw terminals
- Hermetically sealed
- Longer leads, zip cord or jacketed cable upon request
- 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 and brown
- Lifetime Warranty



150-12



150-T

Part Numbers

	Closed Loop	Open Loop	SPDT	DPDT
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	

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

The 150-12 is paired with a matching 1/2" magnet case to offer the installer a 1" gap. The 150 switch can also be paired with any of the wide selection of GRI magnets (including our MF-875) to help resolve difficult installation applications. Patent Pending.

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

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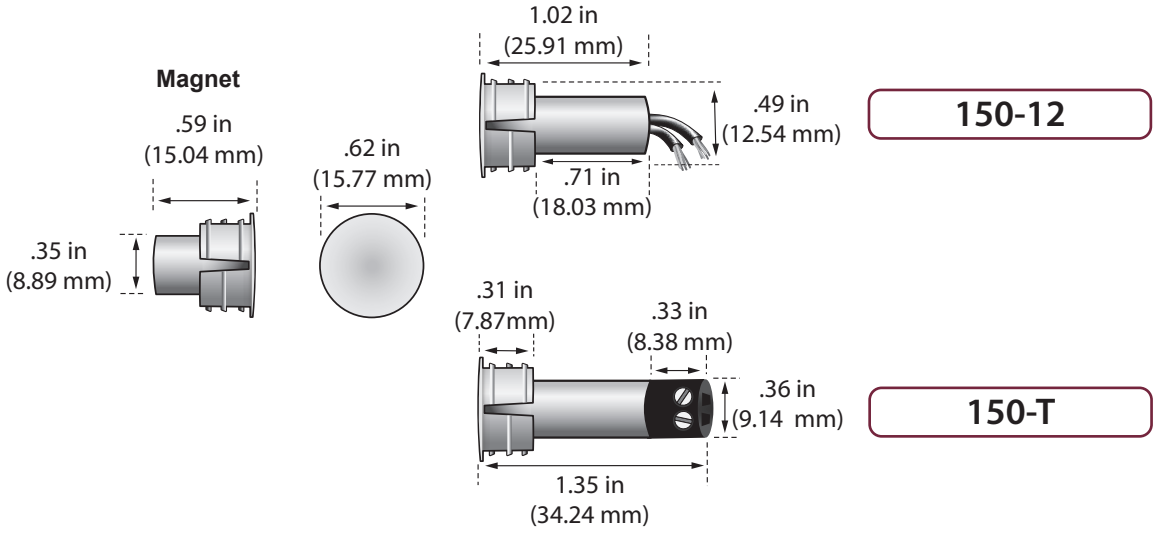
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1/2" Snap Fit Recessed Switch Set

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Part Number	Loop Type	Electrical Configuration	Reed Form	Maximum Initial Contact Resistance (Ω)	Maximum Contact Rating (W)	Maximum Switching Voltage (VDC)	Maximum Switching Current (A)
150-12	Closed	N/0	A	.150	10	200	.500
150-T	Closed	N/0	A	.150	10	200	.500
150-12WG	Closed	N/0	A	.150	10	200	.400
150-TWG	Closed	N/0	A	.150	10	200	.400
150MF-12	Closed	N/0	A	.150	10	200	.500
150MF-12WG	Closed	N/0	A	.150	10	200	.400
160-12	Open	N/C	B	.140	5	175	.250
160-12WG	Open	N/C	B	.140	5	175	.250
160MF-12	Open	N/C	B	.140	5	175	.250
160MF-12WG	Open	N/C	B	.140	5	175	.250
170-12	Open/Closed	SPDT	C	.140	5	175	.250
170-12WG	Open/Closed	SPDT	C	.140	5	175	.250
170MF-12	Open/Closed	SPDT	C	.140	5	175	.250
170MF-12WG	Open/Closed	SPDT	C	.140	5	175	.250
175-12	Open/Closed	DPDT	Cx2	.140	5	175	.250

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

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3/4" Recessed Wood, Aluminum, Vinyl Switch Set

WWW.GRISK.COM

120T-12 / 4473 Series

UL LISTED ULC LISTED

- 3/4" switch and 3/8" magnet for wooden, vinyl or aluminum doors and windows
- Stubby version also available
- Recessed magnetic contact
- Press to fit
- 12" #22AWG leads or screw terminals
- Longer leads, zip cord or jacketed cable upon request
- 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 and black
- Hermetically sealed
- Lifetime Warranty



120T-12



120RST-12



4473



4473RS

Part Numbers

	Closed Loop	Open Loop	SPDT
Standard Gap 1/2"	120T-12 120RST-12 4473 4473RS	130T-12	140T-12
Wide Gap up to 3/4"+	120T-12WG	130T-12WG	140T-12WG
Extra Wide Gap 1 1/2"	120T-12XWG	130T-12-XWG	140T-12XWG

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

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KIMBALL, NE 69145

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3/4" Recessed Wood, Aluminum, Vinyl Switch Set

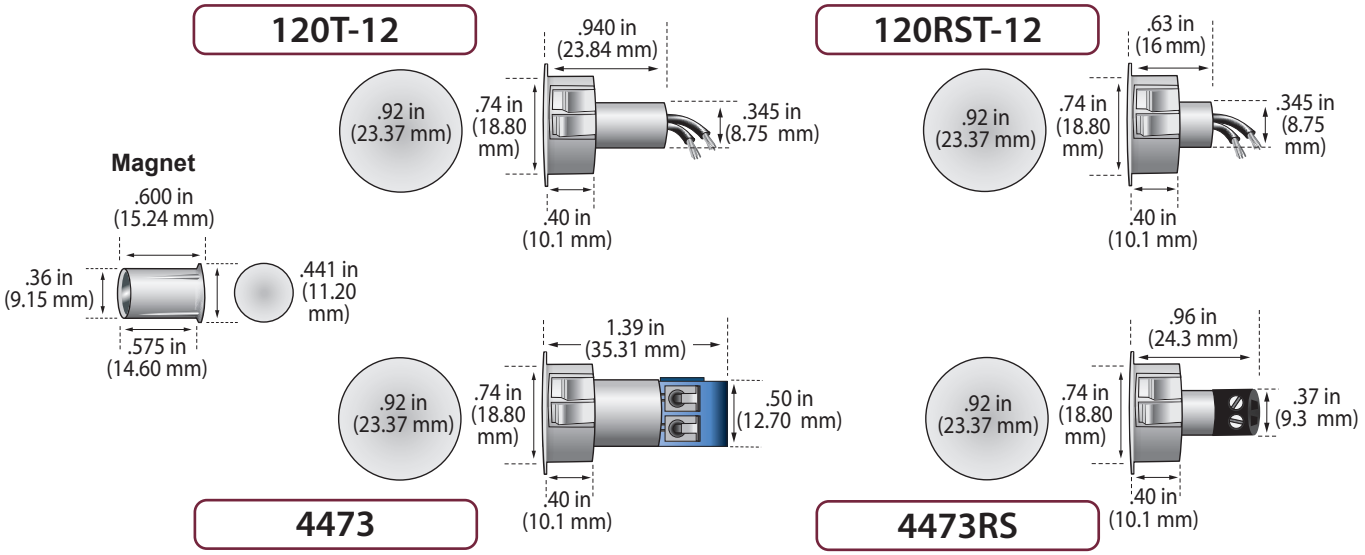
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INSTALLATION APPLICATIONS

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 extra wire and connections are 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" magnet to avoid the need to center a larger hold 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 wood or aluminum frames.



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Maximum Initial Contact Resistance (Ω)	Maximum Contact Rating (W)	Maximum Switching Voltage (VDC)	Maximum Switching Current (A)
120T-12	Closed	N/0	A	.150	10	200	.500
120RST-12	Closed	N/0	A	.150	10	200	.500
120T-12WG	Closed	N/0	A	.150	10	200	.400
120T-12XWG	Closed	N/0	A	.150	10	200	.400
4473	Closed	N/0	A	.150	10	200	.500
4473RS	Closed	N/0	A	.150	10	200	.500
130T-12	Open	N/C	B	.140	5	175	.250
130T-12WG	Open	N/C	B	.140	5	175	.250
130T-12XWG	Open	N/C	B	.140	5	175	.250
140T-12	Open/Closed	SPDT	C	.140	5	175	.250
140T-12WG	Open/Closed	SPDT	C	.140	5	175	.250
140T-12XWG	Open/Closed	SPDT	C	.140	5	175	.250

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

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3/4" & 1" Steel Door Recessed Switch Set

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180 / 184 / 8080-T Series

UL LISTED ULC LISTED

- 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
- Classified UL Listed 10C Indicates U.L. 10C Fire Rated



180-12



184-12 CE



8484-T


8080-T

Part Numbers

		Closed Loop	Open Loop	SPDT	DPDT
Standard Gap up to 1/2" on steel*	3/4" Dia.	180-12 } Classified UL Listed 10C	185-12	190-12	195-12
	1" Dia.	CE {184-12 } Classified UL Listed 10C	189-12	194-12	CE {199-12
	3/4" Dia	8080-T	8585-T		
	1" Dia.	8484-T	8989-T		
Wide Gap 3/4"+ on steel*	3/4" Dia.	180-12WG } Classified UL Listed 10C	185-12WG	190-12WG	195-12WG
	1" Dia.	184-12WG } Classified UL Listed 10C	189-12WG	194-12WG	199-12WG
	3/4" Dia	8080-TWG	8585-TWG		
	1" Dia.	8484-TWG	8989-TWG		

7/8" Diameter also available. P/N 81-12 & 81-12WG, white or black only. Call the factory for more information.

INSTALLATION APPLICATIONS

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

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

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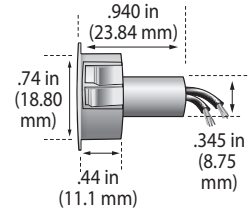
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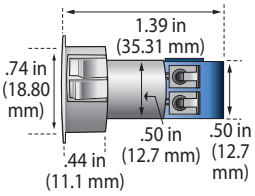
3/4" & 1" Steel Door Recessed Switch Set

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180-12

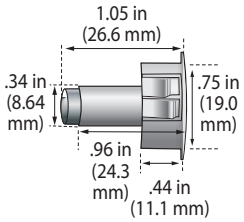


8080-T

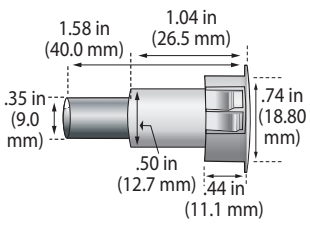


.92 in
(23.37 mm)
Diameter

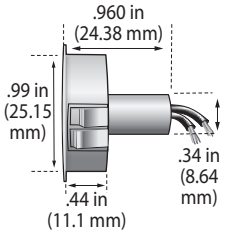
Magnet



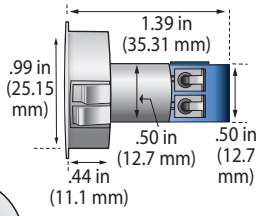
WG Magnet



184-12

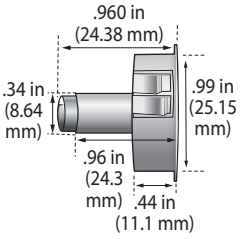


8484-T

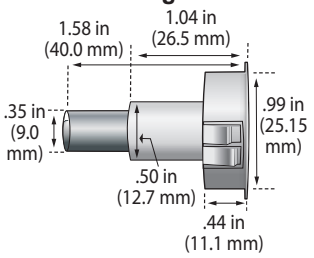


1.18 in
(30.0 mm)
Diameter

Magnet



WG Magnet



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Maximum Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
185-12WG	Open	N/C	B	.140	5	175	.250
189-12	Open	N/C	B	.140	5	175	.250
189-12WG	Open	N/C	B	.140	5	175	.250
8585-T	Open	N/C	B	.140	5	175	.250
8585-TWG	Open	N/C	B	.140	5	175	.250
8989-T	Open	N/C	B	.140	5	175	.250
8989-TWG	Open	N/C	B	.140	5	175	.250
190-12	Open/Closed	SPDT	C	.140	5	175	.250
190-12WG	Open/Closed	SPDT	C	.140	5	175	.250
194-12	Open/Closed	SPDT	C	.140	5	175	.250
194-12WG	Open/Closed	SPDT	C	.140	5	175	.250
195-12		DPDT	Cx2	.140	5	175	.250
195-12WG		DPDT	Cx2	.140	5	175	.250
199-12		DPDT	Cx2	.140	5	175	.250
199-12WG		DPDT	Cx2	.140	5	175	.250

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

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3/4" & 1" Stubby Steel Door Recessed Switch Set

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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

		Closed Loop
Up to 5/8" Gap on steel*	3/4" Dia.	180RS-12
	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.

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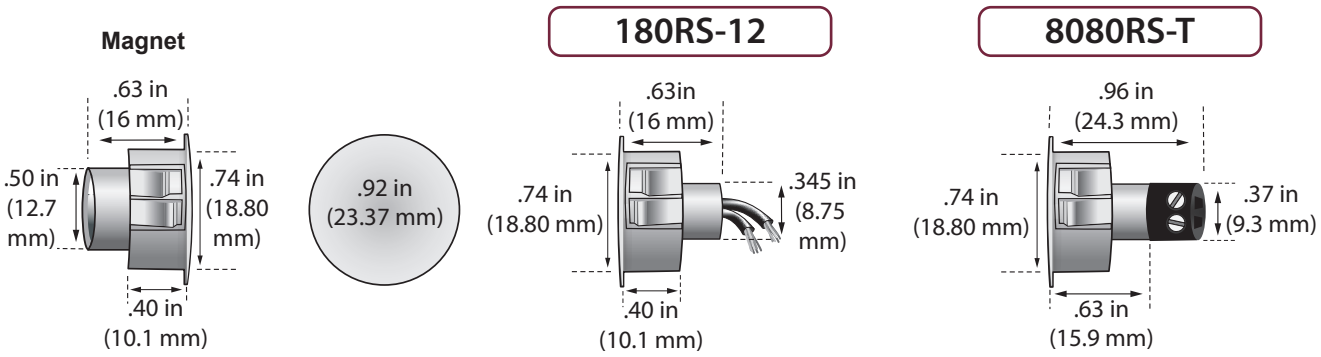
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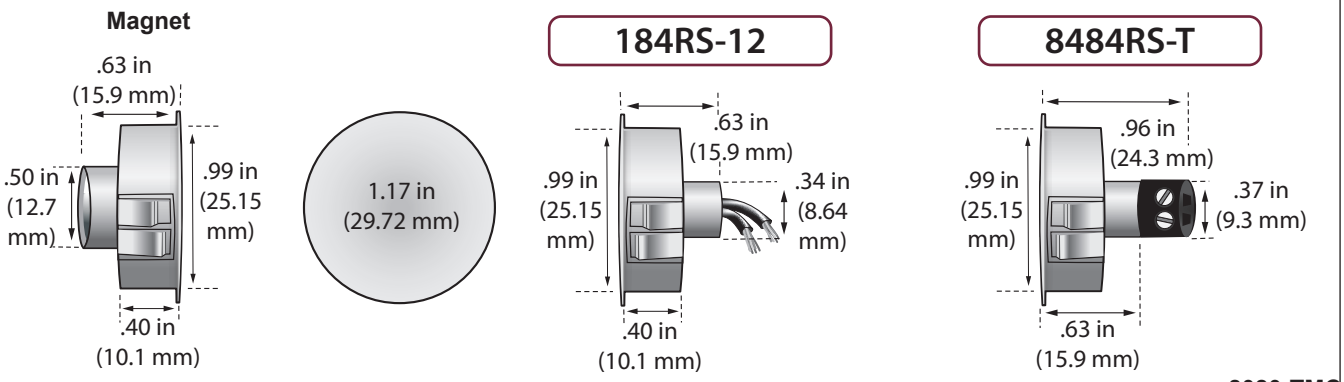
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3/4" & 1" Stubby Steel Door Recessed Switch Set

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GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	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

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

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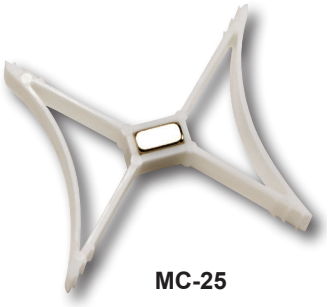
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MC-25 Window Channel Series

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- The MC-25 is designed to be mounted in the track of aluminum windows and sliders
- Rare Earth Magnet
- Fits most aluminum tracks
- Grippers hold magnet in place
- No drilling required
- Arrow marks polarity; point arrow toward switch



MC-25

Part Numbers	Gap
MC2020-12	Up to 1/2”
MC2020-T	Up to 1/2”
MC20RS-12	Up to 3/8”
MC20RS-T	Up to 3/8”
MC2120-12	Up to 1/2”
MC120T-12	1/2”+
MC150-12	1/2”+
MC150-T	Up to 1/2”
MC5065	1/2”+

Other configurations also available.
Please contact factory.



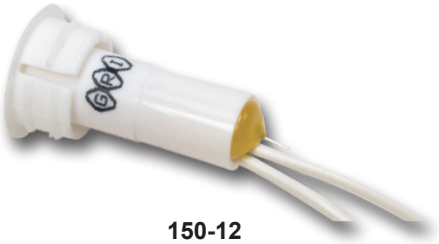
MC-25 shown with 20RS-T



2020-12



20RS-T



150-12

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

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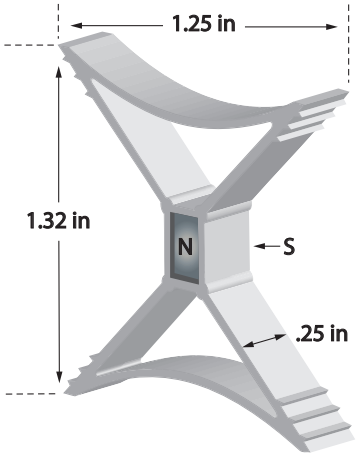
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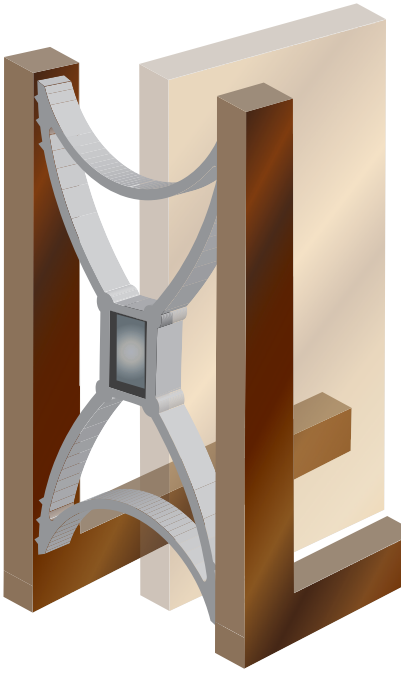
MC-25 Window Channel Series

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MC-25

The MC-25 may be compressed to fit channels from 5/16 to 1 inch.





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

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Door Channel Magnet with 3/4" & 1" Recessed Switch

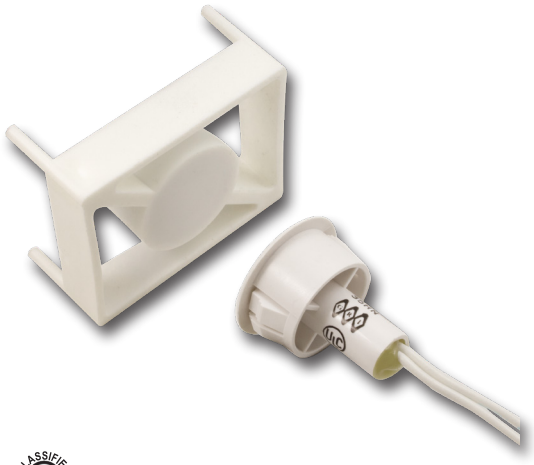
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MC-180 Series

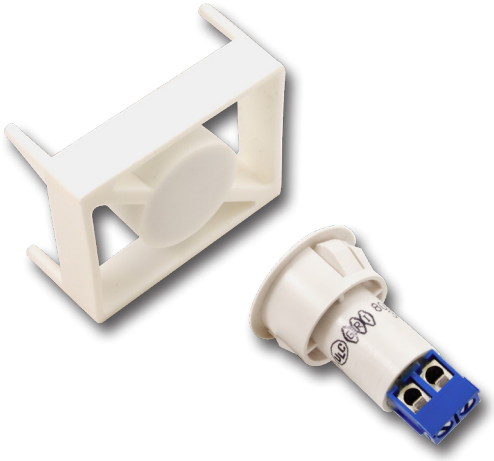
- The MC-180 is designed to be mounted in top channel of a metal door
- Legs of the magnet case can be clipped to accommodate a more shallow channel
- Indicates U.L. 10C Fire Rated



MC-180



MC-180 shown with 180MC-12



MC-180 shown with 8080-TMC

Part Numbers

		Closed Loop	Open Loop	SPDT	DPDT
Standard Gap up to 1" 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		

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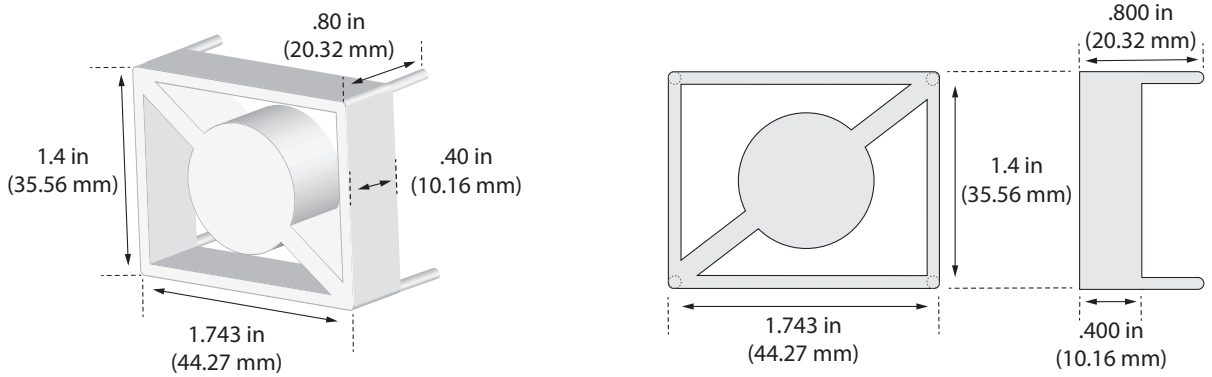
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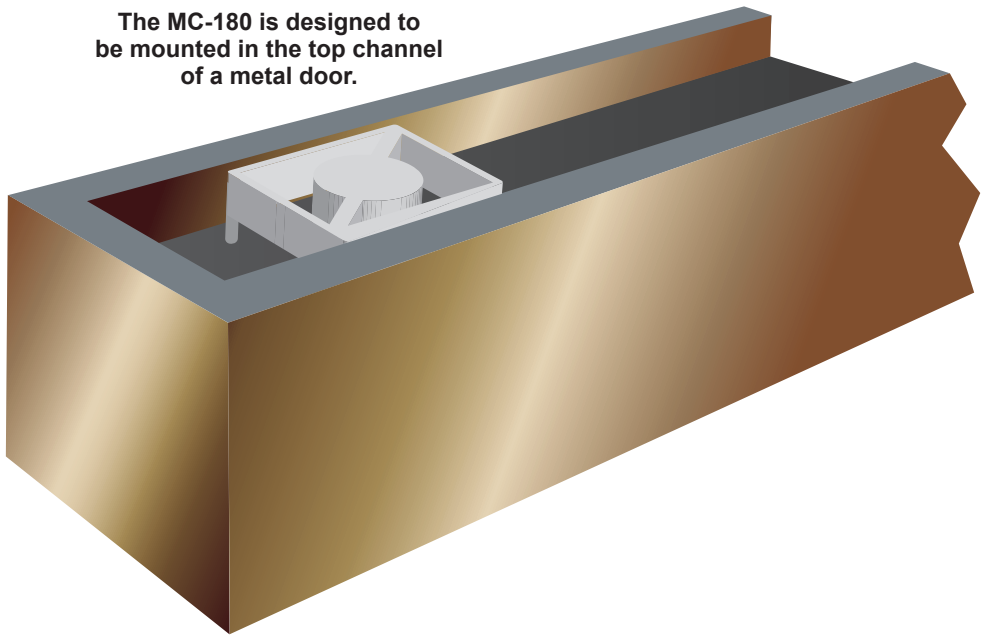
Door Channel Magnet with 3/4" & 1" Recessed Switch

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MC-180



The MC-180 is designed to be mounted in the top channel of a metal door.



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

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Oval Channel Magnet with 3/4" & 1" Recessed Switch

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NEW

GR1840

UL pending



GR1840

- The GR1840 neodymium magnet is designed to be mounted in the top channel of a metal entry and/or exit door
- The magnet can be rotated to fit either wide or narrow top channels
- Switch colors: white, brown and gray
- Magnets available separately. Part No. GR1840



GR1840
shown with 180OC-12



GR1840
shown with 8080-TOC

Part Numbers

Standard Gap		Closed Loop
5/8" + on steel	3/4" Dia.	180OC-12
		8080-TOC
	1" Dia.	184OC-12
		8484-TOC

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

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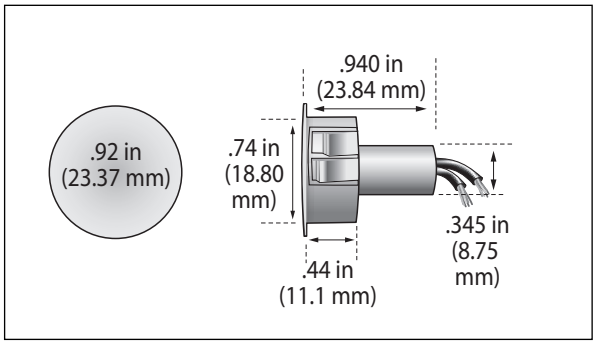
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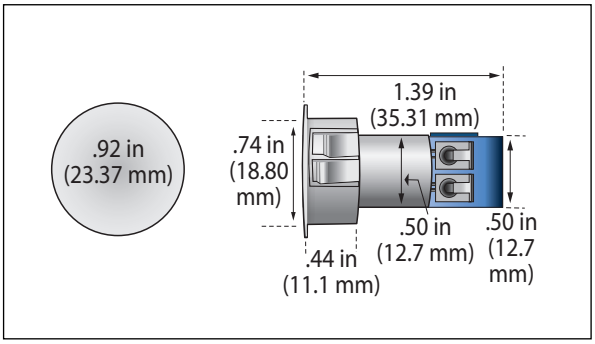
Oval Channel Magnet with 3/4" & 1" Recessed Switch

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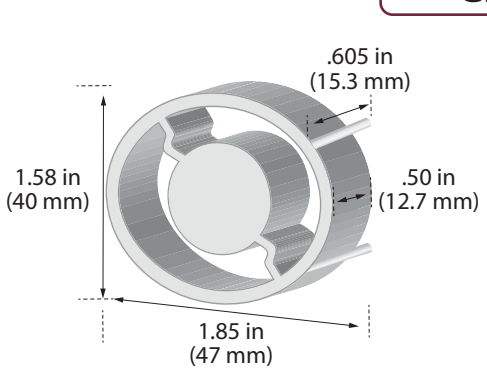
180OC-12

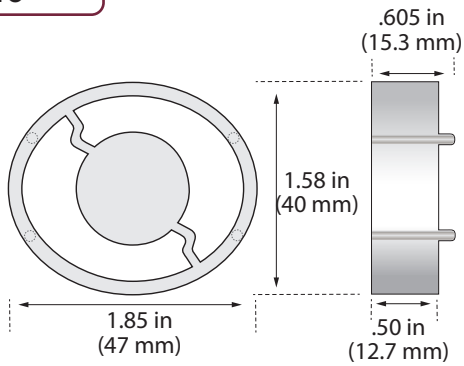


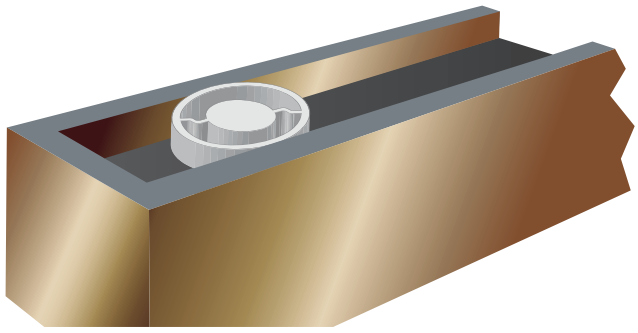
8080-TOC



GR1840







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

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GRI

3/8" Diameter Plunger Switch

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PB / PBF-2020 Series

UL LISTED

- Adjustable screw plunger, travel distance total .250, pre-travel is .110 ± 0.40
- 3/8" diameter
- Single drill hole
- Press fit or flange
- 12" #22AWG leads or screw terminals
- Colors: white, brown and gray
- Lifetime Warranty



PB-2020-T



PBF-2020

The 3/8" PB-2020 and PBF-2020 switch series is a unique switch package. Designed to incorporated 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.

Part Numbers

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

GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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

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

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3/8" Diameter Plunger Switch

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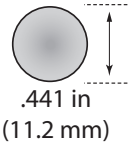
INSTALLATION APPLICATIONS

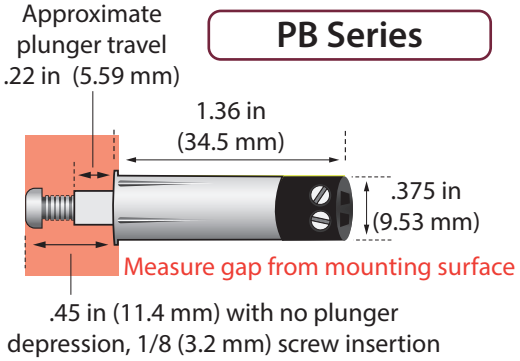
Installation requires that a single 3/8" hole be drilled, usually into the window frame, eliminating the troublesome and potentially costly hole in the window sash.

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

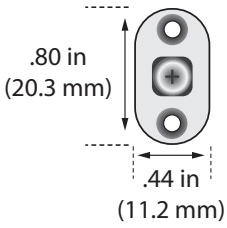
Available as a press fit or a screw mount style with an adjustable length plunger. The PB/PBF plunger series may be the most versatile reed switch to date!

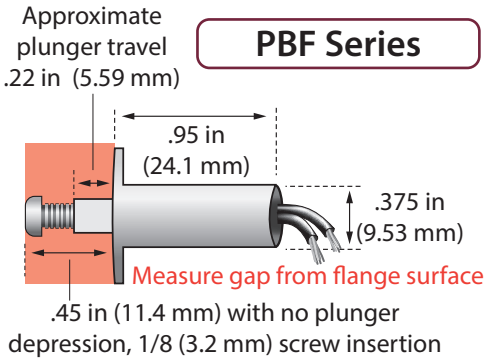
PB SERIES Measure gap from the mounting surface. Press plunger down on the switch and adjust screw so distance between top of screw and the mounting surface is 1/32" (.0312) less than gap. If gap is 3/16" or less, remove adjusting screw. Determine maximum plunger extension PRIOR to closing window. Improper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





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





CAUTION For best performance, slightly over drill the hole for the switch and carefully clear hole of all debris. Too snug of fit can cause interference with switch operation. Do not paint the switch. Do not apply lubricant to the switch as this could hamper or restrict performance. These switches are not recommended for bottom track of windows or sliding doors.

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

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Push Button Plunger Switch

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PB / PBF Series

UL LISTED ULC LISTED

- Recessed magnetic contact
- PB is 9/16" press fit
- PBF is 3/4" x 1 ½" with screw down flange
- Adjustable screw plunger, travel distance total .270, pre-travel is .090 ± .040
- 12" #22AWG leads or screw terminals
- Longer leads, zip cords 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 and brown
- Lifetime Warranty



PB-100



PB-100T



PBF-100



PBF-100T

Part Numbers

	Closed Loop	Open Loop	SPDT
Without Flange	PB-100 PB-100T	PB-101 PB101T	PB-102
With Flange	PBF-100 PBF-100T	PBF-101 PBF-101T	PBF-102

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-100-T.

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

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

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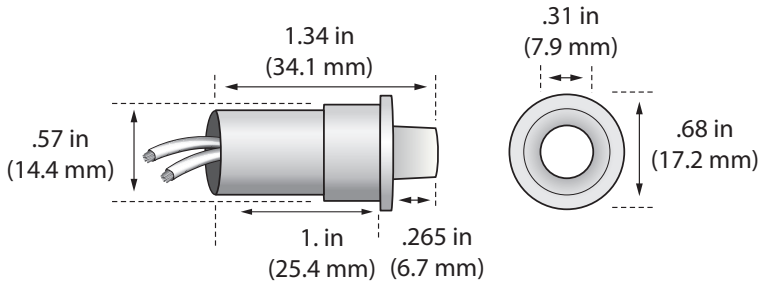
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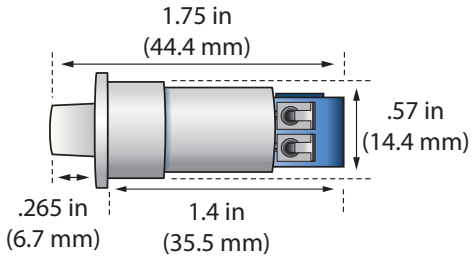
Push Button Plunger Switch

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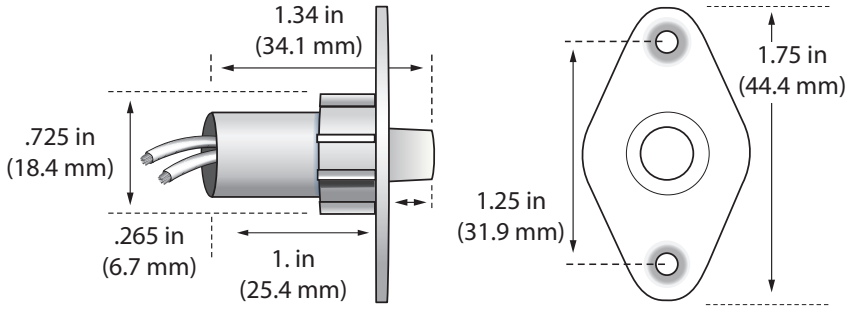
PB-100



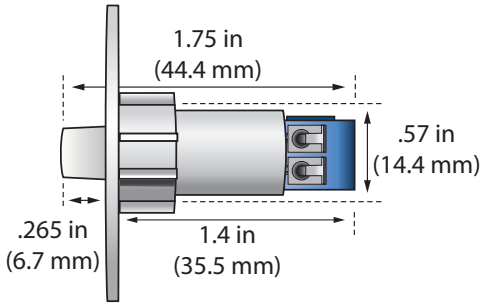
PB-100T



PBF-100



PBF-100T



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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

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

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Short Roller Ball

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DS-01 Series

LISTED LISTED

Replaces the Dome Switch

- ♦ 360° of ball access, provides smooth travel of the plunger for longer life and better reliability
- ♦ Screw down flange
- ♦ Travel distance total .200, pre-travel is .080 ± .030
- ♦ 12” #22AWG leads or screw terminals
- ♦ Longer leads, zip cords 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
- ♦ Additional spacers sold separately
- ♦ Supervisory loops upon request
- ♦ Colors: white and brown
- ♦ Lifetime Warranty



DS-01



DS-01T

Part Numbers

	Closed Loop	SPDT
12” Wire Leads	DS-01	DS-03
Terminal Block	DS-01T	

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

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Short Roller Ball

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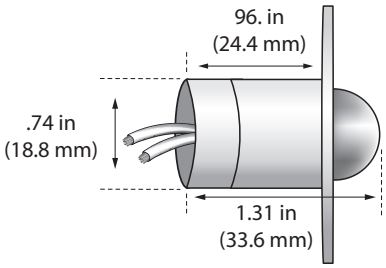
INSTALLATION APPLICATIONS

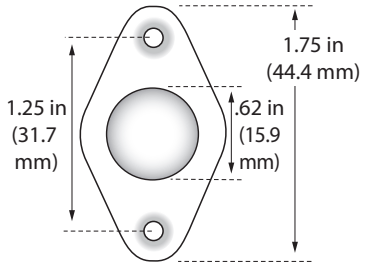
360° of ball access provides smooth travel of the ball downward resulting in longer life and better reliability. The shorter length of the body helps the installer by eliminating the need for a long, deep hole to allow for a switch housing. The collar is flanged to insure reliability with positioning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

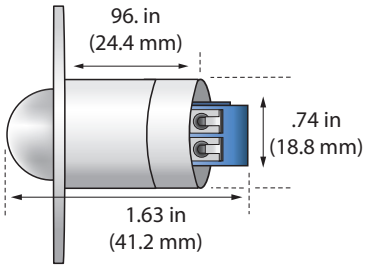
Important Note: GRI's improved DS and RB Series of products are not recommended for the bottom or side tract of windows and doors.

DS-01





DS-01T



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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.

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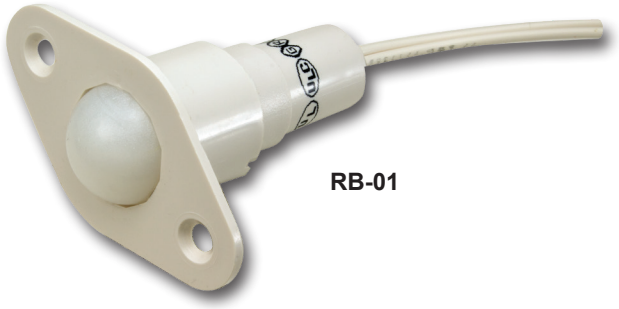
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Roller Ball Plunger Contact

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RB Series

LISTED LISTED


RB-01

- ♦ Works from all 360° of direction
- ♦ Screw down flange
- ♦ Fits in a 3/4" hole
- ♦ Travel distance total .200, pre-travel is .080 ± .030
- ♦ 12" #22AWG leads
- ♦ Refer to DS-01T for terminal version
- ♦ Longer leads, zip cords 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
- ♦ Switches and spacers available separately
- ♦ Supervisory loops upon request
- ♦ Colors: white and brown
- ♦ Lifetime Warranty

Part Numbers

Closed Loop	Open Loop	SPDT
RB-01	RB-02	RB-03

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

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Roller Ball Plunger Contact

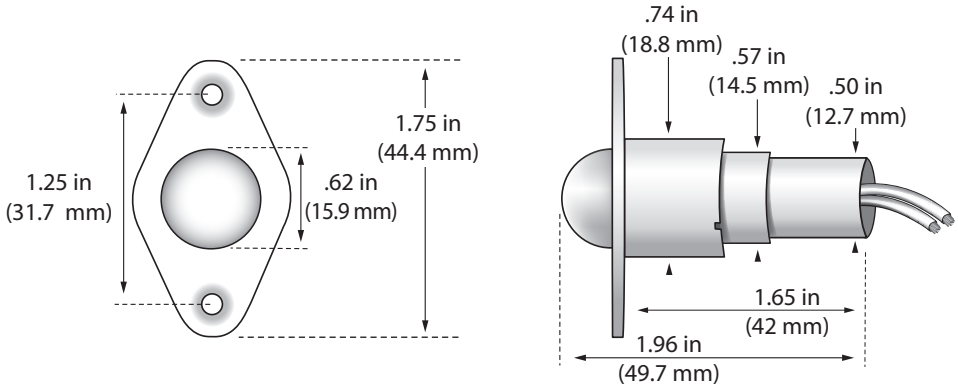
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INSTALLATION APPLICATIONS

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

The ball plunger can be activated from any 360° direction, using a sliding motion. One typical expample is that action produced by opening or closing of a door or window into its frame. The roller ball switch is also very effective used 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. GRI 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 tract of doors and windows.

RB-01



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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.

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Box Tamper Switch

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TS-01 Box Tamper Series

- Environmentally sealed contacts
- Longer service life
- Eliminates false alarms and nuisance service calls
- Magnetically actuated plunger
- No blades to corrode
- No more switch bounce
- No additional hardware or adapters needed
- Replaces older mechanical tampers
- Fits most bell, siren and control panel mounting hole patterns
- Use indoors
- Vibration free
- Install and forget
- Available in closed loop, open loop and SPDT
- 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
- Travel distance total .40; pre-travel is .175 to .240
- Colors: standard available in black, shunt available in gray



TS-01



TSW-01

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, etc., which will rearm the 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

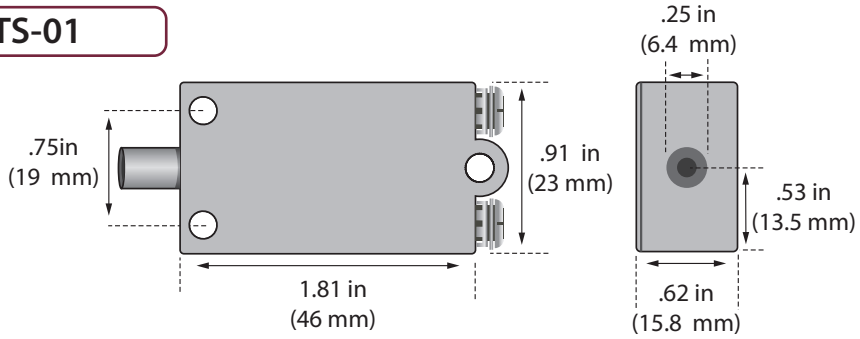
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INSTALLATION APPLICATIONS

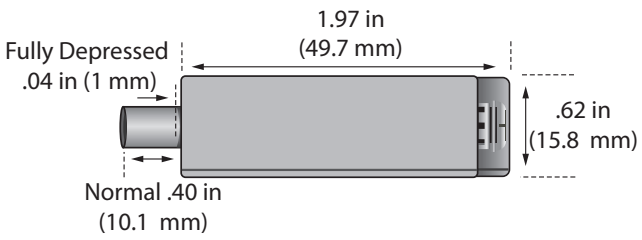
The TS-01 and TSW-01 magnetic reed, three hole box tamper switch is designed to fit almost all standard siren and panel boxes. Available with an adjustable plunger length, the TS-01 allows the installer to alarm the box to detect opening or prying to remove the box from its mounted position. Screw terminals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

Available in closed loop, open loop and SPDT. Mounting hardware included. TSW-03 is available with leads only.

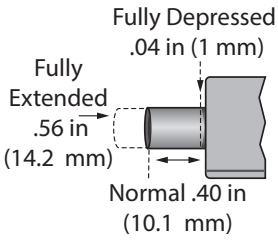
TS-01



Models without shunt



Models with shunt



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	SPDT	C	.140	5	175VDC	.250

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

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Tamper Switch

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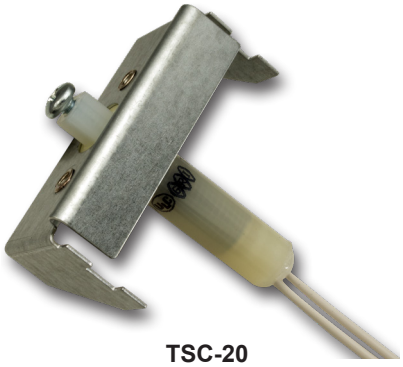
TS-20 Series

UL LISTED ULC LISTED

- Recessed adjustable plunger from ¼" to ½"
- 3/8" diameter *(Smallest in the industry!)*
- Easy to install
- Replaces old mechanical tampers
- Strong spring action
- Press to fit
- 12" #22 AWG leads
- Screw down flange on TS-20 for positive retention
- Longer leads, zip cords or jacketed cable upon request
- Hermetically sealed
- Plated contacts resist sticking or freezing
- Travel distance total .250; pre-travel is .105 ± .035
- Mounting hardware included
- Supervisory loops upon request
- Lifetime Warranty



TS-20



TSC-20

Part Numbers

	Closed Loop	Open Loop	SPDT
Screw down flange	TS-20	TS-30	TS-40
Clip mounted	TSC-20	TSC-30	TSC-40

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

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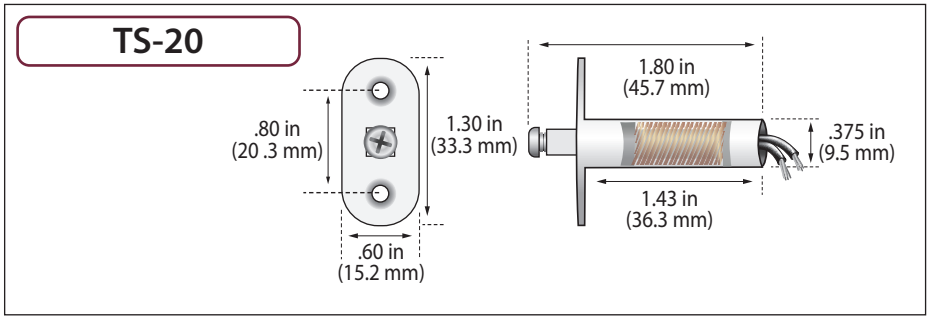
Tamper Switch

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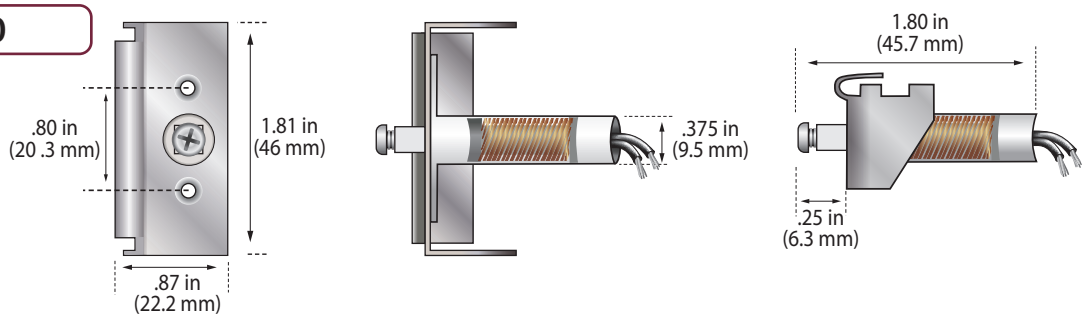
INSTALLATION APPLICATIONS

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.

TS-20



TSC-20



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
TSC-30	Open	N/C	B	.140	5	175	.250
TS-40	Open/Closed	SPDT	C	.140	5	175	.250
TSC-40	Open/Closed	SPDT	C	.140	5	175	.250

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

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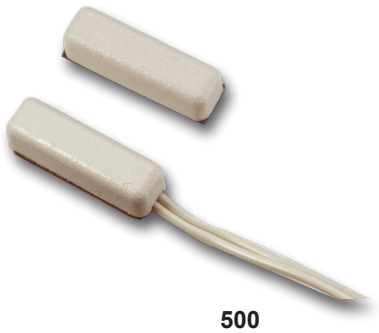
GRI

.85” Micro Surface Mount Switch Set

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500 Series

- Ideal for residential application and areas with limited space
- Surface mount magnetic contact
- Easy to install
- 12” #26 AWG leads
- Longer leads upon request
- Plated contacts resist sticking or freezing
- 3M double sided tape attached
- Switches and magnets available separately
- Colors: white and brown
- Lifetime Warranty



500



502

Part Numbers

		Closed Loop	Open Loop
Standard Gap 1/4” +	END Lead	500	501
	SIDE Lead	502	503

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

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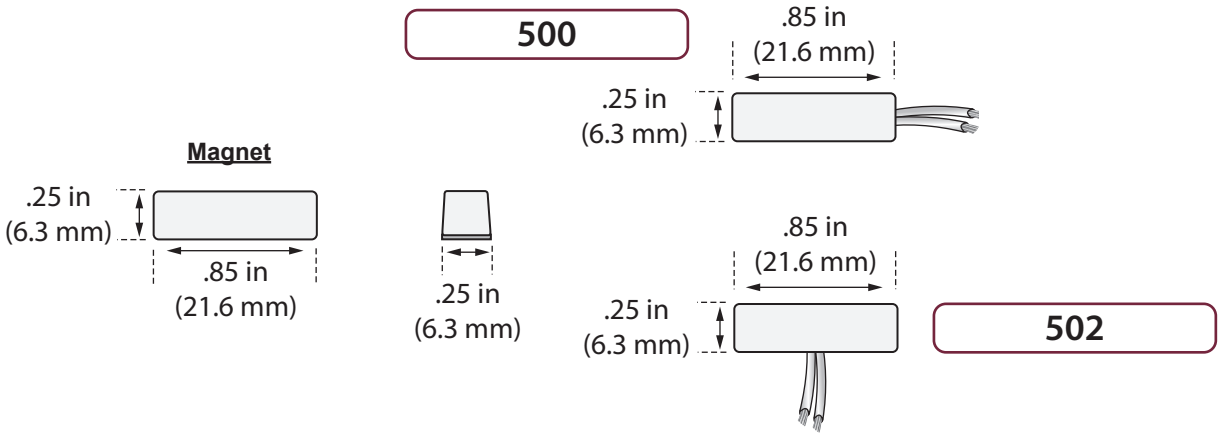
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Micro Surface Mount Switch Set

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INSTALLATION APPLICATIONS

The Micro 500 switch is aimed at residential applications where aesthetics and small size are a consideration when choosing a switch. It offers the installer alternative wire configurations as well with either end or side leads and a choice of wire length. This helps to make installations and connections quick and easy as well as saving you time and money. Available in regular gap of 1/4"+. The flexibility of its small size allows it to become part of the existing decor as it can be mounted and hidden, for example, in the tract of a sliding door or crank out window. Offered in white and brown, both switch and magnet come 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 Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
503	Open	N/C	B	.140	5	175	.250

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

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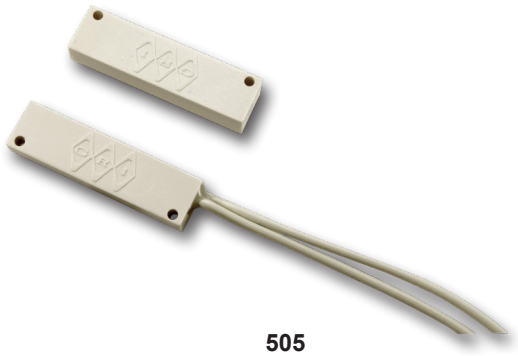
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1" Super Miniature Surface Mount Brad Switch Set

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505 Series



505

- When a surface mount is a must
  the 505 is the Answer!
- Ideal for residential application and areas with limited space
- Surface mount magnetic contact
- 12" #26 AWG leads
- Longer leads upon request
- Plated contacts resist sticking or freezing
- Mounting brads and die cut double sided tape included
- Switches and magnets available separately
- Colors: white and brown
- Lifetime Warranty

Part Numbers

	Closed Loop	Open Loop
Standard Gap 1/2" +	505	506
Wide Gap 3/4"+	505WG	506WG

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

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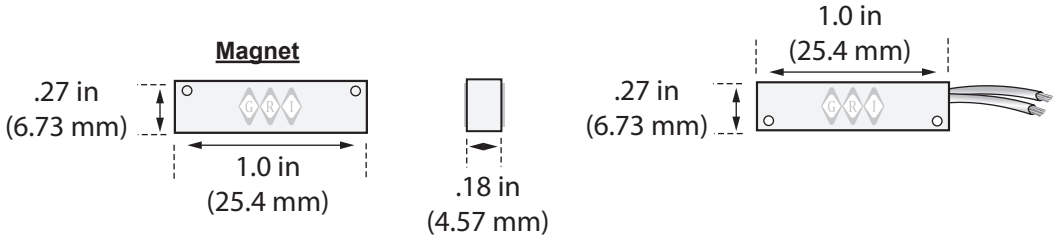
1” Super Miniature Surface Mount Brad Switch Set

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INSTALLATION APPLICATIONS

The 505 super miniature switch is aimed at residential applications where aesthetics and small size are a consideration. It offers the installer two methods of mounting, alternative cable types (flying leads or zip cord) and a choice of cable lengths. This helps to make installations and connections quick and easy as well as 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 allows it to become part of the existing decor as 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 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 Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
506WG	Open	N/C	B	.140	5	175	.250

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

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1” Capped Miniature Wide Gap Surface Mount Switch Set

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700 Series

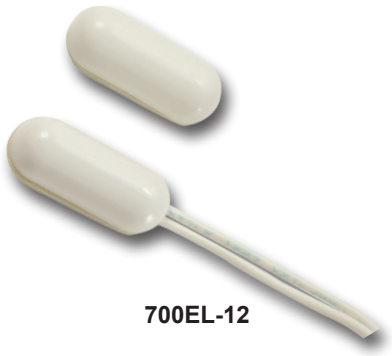
- Ideal for residential application and areas with limited space
- No drilling into window frames
- Available with terminal connection, end leads and center leads
- 3/4” Gap
- 12” #22 AWG leads
- Longer leads upon request
- 3M double sided tape attached
- Plated contacts resist sticking or freezing
- Switches and magnets available separately
- Colors: white and brown
- Lifetime Warranty



700-T



700CL-12



700EL-12

Part Numbers

	Closed Loop	Open Loop
Standard Gap 3/4”+	700-T	
	700EL-12	701EL-12
	700CL-12	701CL-12

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

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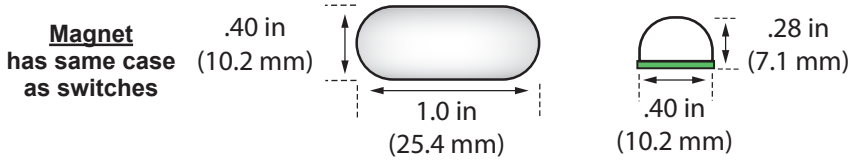
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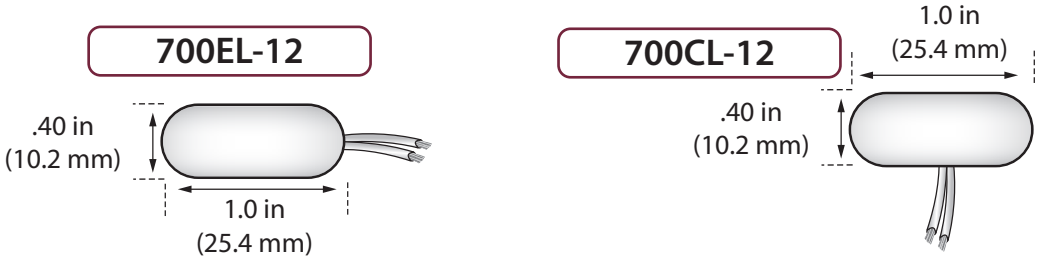
1" Capped Miniature Wide Gap Surface Mount Switch Set

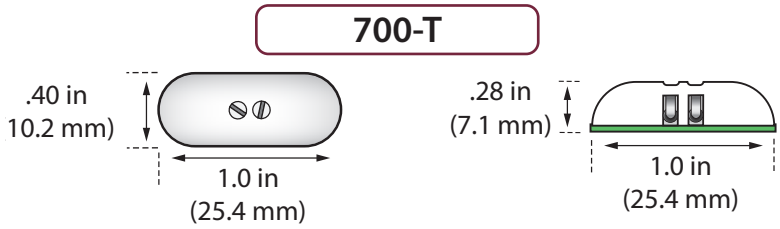
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INSTALLATION APPLICATIONS

The 700 series switch is aimed at residential applications where aesthetics and small size are a consideration. It offers the installer alternative wire configurations; terminal connections, end or center leads and a choice of wire lengths. This helps to make installations and connections quick and easy as well as saving you time and money. Available in regular gap 3/4". The flexibility of its small size allows 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 Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
701CL-12	Open	N/C	B	.140	5	175	.250

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

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1 1/2" Miniature Surface Mount Switch Set

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50 / 50F / 55F Series

UL LISTED ULC LISTED

- Excellent for residential applications
- Surface mount magnetic contact
- Self stick or breakaway screw down flange
- Center or end 12" #22 AWG 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 and almond
- Lifetime Warranty



50-12



50F-12



55F-12

Part Numbers

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

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

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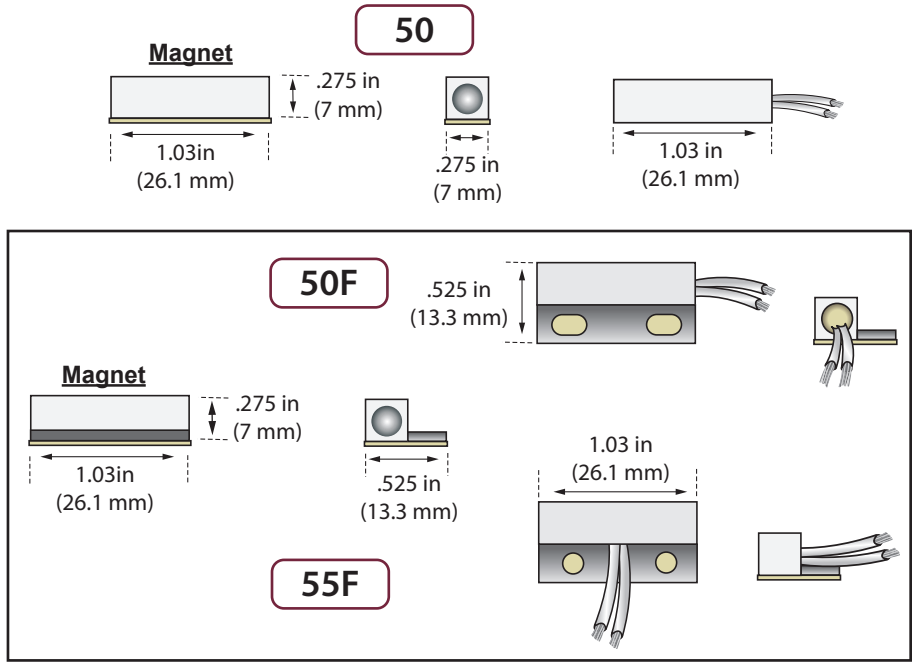
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1 1/2" Miniature Surface Mount Switch Set

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INSTALLATION APPLICATIONS

The GRI 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 screws 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 a 12" lead 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 Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
50-12	Closed	N/O	A	.150	10	200	.500
50F-12	Closed	N/O	A	.150	10	160	.400
55F-12	Closed	N/O	A	.150	10	200	.500
50-12WG	Closed	N/O	A	.150	10	160	.400
50F-12WG	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	175	.250
60F-12	Open	N/C	B	.140	5	175	.250
65F-12	Open	N/C	B	.140	5	175	.250
60-12WG	Open	N/C	B	.140	5	175	.250
60F-12WG	Open	N/C	B	.140	5	175	.250
65F-12WG	Open	N/C	B	.140	5	175	.250
70-12	Open/Closed	SPDT	C	140	5	175	.250
70F-12	Open/Closed	SPDT	C	.140	5	175	.250
75F-12	Open/Closed	SPDT	C	.140	5	175	.250
70-12WG	Open/Closed	SPDT	C	.140	5	175	.250
70F-12WG	Open/Closed	SPDT	C	.140	5	175	.250
75F-12WG	Open/Closed	SPDT	C	.140	5	175	.250

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

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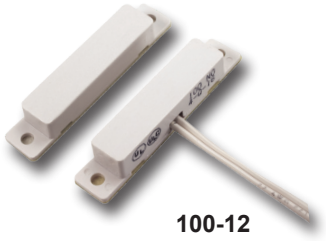
2" Miniature Surface Mount Switch Set

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100 / 110 Series

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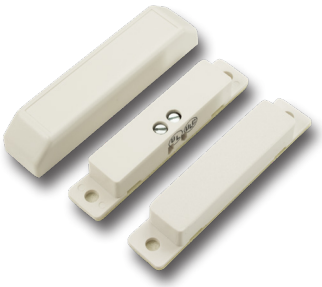
- Miniature profile series is perfect for residential and light commercial applications
- Surface mount magnetic contact
- Screw down flange or self stick
- 12" #22AWG leads or screw terminals
- Longer leads, zip cord or jacketed cable upon request
- Hermetically sealed
- Plated contacts resist sticking 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 and almond
- Private labeling upon request
- Lifetime Warranty



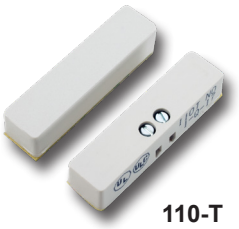
100-12



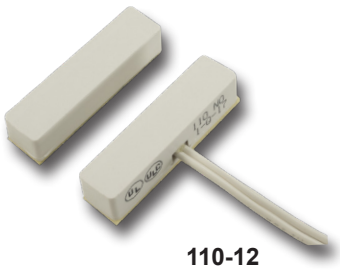
100-T



100-TC



110-T



110-12

Part Numbers

	Closed Loop	Open Loop	SPDT
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	
	100-TWG	101-TWG	102-12WG
	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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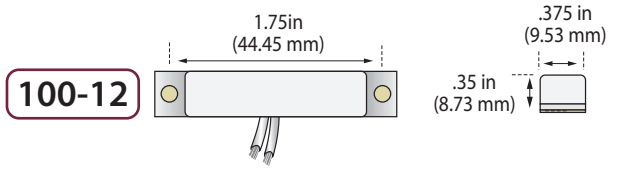
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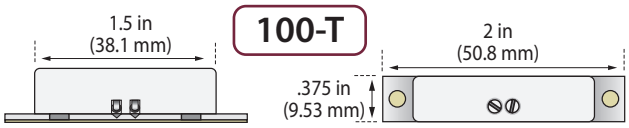
2” Miniature Surface Mount Switch Set

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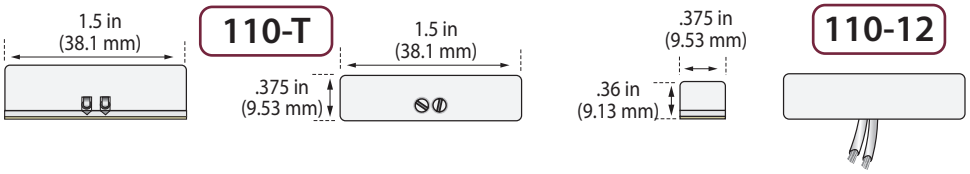
INSTALLATION APPLICATIONS

This series is one of our most popular miniature surface mount switches. Available both with and without flanges, this low profile series is perfect for residential and commercial use where larger configurations are not appropriate. Incorporates into most decor without being noticeable. Available in regular and wide gap. The 100 series come with mounting screws yet all come with 3M tape for mounting on aluminum, wood or vinyl. Spacers, switch only, magnet only and additional 3M tape are also available separately. Molded covers are included with P/N 100-TC.





Magnets have same case as corresponding switch.



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (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	175	.250
101-12WG	Open	N/C	B	.140	5	175	.250
101-T	Open	N/C	B	.140	5	175	.250
101-TC	Open	N/C	B	.140	5	175	.250
101-TCWG	Open	N/C	B	.140	5	175	.250
101-TWG	Open	N/C	B	.140	5	175	.250
111-12	Open	N/C	B	140	5	175	.250
111-12WG	Open	N/C	B	.140	5	175	.250
111-T	Open	N/C	B	.140	5	175	.250
111-TWG	Open	N/C	B	.140	5	175	.250
102-12	Open/Closed	SPDT	C	.140	5	175	.250
102-12WG	Open/Closed	SPDT	C	.140	5	175	.250
112-12	Open/Closed	SPDT	C	.140	5	175	.250
112-12WG	Open/Closed	SPDT	C	.140	5	175	.250

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1 1/2" Miniature Surface Mount Switch Set

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129 Series

UL LISTED ULC LISTED

- Perfect for residential and light commercial applications
- Small size is ½" x ½" x 1 ½"
- Tamper Proof
- Screw terminals
- Hermetically sealed
- Surface mount magnetic contact
- Plated contacts resist sticking or freezing
- Covers, spacers and mounting hardware included
- Switches and magnets available separately
- Colors: white, brown and gray
- Private labeling available
- Lifetime Warranty



129 switch and case



129 magnet, case and spacer

Part Numbers

	Closed Loop	Open Loop
Standard Gap 1/2"+	129A	129B
Wide Gap 1"+	129AWG	129BWG

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

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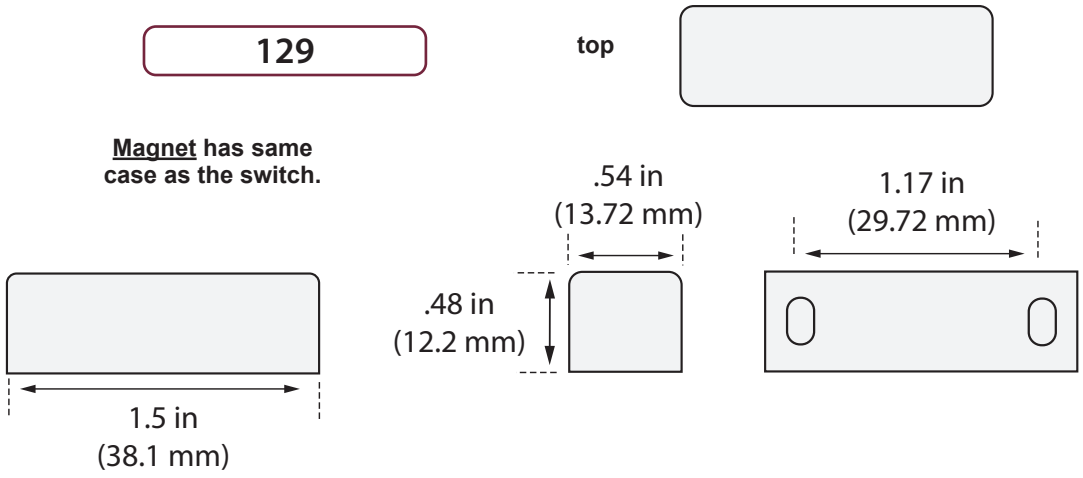
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1 1/2" Miniature Surface Mount Switch Set

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INSTALLATION APPLICATIONS

The GRI 12 9style switch set is designed for those installations where a more aesthetic profile is required. The attractive snap-on cover makes the 129 perfect for residential and light commercial applications. The cover also comes with knockout points if the wiring requires surface mount. The base is designed for taking the wire out directly into the wall if needed. Available in standard and wide gap, white, brown and gray. The 129 set comes in both open and closed loop with all mounting hardware included.



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
129BWG	Open	N/C	B	.140	5	175	.250

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

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KIMBALL, NE 69145

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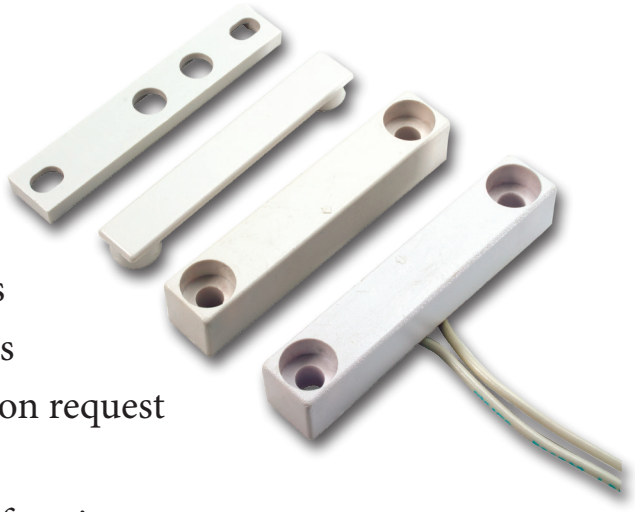
1-800-445-5218
1-800-523-1227
(308) 235-4645
FAX (308) 235-3561
E-MAIL: sales@grisk.com

2” Miniature Surface Mount Switch Set

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1100 Series

UL LISTED



- 1"+ standard gap
- Surface mount magnetic contact for residential and light commercial applications
- Screw Mount
- 12” 22 AWG leads
- Longer leads, zip cords 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
- Colors: white, brown and gray
- Private labeling upon request
- Lifetime Warranty

Part Numbers

	Closed Loop	Open Loop	SPDT
Standard Gap 1”+	1100A	1100B	1100C
Wide Gap 1 1/2”+	1100AWG	1100BWG	1100CWG

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

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2" Miniature Surface Mount Switch Set

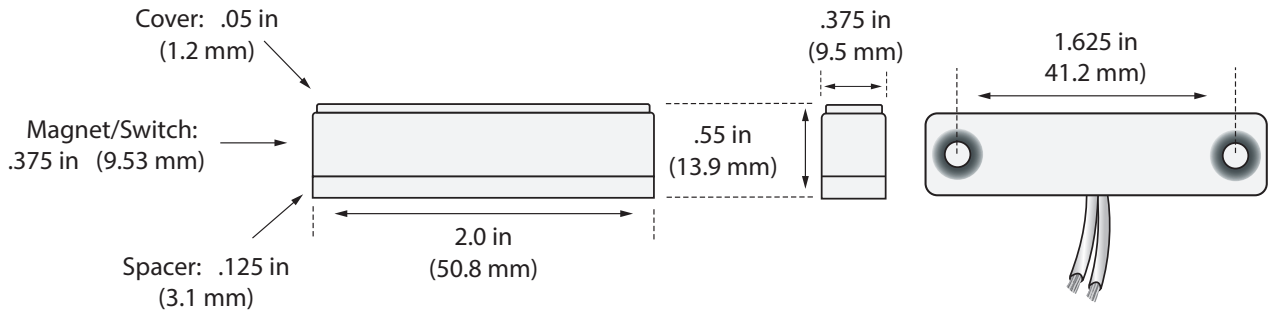
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INSTALLATION APPLICATIONS

The GRI 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.

1100

Magnet has same case as switch.



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
1100BWG	Open	N/C	B	.140	5	175	.250
1100C	Open/Closed	SPDT	C	.140	5	175	.250
1100CWG	Open/Closed	SPDT	C	.140	5	175	.250

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

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2 1/2" Commercial Surface Mount Switch Set

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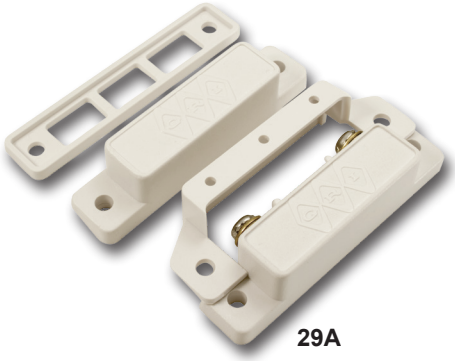
28 / 29 / 29P Series

UL LISTED ULC LISTED

- This versatile series sets the Industry Standard for Commercial and Light Industrial applications
- Surface mount magnetic contact
- Screw down flanges
- 24" #22AWG 2 conductor jacketed lead on 29PA
- 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 and black
- Private labeling upon request
- Lifetime Warranty



28A



29A



29PA CE

Part Numbers

	Closed Loop	Open Loop	SPDT	DPDT
Standard Gap up to 1" and 5/8" on steel	28A 29A 29PA CE	28B 29B 29PB	28C 29C 29PC	29PD
Wide Gap up to 1 1/2" and 3/4" on steel	28AWG 29AWG 29PAWG	28BWG 29BWG 29PBWG	28CWG 29CWG 29PCWG	29PDWG
Extra Wide Gap up to 2" and 1" on steel	28AXWG 29AXWG 29PAXWG	28BXWG 29BXWG 29PBXWG	28CXWG 29CXWG 29PCXWG	

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

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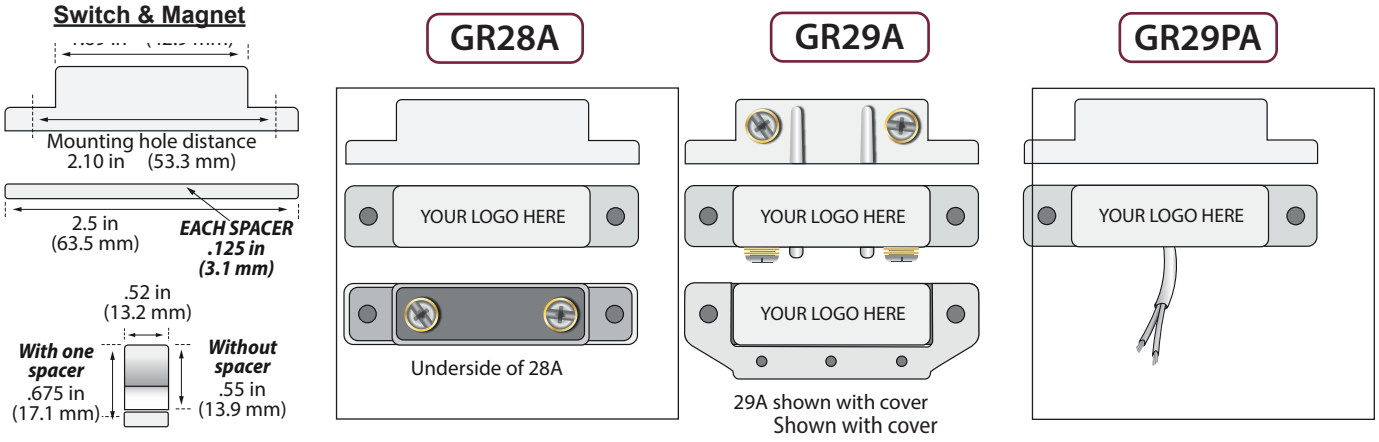
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2 1/2" Commercial Surface Mount Switch Set

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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 our catalog.



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
28BWG	Open	N/C	B	.140	5	175	.250
28BXWG	Open	N/C	B	.140	5	175	.250
29B	Open	N/C	B	.140	5	175	.250
29BWG	Open	N/C	B	.140	5	175	.250
29BXWG	Open	N/C	B	.140	5	175	.250
29PB	Open	N/C	B	.140	5	175	.250
29PBWG	Open	N/C	B	140	5	175	.250
29PBXWG	Open	N/C	B	.140	5	175	.250
28C	Open/Closed	SPDT	C	.140	5	175	.250
28CWG	Open/Closed	SPDT	C	.140	5	175	.250
28CXWG	Open/Closed	SPDT	C	.140	5	175	.250
29C	Open/Closed	SPDT	C	.140	5	175	.250
29CWG	Open/Closed	SPDT	C	.140	5	175	.250
29CXWG	Open/Closed	SPDT	C	.140	5	175	.250
29PC	Open/Closed	SPDT	C	140	5	175	.250
29PCWG	Open/Closed	SPDT	C	.140	5	175	.250
29PCXWG	Open/Closed	SPDT	C	.140	5	175	.250
29PD		DPDT	CX2	.140	5	175	.250
29PDWG		DPDT	CX2	.140	5	175	.250

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Surface Mount Tamper Protected Security Switch Set

Alternative to Magnasphere Technology

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GR28 / GR29 / GR29P

2 1/2" Surface Mount Switch Set

UL pending

- Higher level of security
- Resistant to magnetic tamper and defeat
- Hermetically sealed contacts
- Screw down flanges
- Concealed terminals on GR28
- 24" 22 AWG 2 conductor jacket lead on 29P with longer leads upon request
- Built in E.O.L. Resistors and Diodes upon request
- Standard and wide gap versions
- Switches and magnets available separately
- Covers, spacers and mounting hardware included
- Colors: white, brown or gray
- Private labeling upon request
- Lifetime Warranty



GR28



GR29



GR29P

	Part Numbers	
	Closed Loop	Open Loop
Standard Gap 1/2"	GR28A GR29A GR29PA	GR28B GR29B GR29PB
Wide Gap 0.2" to 1"	GR28AWG GR29AWG GR29PAWG	GR28BWG GR29BWG GR29PBWG

This series includes closed loop and open loop switches and standard and wide gap versions of each. The standard version has a gap of 1/2" and the wide gap version has a gap range of where the magnet should be installed of a 0.2" to 1" gap. The switches and magnets are not polarity sensitive.

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

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Surface Mount Tamper Protected Security Switch Set

Alternative to Magnasphere Technology

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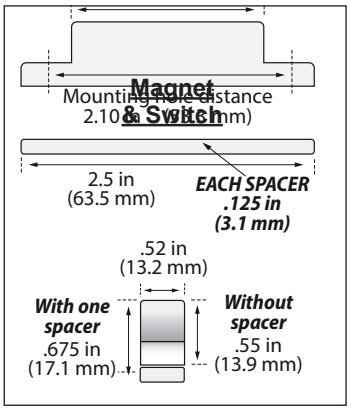
INSTALLATION APPLICATIONS

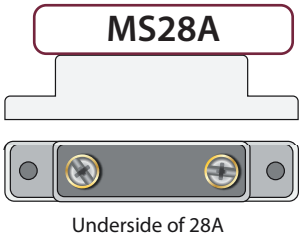
This series offers a standard gap of 1 inch, a wide gap of up to 1/2" and an extra wide gap of 1 inch and can be installed on a steel surface with a minimum gap penalty. The "P" style is a pre-wired switch with 2 feet of conductor cable. A broad range of mounting brackets are also available. See spec.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

CONSTRUCTION

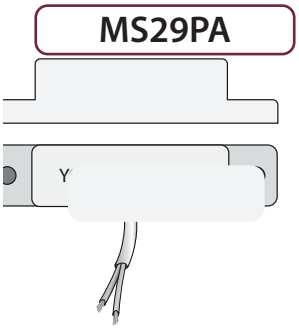
The GR28, GR29, and GR29P security switches use proven industry standard reed technology to detect intrusions and tampering. This provides a higher level of security than just basic security switches and is comparable to Magnasphgere Technology switches. Multiple reed switches are used in configurations and orientations that will monitor both entry and magnetic tampering from any direction. Magnets used to try and defeat the switch will cause an alarm.

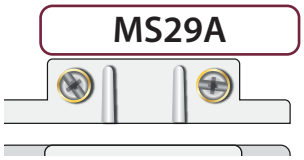
Switch & Magnet





Underside of 28A





GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
GR28A	Closed	N/O	A	.150	5	160	.250
GR28AWG	Closed	N/O	A	.150	5	160	.250
GR29A	Closed	N/O	A	.150	5	160	.250
GR29AWG	Closed	N/O	A	.150	5	160	.250
GR29PA	Closed	N/O	A	.150	5	160	.250
GR29PAWG	Closed	N/O	A	.150	5	160	.250
GR28B	Open	N/C	B	.150	5	160	.250
GR28BWG	Open	N/C	B	.150	5	160	.250
GR29B	Open	N/C	B	.150	5	160	.250
GR29BWG	Open	N/C	B	.150	5	160	.250
GR29PB	Open	N/C	B	.150	5	160	.250
GR29PBWG	Open	N/C	B	.150	5	160	.250

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

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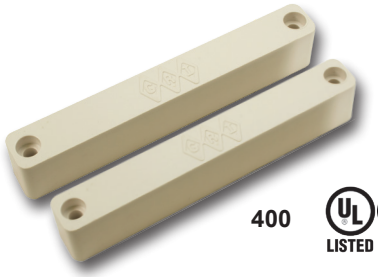
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4" Commercial and Industrial Surface Mount Switch Set

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400 / 410 / 410P Series

- Surface mount magnetic contact
- 400 has concealed terminals
- 410 has standard terminals on side of contact
- 410P has 36" 2 conductor vinyl jacketed cable
- Covers and mounting hardware included
- Built in E.O.L. Resistors & Diodes upon request
- Colors: white, brown and gray
- Private labeling upon request
- Indicates U.L. 10C Fire Rating
- Lifetime Warranty



400



410



410P



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

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

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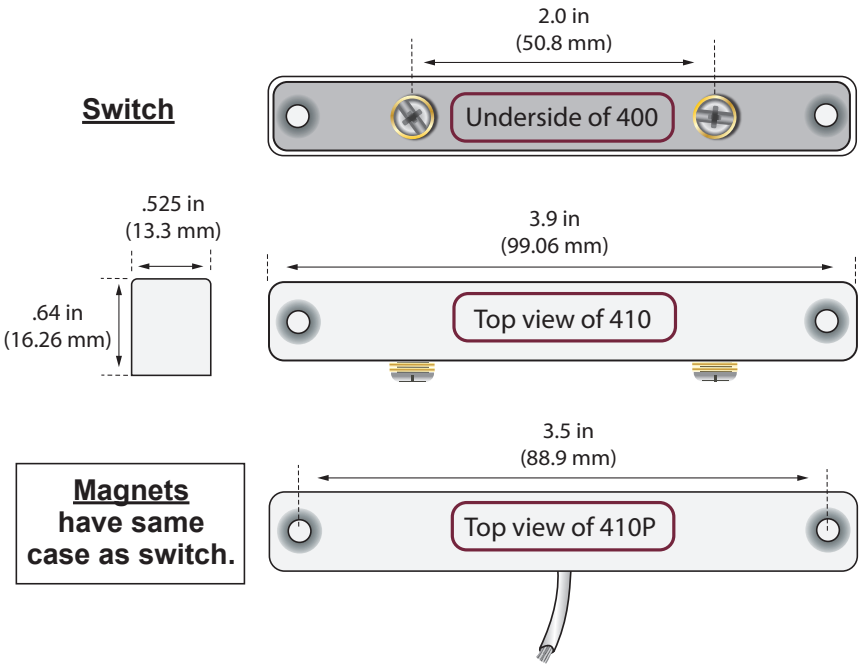
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4" Commercial and Industrial Surface Mount Switch Set

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INSTALLATION APPLICATIONS

The GRI series of commercial and industrial switch sets offer the installer two choices: The 400 incorporates hidden terminals, inset into the recessed back to provide tamper resistant installations. The 410 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 cable. A mounting bracket kit, PN #82-99-G is also available. The kit includes a S412P-G with M-402, S-200 & 4175 brackets and mounting hardware.



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
401WG	Open	N/C	B	.140	5	175	.250
411	Open	N/C	B	.140	5	175	.250
411WG	Open	N/C	B	.140	5	175	.250
411P	Open	N/C	B	.140	5	175	.250
411PWG	Open	N/C	B	.140	5	175	.250
402	Open/Closed	SPDT	C	.140	5	175	.250
402WG	Open/Closed	SPDT	C	.140	5	175	.250
412	Open/Closed	SPDT	C	.140	5	175	.250
412WG	Open/Closed	SPDT	C	.140	5	175	.250
412P	Open/Closed	SPDT	C	.140	5	175	.250
412PWG	Open/Closed	SPDT	C	.140	5	175	.250
413P		DPDT	CX2	.140	5	175	.250
413PWG		DPDT	CX2	.140	5	175	.250

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Table of Contents
Commercial Industrial Switches

Miniature Aluminum Commercial 4460 Series

Aluminum Industrial Wide Gap 4400 Series

Special Purpose Pull Apart 4704 / 4714 Series

Armored Disconnect Cable

GRI

Miniature Aluminum Commercial Switch Set

WWW.GRISK.COM

4460 Series

UL LISTED ULC LISTED

- Wide gap standard at 1”+
- Miniature size of 1.5” L x 5/8” W
- Heavy duty extruded aluminum
- Available with 18” jacketed or armored cable
- Custom lead length available
- Closed loop, Open loop, SPDT & DPDT
- Recommended for institutional use



4460A

The GRI 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 education facility.

A robust working gap and mounting versatility make the GRI 4460 a top choice where good looks and adaption to a rough environment are required.

Part Numbers

	Closed Loop	Open Loop	SPDT	DPDT
Standard Gap 1”	4460 4460A		4462 4462A	4463 4463A
Standard Gap 3/4”		4461 4461A		

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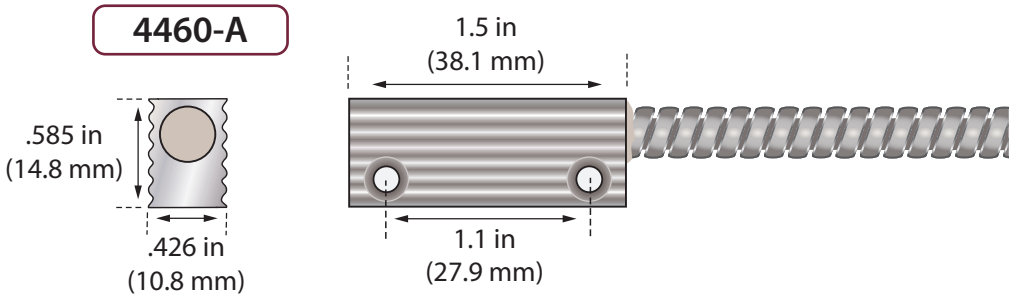
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Industrial Surface Mount Switch Set

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INSTALLATION APPLICATIONS

The GRI 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. Idea for institutional use such as hospitals, schools, minimum detention facilities, etc. The 4460 and 4460A both offer the installer a 1" plus 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 19" of jacked wire leads or armored cable. Since the 4460 series is polarity sensitive, the poles are printed on the magnet case to indicated mounting direction. Mounting hardware and spacers provided with switch set. Optional S-44 mounting bracket sold separately.



Magnets have same case as switch.

GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
4461A	Open	N/C	B	.140	5	175	.250
4462	Open/Closed	SPDT	C	.140	5	175	.250
4462A	Open/Closed	SPDT	C	.140	5	175	.250
4463	Open/Closed	DPDT	CX2	.140	5	175	.250
4463A	Open/Closed	DPDT	CX2	.140	5	175	.250

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

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Aluminum Industrial Wide Gap Switch Set

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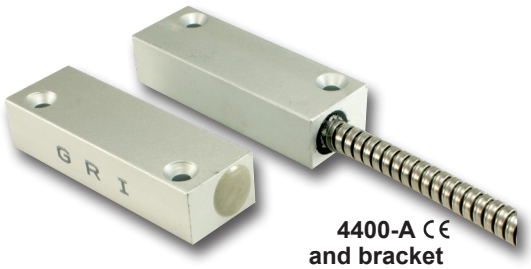
4400 Series

LISTED LISTED

- S-12 bracket included
- Ideal for securing chain link gates, overhead garage doors, safes and walk in freezer doors
- Weather resistant rugged aluminum housing

Switches operate within a range of -40°F to 257°F

- 4400 has 36" 2 conductor vinyl jacked cable
- 4400-A comes with 36" armored cable
- Built in E.O.L. resistors and diodes upon request
- Supervisory loops available upon request
- Switches and magnets available separately
- Spacers available, PN 5226
- Lifetime Warranty



4400-A CE and bracket



Other mounting kits also available. Please call factory for more information.

8450-3 Gate Mounting Kit
Includes 4402-A switch set, brackets and hardware



Part Numbers

	Closed Loop	SPDT	DPDT
Standard Gap 2.5"	4400	4402	
	4400-A CE	4402-A	4405-A

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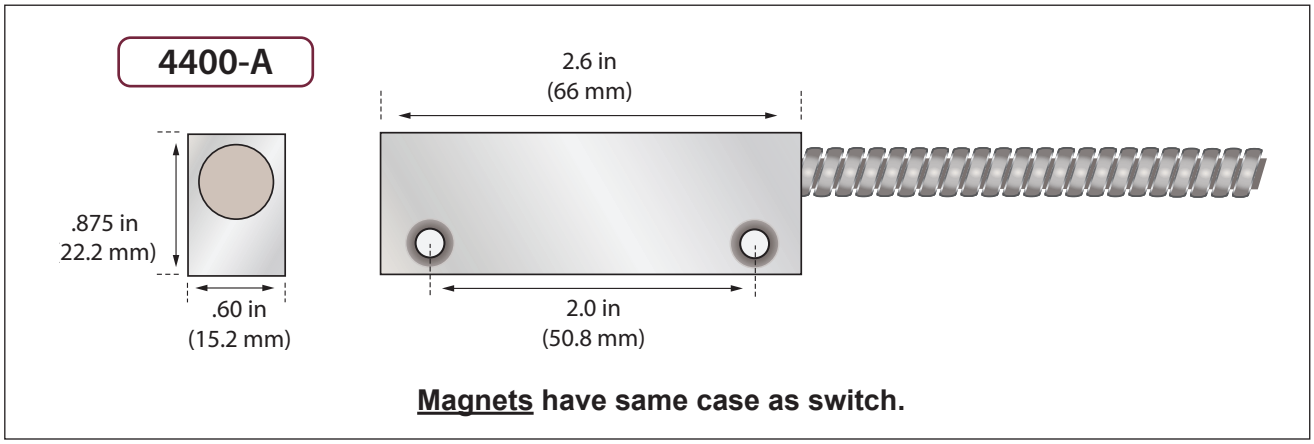
Aluminum Industrial Wide Gap Switch Set

WWW.GRISK.COM

INSTALLATION APPLICATIONS

GRI'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 tract 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 Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
4402-A	Open/Closed	SPDT	C	.140	5	175	.250
4405-A	Open/Closed	DPDT	CX2	.140	5	175	.250

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

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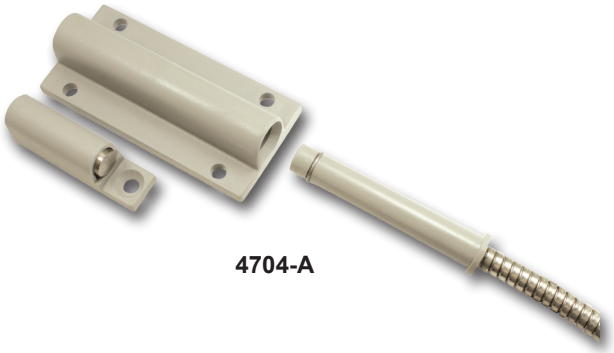
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Special Purpose Pull Apart Switch Set

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4704 / 4714 Series

- Pull apart surface mount reed switch
- Great for marinas, truck docks as well as portable merchandise
- Heavy duty 4714 series for improved durability
- Standard 36” jacketed or armored cable
- Custom lead lengths are available upon request
- Available with PVC coated stainless steel cable
- Armored disconnect cable available, see GRI catalog under Specialty Section
- Supervisory loops available upon request
- Available in gray
- Lifetime Warranty



4704-A



4714-A



4714-JC

Part Numbers

Jacketed Cable	4704 4714
Jacketed Cable with chain	4714-JC
Armored Cable	4704-A 4714-A

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Special Purpose Pull Apart Switch Set

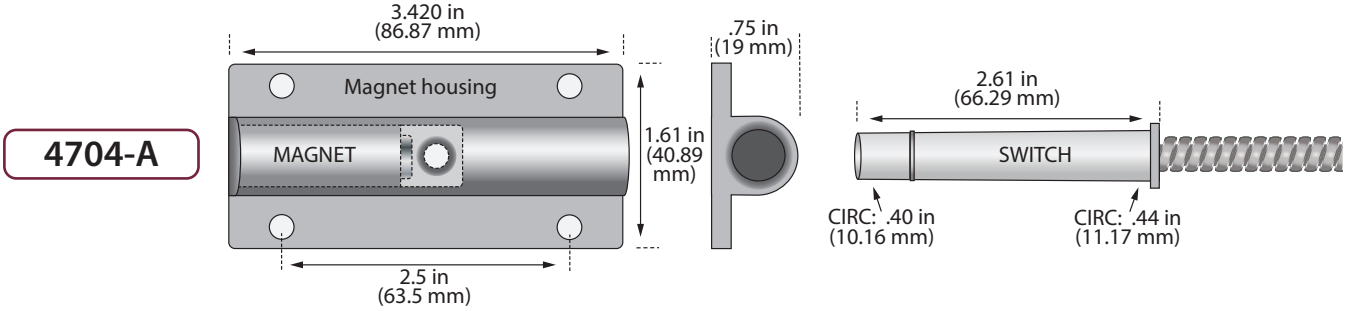
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INSTALLATION APPLICATIONS

The 4704/4714 series was designed for problem security applications where the free movement of an object 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 recreational vehicles.

The 4714 series heavy duty pull apart switch has the same features and options as the 4704, however the switch has been moved into the mounted side of the unit, improving durability. The actuation magnet is now in the probe along with a supervisory loop. The supervisory loop, consisting of 2 conductor wire, is place through 1/4" armored cable or woven through links of a 3/16" chain. Both options available with custom lead and supervisory loop lengths.

The 4704/4714 series is designed to protect equipment, merchandise or objects where it is impossible to secure utilizing conventional devices. Possible examples are golf carts, tires, lawn equipment, motorcycles and ATVs and rental equipment.



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
4704	Open/Closed	SPDT	C	.140	5	175	.250
4704-A	Open/Closed	SPDT	C	.140	5	175	.250
4714	Open/Closed	SPDT	C	.140	5	175	.250
4714-A	Open/Closed	SPDT	C	.140	5	175	.250
4714-JC	Open/Closed	SPDT	C	.140	5	175	.250

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

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Armored Disconnect Cable

WWW.GRISK.COM

Armored Cable Extension with Connectors

- Quick connect / disconnect feature
- For use with GRI Pull apart switch sets
- Saves time and labor



8230-25

Armored Cable Part Numbers

8235-3	4704A with 3' #5702 armored cable with male connector
8237-3	3' #5702 armored with male connector
8230-25	25' #5702 armored cable with one male and one female connectors
8231-3	3' #5702 armored cable with female connector
8307-3	4704A with 3' #8278 coated armored cable with one male connector
8316-3	3' #8278 coated armored cable with male connector
8310-25	25' #8278 coated armored cable with one male and one female connectors
8311-3	3' #8278 coated armored cable with female connector

Accessory 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 - .25 diameter
7412	Nylon cable clamp - .312 diameter



Steel cable clamp
8949 - .25 dia.
8950 - .312 dia



Nylon cable clamp
86381 - .25 dia
7412 - .312 dia.



8868/8979

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Armored Disconnect Cable

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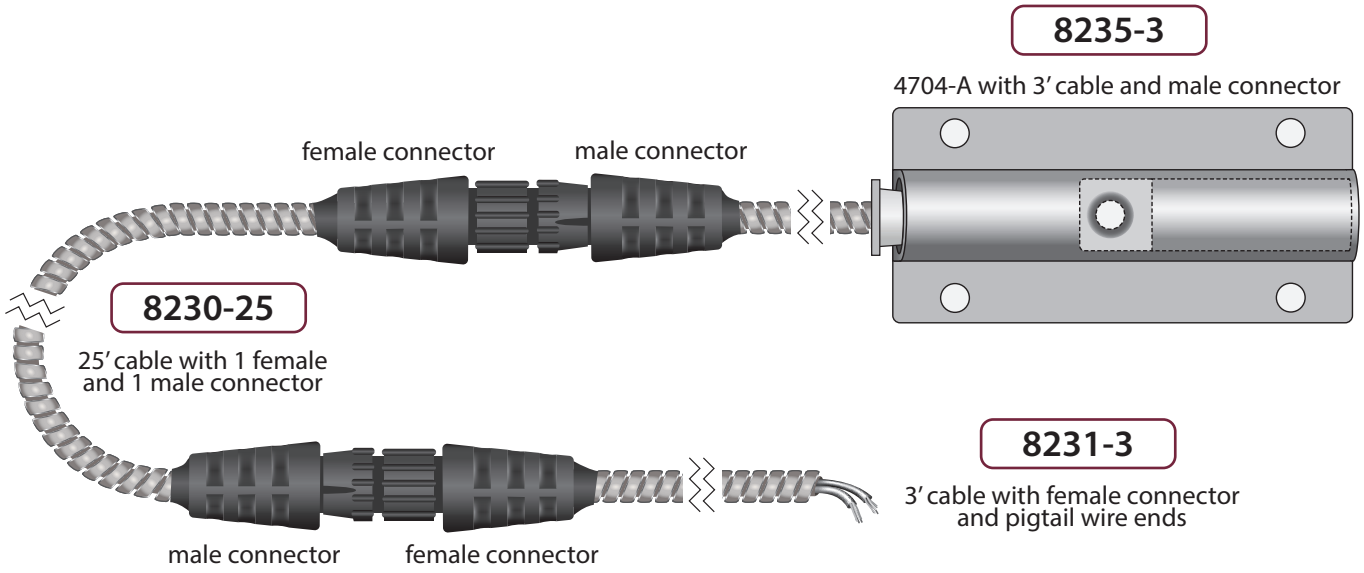
INSTALLATION APPLICATIONS

The GRI Armored Cable Extensions with Connectors were designed for use with the GRI 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 GRI 8235-3 and 8231-3 together make a couple security loop with armored cable.

By putting the GRI 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 movable 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.



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
4704	Open/Closed	SPDT	C	.140	5	175	.250
4704-A	Open/Closed	SPDT	C	.140	5	175	.250
4714	Open/Closed	SPDT	C	.140	5	175	.250
4714-A	Open/Closed	SPDT	C	.140	5	175	.250
4714-JC	Open/Closed	SPDT	C	.140	5	175	.250

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

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Concrete Concealed 4510 Series

Industrial Track Mount 4700-A Series

GRI

Miniature Overhead Door Switch Set

WWW.GRISK.COM

4532 / 4532 L Series

UL LISTED ULC LISTED CE

- Low cost
- Miniature floor mount
- Universal magnet for mounting flexibility
- Cast aluminum casing for harsh environments
- 24” armored cable standard
- Longer leads available upon request
- Mounting hardware included
- Optional “L” bracket
- For loose overheads
- Hermetically sealed
- Plated contacts resist sticking or freezing
- Built-in E.O.L. Resistors and Diodes upon request
- Switches and magnets available separately
- Lifetime Warranty





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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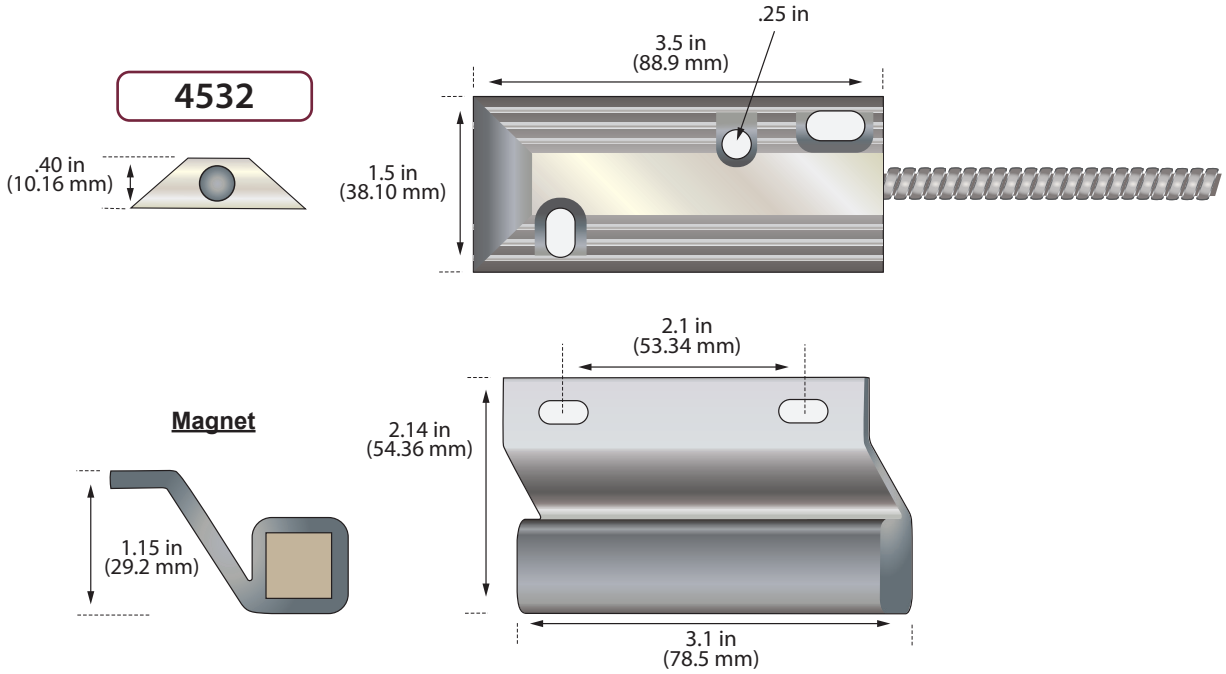
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Miniature Overhead Door Switch Set

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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 Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
4532LB	Open	N/C	B	.140	5	175	.250
4532C	Open/Closed	SPDT	C	.140	5	175	.250
4532CL	Open/Closed	SPDT	C	.140	5	175	.250
4532D		DPDT	CX2	.140	5	175	.250
4532DL-36		DPDT	CX2	.140	5	175	.250

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

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Industrial Overhead Door Switch Set

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200 / 250 Series

UL LISTED ULC LISTED

- Extruded aluminum floor or wall mount switch
- Screw mount
- #22AWG in 36" stainless steel armored cable
- Longer leads upon request
- Longer leads available 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
- Lifetime Warranty





Part Numbers

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

INSTALLATION APPLICATIONS

The GRI 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.

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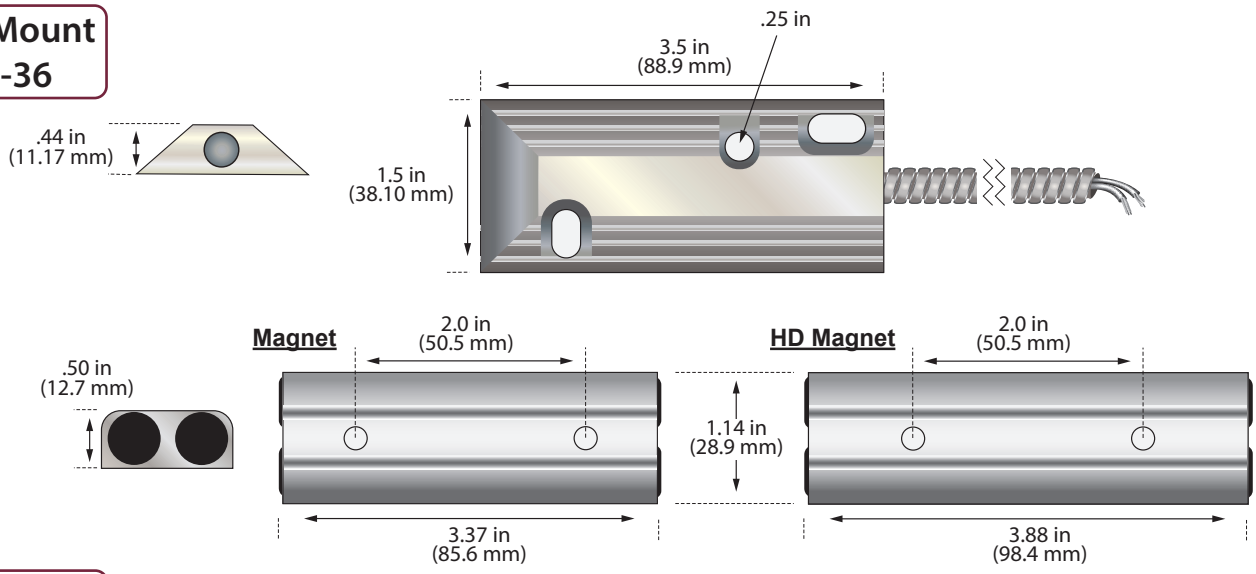
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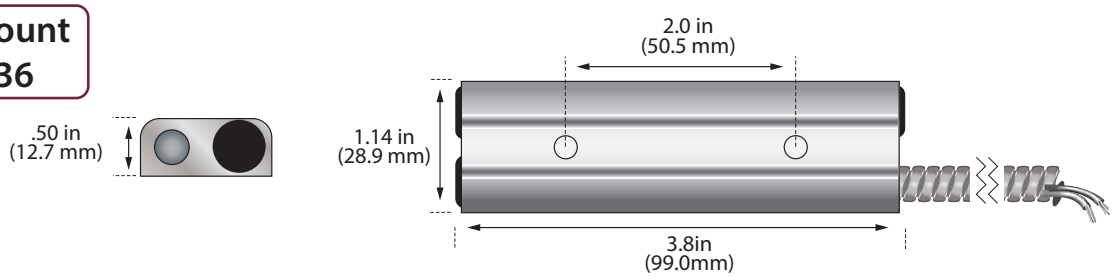
Industrial Overhead Door Switch Set

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Floor Mount 200-36



Wall Mount 250-36



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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	175	.250
260-36	Open	N/C	B	.140	5	175	.250
220-36	Open/Closed	SPDT	C	.140	5	175	.250
270-36	Open/Closed	SPDT	C	.140	5	175	.250
230-36		DPDT	CX2	.140	5	175	.250
280-36		DPDT	CX2	.140	5	175	.250

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

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Industrial Extended Gap Overhead Door Switch Set

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200WG / 250WG Series

UL LISTED ULC LISTED

- Extruded aluminum floor or wall mount switch
- Screw mount
- 7 1/2" switch length standard
- #22AWG in 36" stainless steel armored cable
- Screw mount
- Hermetically sealed
- Custom switch and lead lengths available
- Plated contacts resist sticking or freezing
- Built-in Resistors and Diodes upon request
- Supervisory loops available upon request
- Switches and magnets available separately
- Lifetime Warranty



250-36WG

Part Numbers

	Closed Loop
Floor Mount	200-36WG
Wall Mount	250-36WG
Gap: up to 3.25"	*Travel: up to 6.25"*

INSTALLATION APPLICATIONS

The new GRI 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 GRI 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 mounting bracket for the actuating magnet. A 1/4" masonry bit is required for lead anchor installation.

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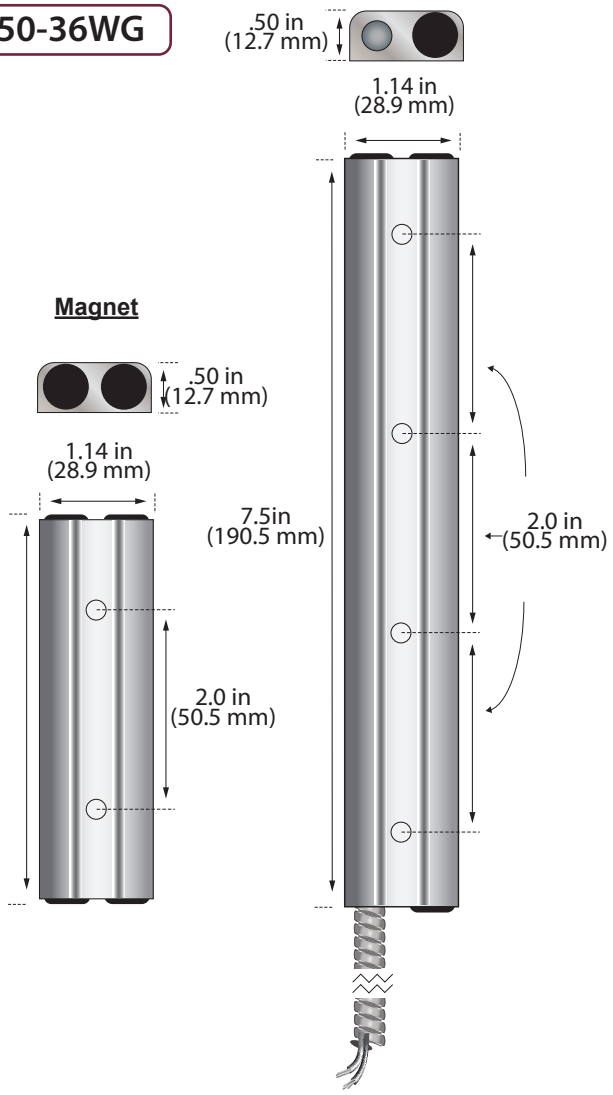
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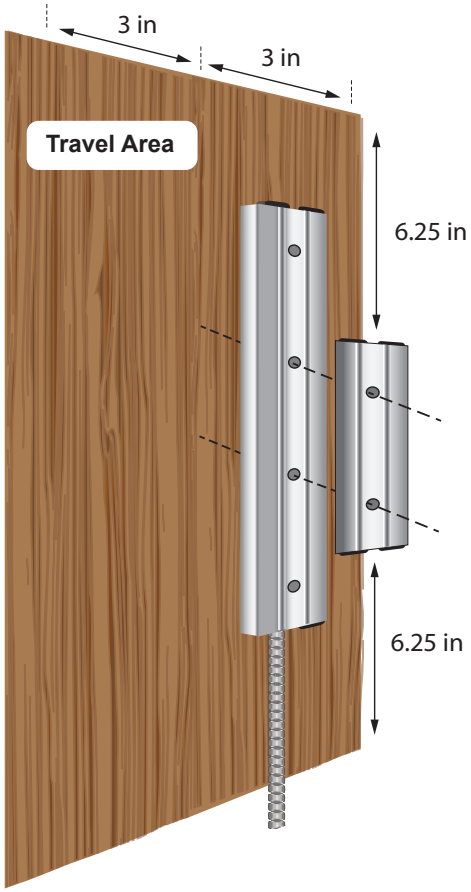
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Industrial Extended Gap Overhead Door Switch Set

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250-36WG





GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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.

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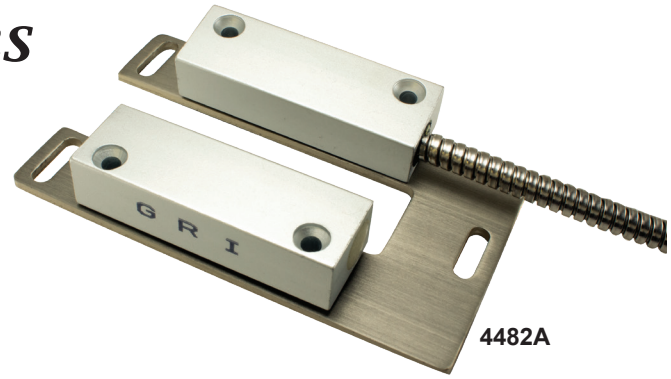
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Commercial Overhead Door Switch Set

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4110 / 4482 Series

- Latch type door protection
- Vane switch shunt
- Cost effective
- Easy installation
- Armored or jacketed cable



4482A

The GRI 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 alarms 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.



4110A

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.



4110-Kit
4110A-Kit
Includes S-41 bracket and mounting hardware

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, GRI 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.

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Miniature Overhead Door Switch Set

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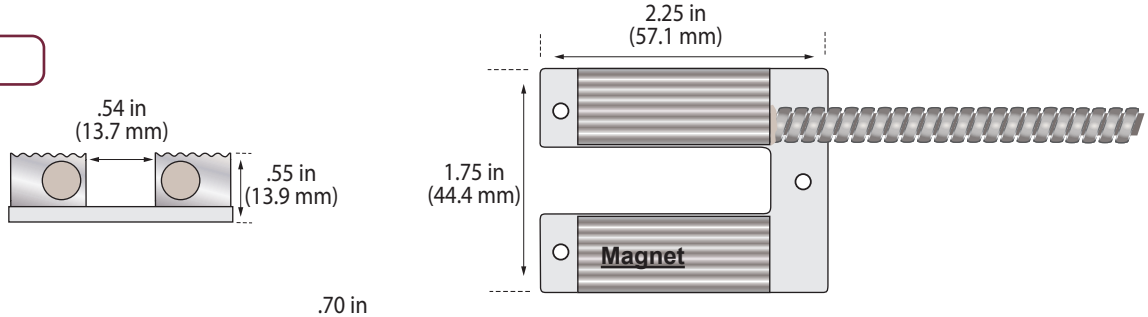
INSTALLATION APPLICATIONS

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 that the door is locked and in the closed position.

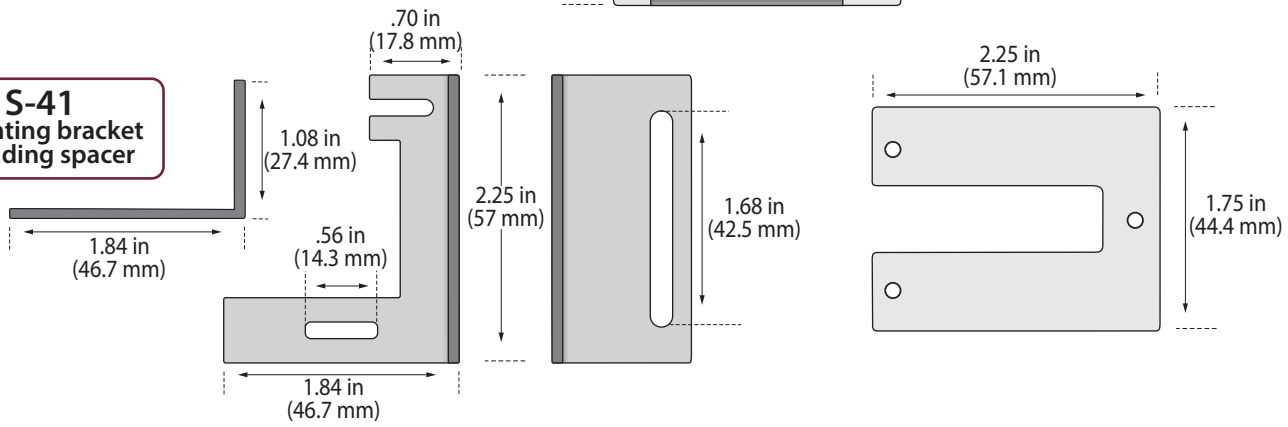
The GRI 4110 is to be installed on the slotted channel in such a way that when the door is locked, the bolt will pass between the uprights of the switch.

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

4110A



S-41
Mounting bracket including spacer



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
4110	Closed	N/O	B	.140	5	175	.250
4110A	Closed	N/O	B	.140	5	175	.250
4112	Open/Closed	SPDT	C	.140	5	175	.250
4112A	Open/Closed	SPDT	C	.140	5	175	.250
4482	Open/Closed	SPDT	C	.140	5	175	.250
4482A	Open/Closed	SPDT	C	.140	5	175	.250

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

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Mini Curtain Door Switch

WWW.GRISK.COM

4612 Series

- Adjustable travel
- Reversible probe assembly
- Left or right installation
- Install probe top or bottom
- Magnet mounts in door channel
- Mounting hardware included



Application Notes:

GRI 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. GRI'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.

Part Numbers		
	Closed Loop	SPDT
Up to 2" Gap	4612	4613

Part 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).

INSTALLATION APPLICATIONS

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 door's 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.

Continued on reverse.

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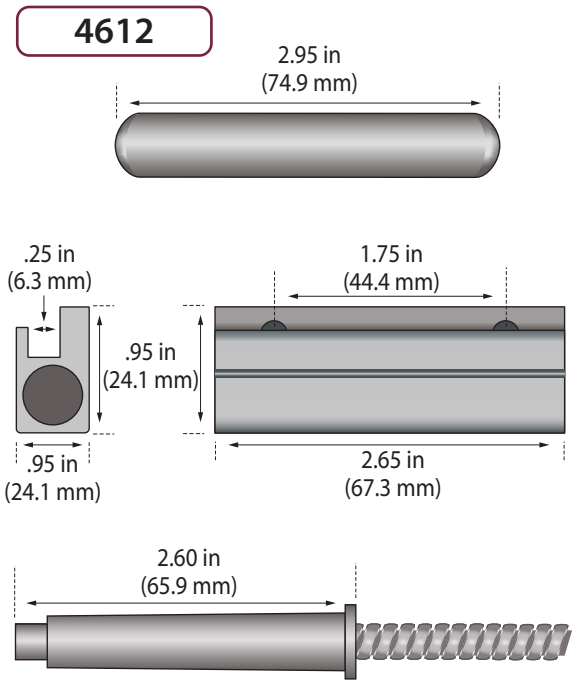
Miniature Overhead Door Switch Set

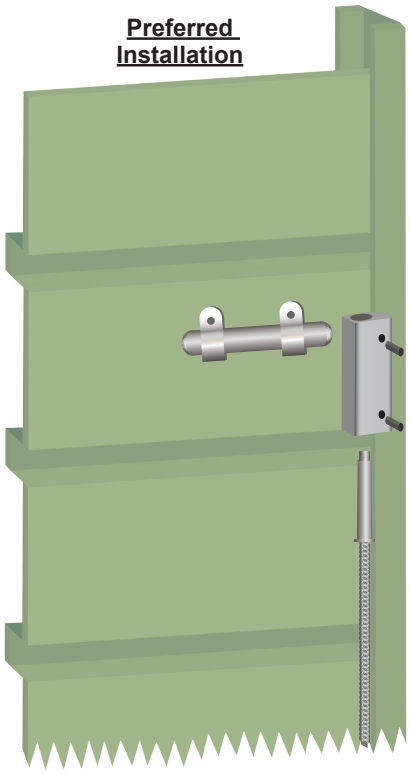
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Continued from front.

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.

Important 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.***





GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
4612	Closed	N/O	A	.150	10	160	.400
4613	Open/Closed	SPDT	C	.140	5	175	.250

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

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Concrete Concealed Switch

WWW.GRISK.COM

4510 Series

- Switch protected from heavy equipment
- Two Alnico magnet styles
- 3” stainless steel armored cable
- Mounting hardware included



4510A

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 GRI 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.



4510AU

Part Numbers

4510A	3 1/2” Gap	SPDT
4510AU	3 1/2” Gap	SPDT

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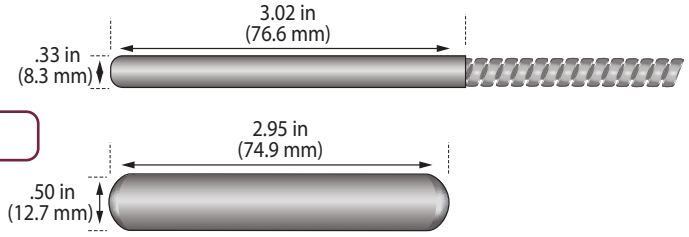
INSTALLATION APPLICATIONS

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.

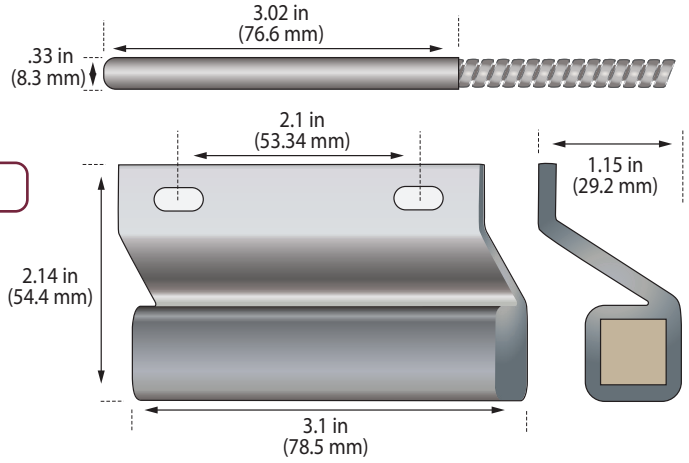
Place switch on floor, testing the position of the switch to magnet. It is recommended that 1" to 1 1/4" be used as the operational distance. Making this switch position with a marker, we can now begin chipping out concrete.

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.

4510A



4510AU



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type Closed	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
4510A	Open/Closed	SPDT	C	.140	5	175	.250
4510AU	Open/Closed	SPDT	C	.140	5	175	.250

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

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Industrial Track Mount Switch Set

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4700-A Series



- Reversible probe assembly
- Left or right installation
- Reversible cable exit
- 3 ft. armored cable standard
- Multi position adjustable magnet bracket
- Close 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

The GRI 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.

And adjustable magnet bracket extends the reach on particularly difficult installations and self drilling screws shorten installation 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	DPDT
1.75” to 2.75”	4700-A	4701-A	
2.5” to 4”	4700-AXL	4701-AXL	4705-AXL
Gap up to 3”			

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Industrial Track Mount Switch Set

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INSTALLATION APPLICATIONS

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.

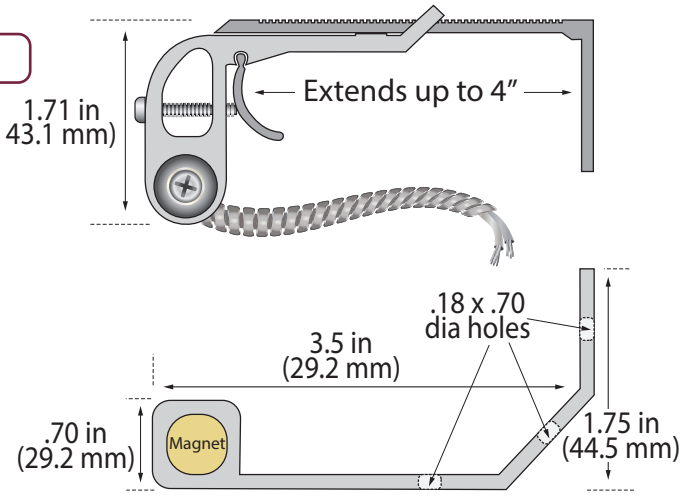
If necessary reverse the armored cable by removing the screw opposite the cable and moving the probe to the opposite side of the switch. Then just reinstall the screw.

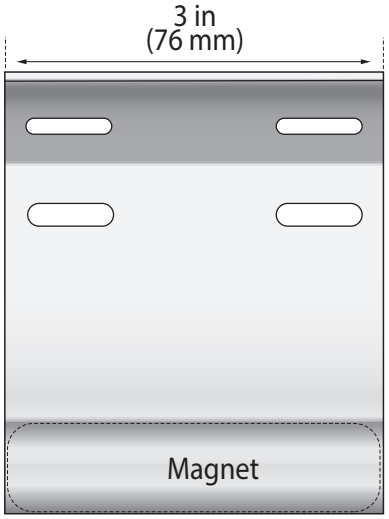
Before assembling the switch, back out the hex head screw until the end is flush with the switch body. Assemble the switch by sliding the hinge plate into the slot on the switch and inserting the L shaped bracket into the other slot on the switch. (XL version: Install the countersink screw and nut through switch body and L shaped bracket. Snug nut up letting L shaped bracket still slide.) Optional: Install piece of double stick tape on the inside of short side of L shaped bracket to prevent movement from the track vibration.) 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.

Hand tighten screws. Do not over tighten.

4700-A





GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
4700-A	Closed	N/O	A	.150	10	160	.400
4701-A	Open/Closed	SPDT	C	.140	5	175	.250
4700-AXL	Closed	N/O	A	.150	10	160	.400
4701-AXL	Open/Closed	SPDT	C	.140	5	175	.250
4705-AXL	Open/Closed	DPDT	CX2	.140	5	175	.250

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

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MAGNASPHERE SWITCHES

3/8" Mini Recessed MS20RS Series

3/8" Recessed MS2020 Series

3/8" Flanged MS20F / MS20-OF Series

1/2" Recessed MS150 Series

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Surface Mount MS28A / MS29A / MS29P

Aluminum Industrial MS4400 Series

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GRI

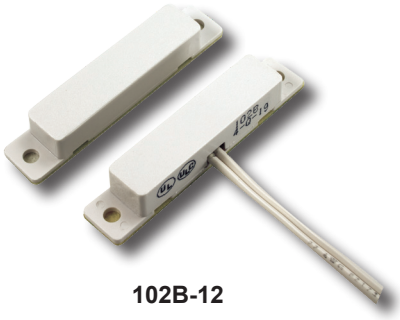
Biased High Security Switch Sets Overview

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- ♦ 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. Resisters and Diodes upon request
- ♦ Colors: white, brown or gray
- ♦ Lifetime Warranty
- ♦ Other configurations available - call factory



B4040-12



102B-12



B29-C

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 the size 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.

Continued on back

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

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Biased High Security Switch Sets Overview

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4400AB



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 build 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.

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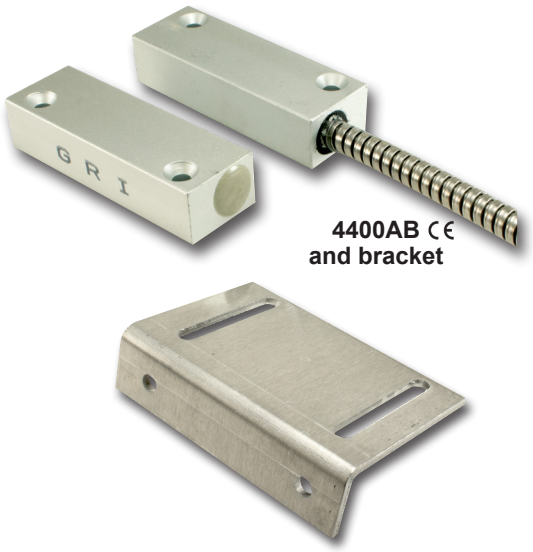
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Biased Aluminum Industrial Switch Set

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4400AB / 4402AB

- 1/2” to 2” gap
- 36" armored cable
- Weather resistant rugged aluminum housing
- Longer leads available upon request
- Mounting hardware included
- Built-in EOL resistors and diodes upon request
- Supervisory loops upon request
- Lifetime Warranty



Part Numbers

	Closed Loop	SPDT
Standard Gap 1/2 - 2”	4400AB CE	4402AB

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

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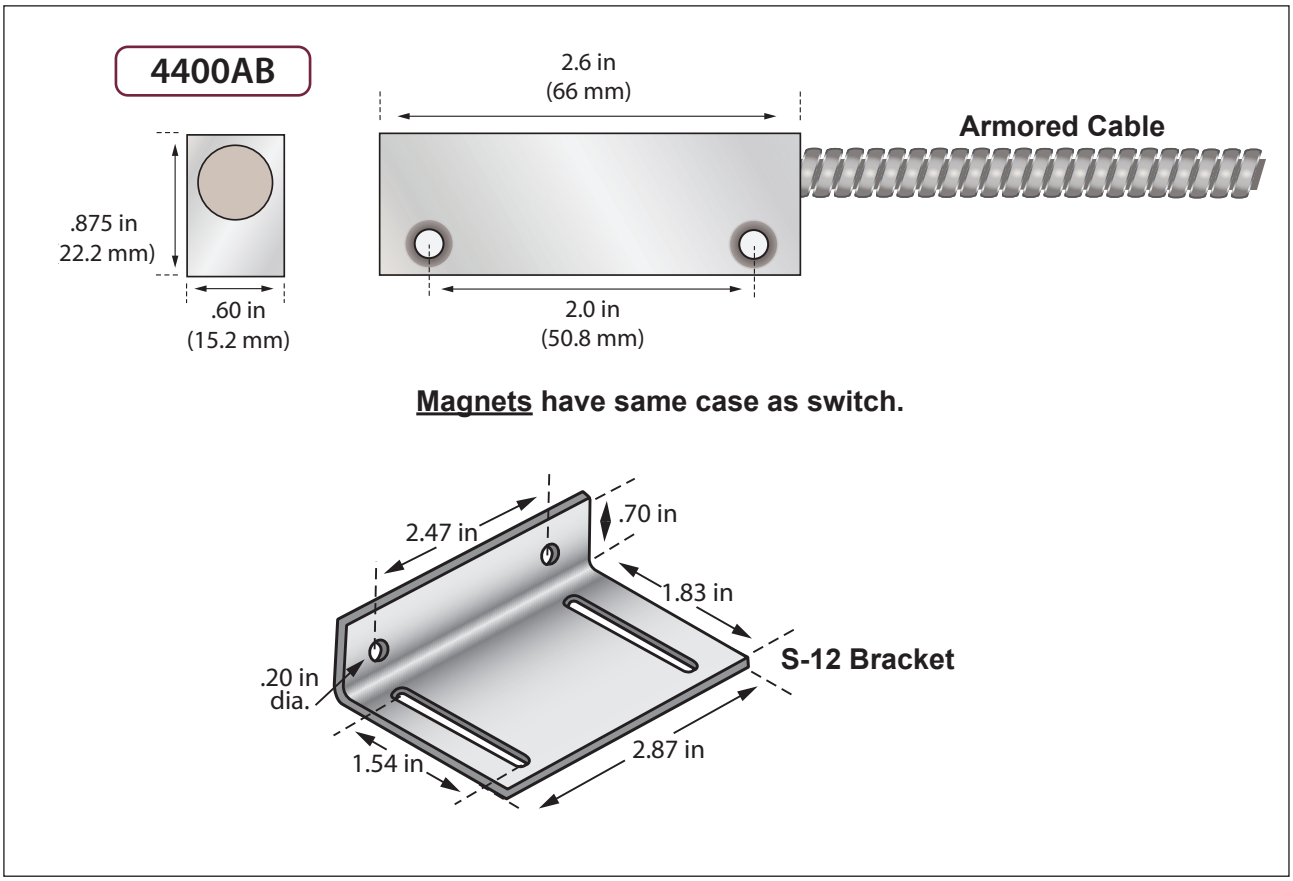
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GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
4400AB	Closed	N/O	A	.140	5	175	.250
4402AB	Open/Closed	SPDT	C	.140	5	175	.250

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

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Triple Biased High Security

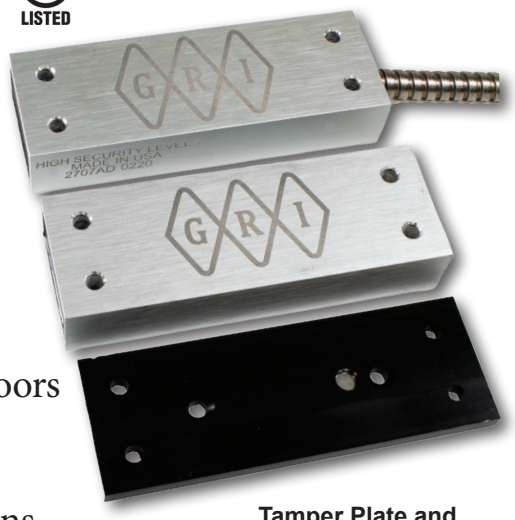
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NEW

GR2707 Series

SECURITY c UL us LISTED

- High security Level 1
- Alignment: +/- .125”
- Sensing air gap: .125 to .500” +/-20%
- 36” stainless steel armored cable
- Temperature rated -35º to +70º C
- Resistant to magnetic tamper and defeat
- Rated for indoor and outdoor use
- Inward/outward swinging, protected/non-protected doors
- Dry-contacts compatible with legacy alarm panels and interface systems
- Industry standard footprint & mounting hole locations
- Optional L and Z brackets and spacers available



Tamper Plate and 3 Spacers included

The GR2707 series high security switches are built with three C form reeds making them resistant to magnetic tamper and defeat. For added security, magnetic field tamper and pry tamper are standard features. Each GR2707 contact and actuation magnet set is factory compensated for the effects of steel.

The GR2707 Series can be used to protect doors in high security locations; airports, biotechnology labs and other medical research settings, warehouses, manufacturing plants, jewelry stores, banks, data processing centers, military bases, ammunition depots and energy-generation facilities.

The GR2707-A is configured in a SPDT configuration using three C form reeds. The GR2707-AD contains six C form reeds wired in a DPDT configuration. A supervisory loop with magnetic tamper feature is included in both models. A pry tamper connection for the 24 hour loop is included with both models.

INSTALLATION INSTRUCTIONS

The GR2707 series sensor and tamper plate will be mounted to the door frame, close to the gap, without door interference. The tamper plate magnet must be oriented to match the target engraved on the sensor. The actuator will be mounted below the sensor with respect to the mounting orientation best suited for direction of door swing. Be sure to aim the engraved targets at each other once fully installed. Spacers may be used for alignment purposes.

The following installation method is recommended: Bring the actuator towards the sensor until the closed loop is activated. Use a multi-meter or similar device to detect open/closed states. Continue moving the actuator another 0.125” to 0.250” towards sensor to provide adequate magnetic overdrive.

Mounting conditions, such as type of substrate, lateral alignment, thickness of the metal substrate, etc. may alter gap distance.

Note: Intended to be powered by a UL 603 Listed, power limited supply.

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

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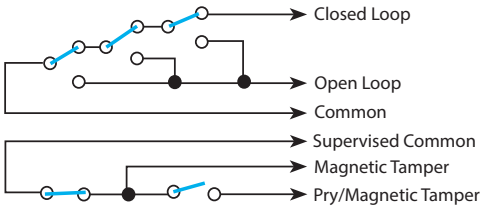
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Triple Biased High Security

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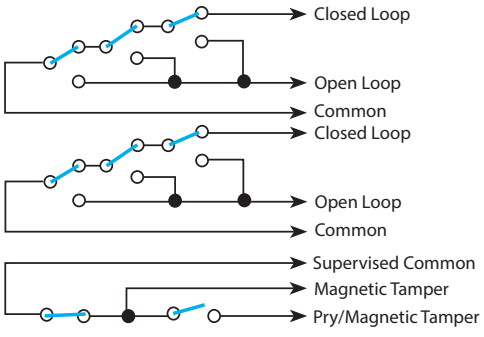
GR2707-A SPDT Wiring Diagram

Closed Loop	White
Open Loop	Red/White
Common	Silver/White
Supervised Common	Yellow/White
Magnetic Tamper	Green/White
Pry/Magnetic Tamper	Blue/White

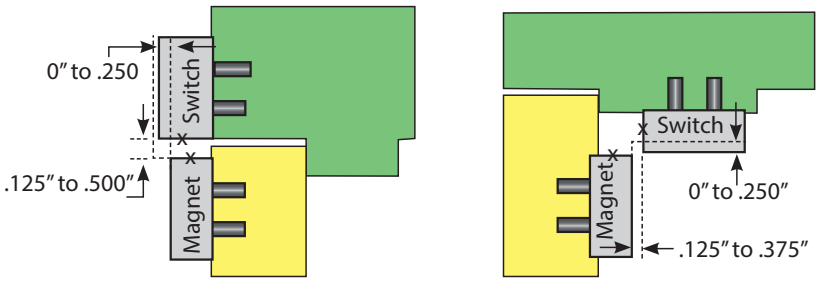


GR2707-AD DPDT Wiring Diagram

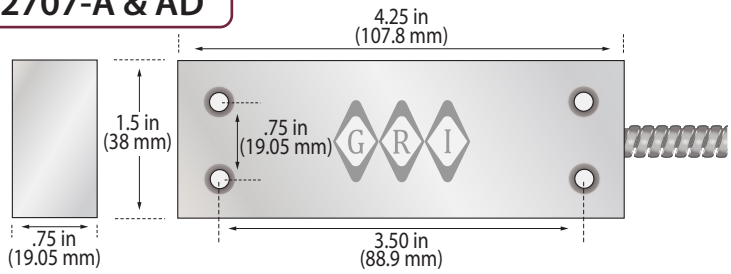
Closed Loop (1)	White
Open Loop (1)	Red/White
Common (1)	Silver/White
Closed Loop (2)	White/Black
Open Loop (2)	Red/Black
Common (2)	Black
Supervised Common	Yellow/White
Magnetic Tamper	Green/White
Pry/Magnetic Tamper	Blue/White



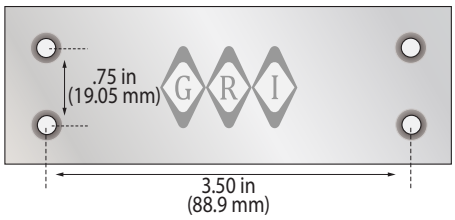
Installation Plans:



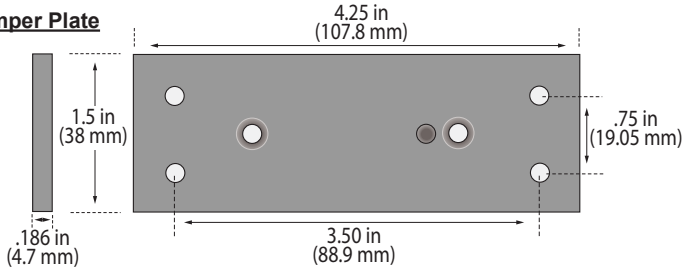
GR2707-A & AD



Magnet Part # M-2707



Tamper Plate



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
GR2707-A	Open/Closed	SPDT	3	30	.25
GR2707-AD	Open/Closed	DPDT	3	30	.25

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

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High Security Level 2 Dry-Contact

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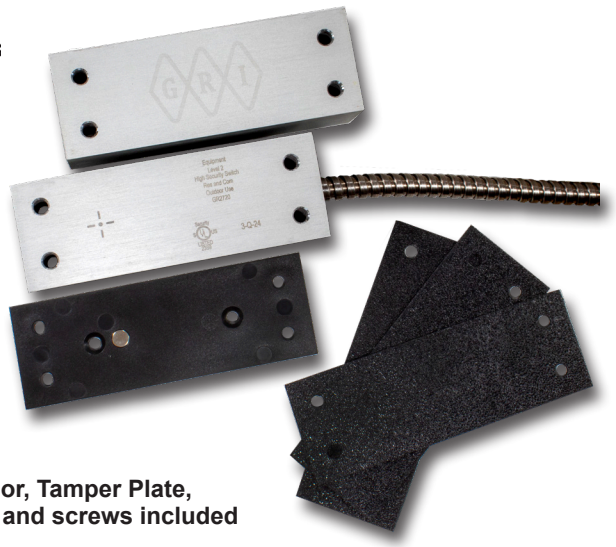
GR2720

SECURITY c UL us LISTED

High Security (Level 2)

DRY-CONTACT OUTPUT

- UL634 Level 2 Certified
- ULC/ORD-C634 Level 2 Certified
- Wood or metal mounting
- Insensitive to vibration and shock
- Temperature rated -35º to +70º C
- Sensing air gap: 0 to 3/16”
- Resistant to tamper and defeat



Sensor, Tamper Plate, Actuator and screws included

The GR2720 uses reliable solid state sensing methods to monitor entries to high security locations. It has been tested to one of the highest security specifications, UL 634 Level 2. With solid state technology there are no moving parts, so the switch can reliably operate for millions of operations. The GR2720 includes pry and magnetic tampering protection. It is immune to shock and vibration that cause false alarms on other switch types. It is also resistant to lightning, static shock and radio frequencies.

The GR2720 has an industry standard footprint for easy retrofitting. It can be used on both wood and steel doors. Each switch set comes with switch, actuator, tamper plate and mounting hardware for easy installation.

The GR2720 can be used to protect doors in high security locations; airports, biotechnology labs and other medical research settings, warehouses, manufacturing plants, jewelry stores, banks, data processing centers, military bases, ammunition depots, nuclear power plants, government facilities and energy-generation facilities.

INSTALLATION INSTRUCTIONS

The GR2720 sensor and tamper plate will be mounted to the door frame, close to the gap, without door interference. If the tamper plate is not installed, the sensor will only display a tamper state. For proper operation, the tamper plate must be mounted using the screws provided taking care to ensure that the magnet aligns with engraved target on the rear face of the sensor. The actuator will be mounted directly below the sensor. Be sure to aim the engraved targets at each other once fully installed. The sensor and actuator can be mounted on an inward or outward swinging door.

For steel mounting surfaces, mount the sensor and actuator at the edge of the mounting surface or slightly overhanging the edge of the mounting surface. This is particularly important when the air gap between the sensor and the actuator is small. False tamper indications may occur if this is not done.

The operating gap must not be greater than 3/16”.

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

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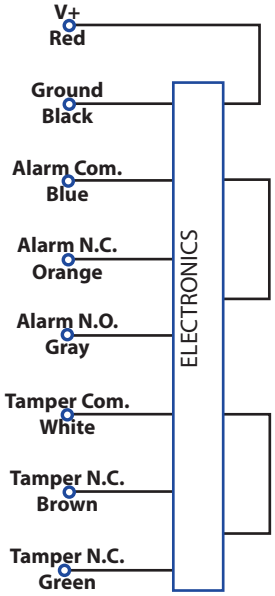
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E-MAIL: sales@grisk.com

High Security Level 2 Dry-Contact

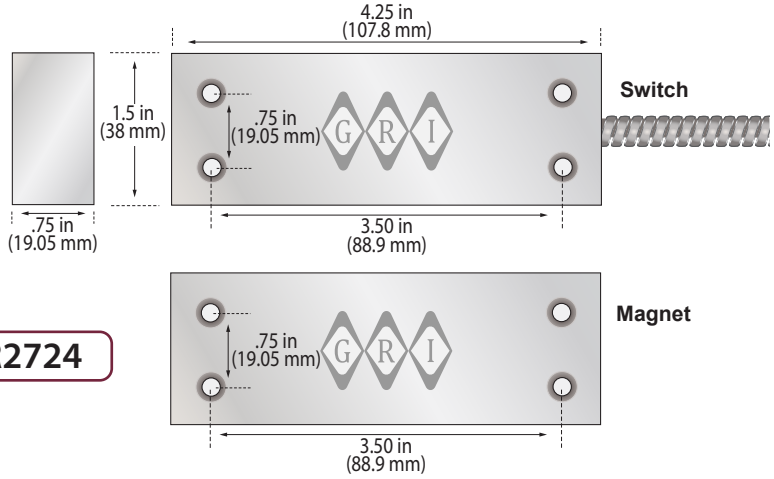
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GR2720 Wiring Diagram

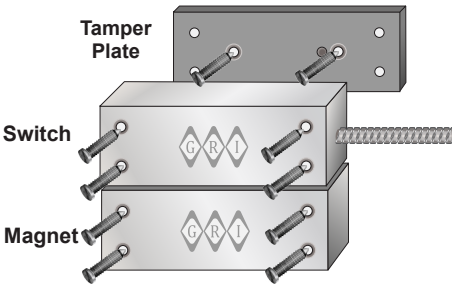
Red	Power
Black	Ground
Blue	Output 1 (Alarm)
White	Output 2 (Tamper)



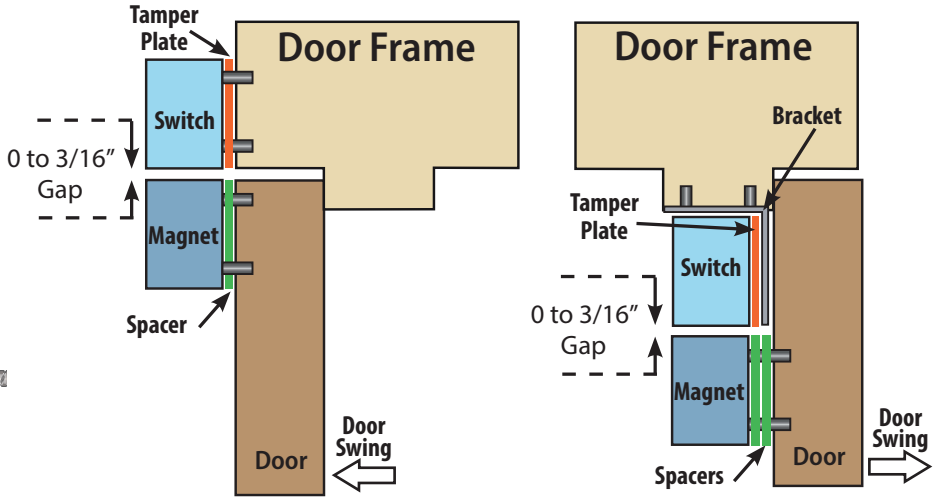
Dimensions



Component View



Installation Plans



State Diagram

STATE	ORANGE	GRAY	BROWN	GREEN
Secure	Open	Closed	Open	Closed
Insecure	Closed	Open	Open	Closed
Tamper	Open	Closed	Closed	Open
Alignment	Closed	Open	Closed	Open

General Specifications

Sensing Air Gap	0 to 3/16"	Min. Insulation Res.	1000 MOhm
Lateral Alignment	3/16"	Input Voltage	7 to 25.2 VDC
Max Current	0.5 A Resistive	Input Current	60mA, max
Max Voltage	60VDC		

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

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High Security Level 2 Recessed ANSI

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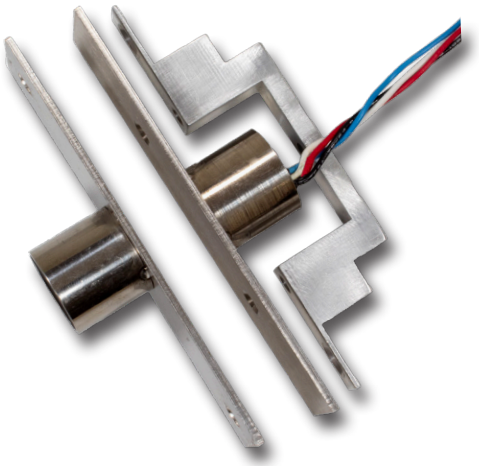
GR2721

SECURITY c UL us LISTED

High Security (Level 2) Recessed ANSI

DIGITAL OUTPUT

- UL634 Level 2 Certified
- ULC/ORD-C634 Level 2 Certified
- Wood or metal mounting
- Insensitive to vibration and shock
- Temperature rated -35º to +70º C
- Sensing air gap: 0 to 3/16”
- Resistant to tamper and defeat



Sensor, Tamper Plate, Actuator and screws included

The GR2721 uses reliable solid state sensing methods to monitor entires to high security locations. It has been tested to one of the highest security specifications, UL 634 Level 2. With solid state technology there are no moving parts, so the switch can reliably operate for millions of operations. The GR2721 includes pry and magnetic tampering protection. It is immune to shock and vibration that cause false alarms on other switch types. It is also resistant to lightning, static shock and radio frequencies.

The GR2721 fits and industry standard ANSI recessed door cutout. It can be used on both wood and steel doors. Each switch set comes with switch, actuator, tamper plate and mounting hardware for easy installation. The GR2721 also has a unique output for misalignment.

The GR2721 can be used to protect doors in high security locations; airports, biotechnology labs and other medical research settings, warehouses, manufacturing plants, jewelry stores, banks, data processing centers, military bases, ammunition depots, nuclear power plants, government facilities and energy-generation facilities.

INSTALLATION INSTRUCTIONS

The GR2720 sensor and tamper plate will be mounted to the door frame, close to the gap, without door interference. If the tamper plate is not installed, the sensor will only display a tamper state. For proper operation, the tamper plate must be mounted using the screws provided taking care to ensure that the magnet aligns with engraved target on the rear face of the sensor. The actuator will be mounted directly below the sensor. Be sure to aim the engraved targets at each other once fully installed. The sensor and actuator can be mounted on an inward or outward swinging door.

For steel mounting surfaces, mount the sensor and actuator at the edge of the mounting surface or slightly overhanging the edge of the mounting surface. This is particularly important when the air gap between the sensor and the actuator is small. False tamper indications may occur if this is not done.

The operating gap must not be greater than 3/16”.

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

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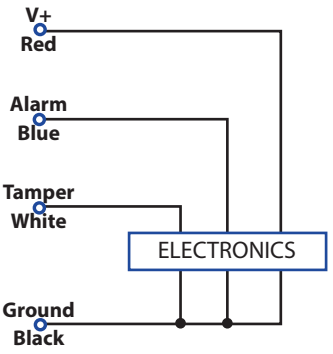
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High Security Level 2 Recessed ANSI

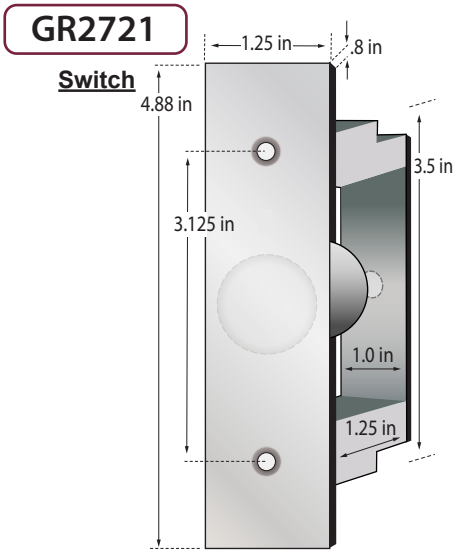
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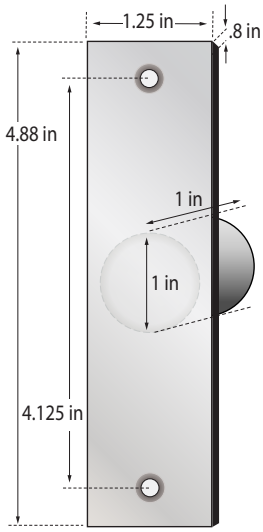
GR2721 Wiring Diagram

Red	Power
Black	Ground
Blue	Output 1 (Alarm)
White	Output 2 (Tamper)



GR2721

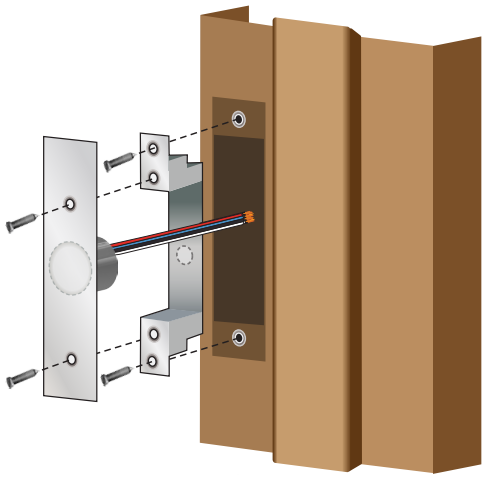




Actuator (Magnet) View with Door Cutout



Sensor (Switch) View with Frame Cutout



General Specifications

Sensing Air Gap	0 to 3/16”	Max. Power	6 W Resistive
Lateral Alignment	3/16”	Max. Leakage Current	10 µA
Max Current	0.2 A Resistive	Input Voltage	4 to 25.2 VDC
Max Voltage	30VDC	Input Current	20mA, max.

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

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High Security Level 2 Small Footprint

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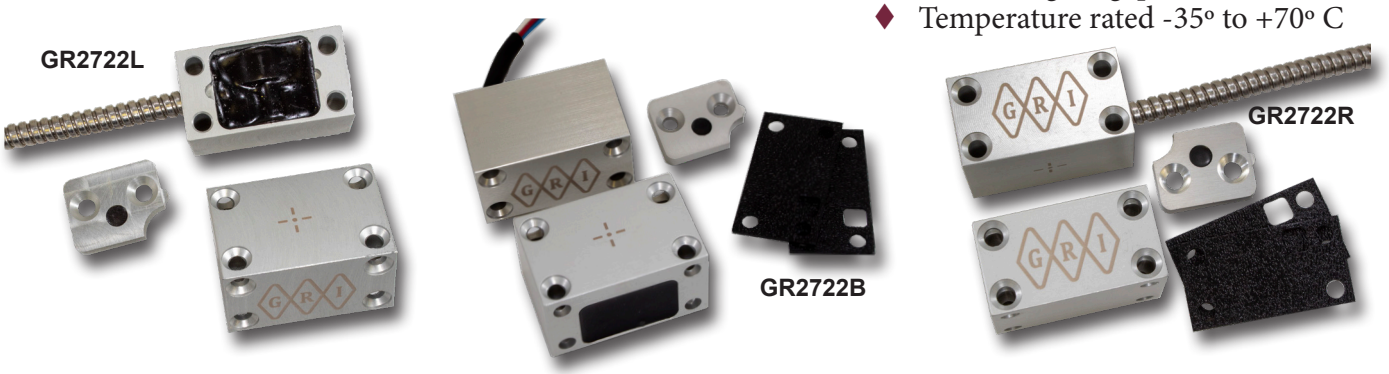
GR2722 SECURITY c UL us

High Security (Level 2) Small Footprint

Left, Back and Right Cable Exits

DIGITAL OUTPUT

- UL634 Level 2 Certified
- ULC/ORD-C634 Level 2 Certified
- Small Footprint
- Wood or Metal Mounting
- Insensitive to vibration and shock
- Alignment: 3/16”
- Sensing air gap: 0 to 3/16”
- Temperature rated -35º to +70º C



The GR2722 uses reliable solid state sensing methods to monitor entries to high security locations. It has been tested to one of the highest security specifications, UL 634 Level 2. With solid state technology there are no moving parts, so the switch can reliably operate for millions of operations. The GR2722 includes pry and magnetic tampering protection. It is immune to shock and vibration that cause false alarms on other switch types. It is also resistant to lightning, static shock and radio frequencies.

The GR2722 has a small footprint which makes it aesthetically appealing while still providing a high level of security. It can be used on both wood and steel doors. Each switch set comes with switch, actuator, tamper plate and mounting hardware for easy installation.

The GR2720 can be used to protect doors in high security locations; airports, biotechnology labs and other medical research settings, warehouses, manufacturing plants, jewelry stores, banks, data processing centers, military bases, ammunition depots nuclear power plants, government facilities and energy-generation facilities.

INSTALLATION INSTRUCTIONS

The GR2722 sensor and tamper plate will be mounted to the door frame, close to the gap, without door interference. If the tamper plate is not installed, the sensor will only display a tamper state. For proper operation, the tamper plate must be mounted using the screws provided taking care to ensure that the magnet aligns with engraved target on the rear face of the sensor. The actuator will be mounted directly below the sensor. Be sure to aim the engraved targets at each other once fully installed. The sensor and actuator can be mounted on an inward or outward swinging door.

For steel mounting surfaces, mount the sensor and actuator at the edge of the mounting surface or slightly overhanging the edge of the mounting surface. This is particularly important when the air gap between the sensor and the actuator is small. False tamper indications may occur if this is not done.

The operating gap must not be greater than 3/16”.

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

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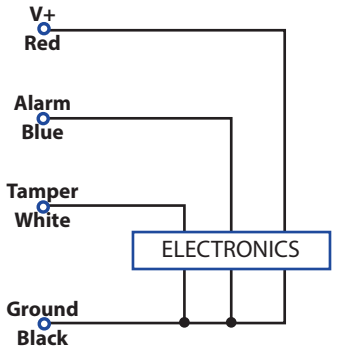
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FAX (308) 235-3561
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High Security Level 2 Small Footprint

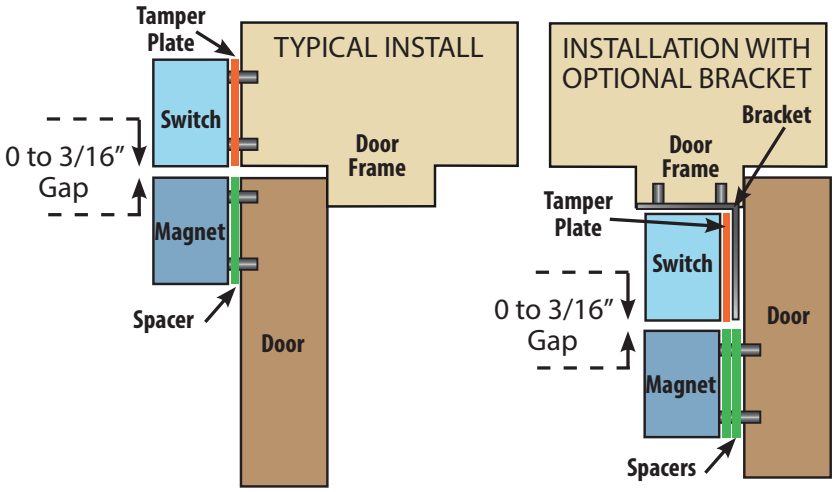
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GR2722 Wiring Diagram

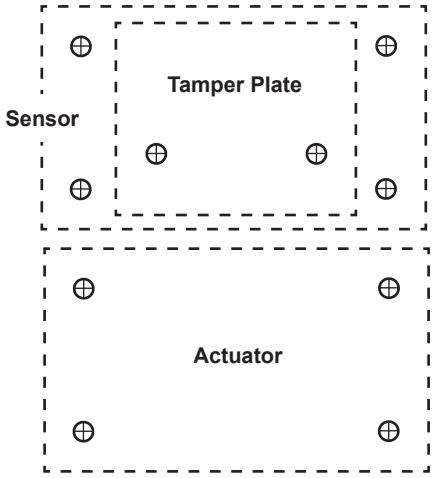
Red	Power
Black	Ground
Blue	Output 1 (Alarm)
White	Output 2 (Tamper)



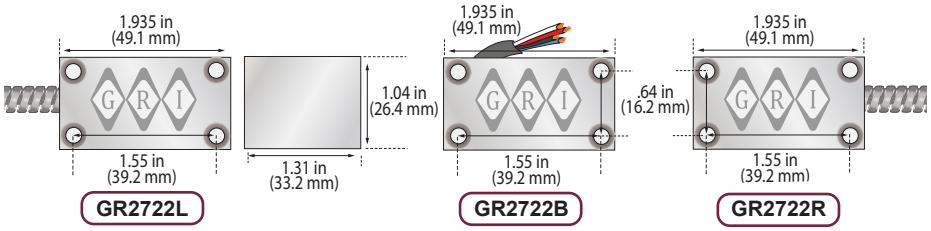
Installation Plans



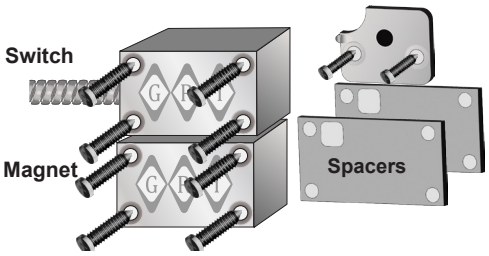
Mounting Template

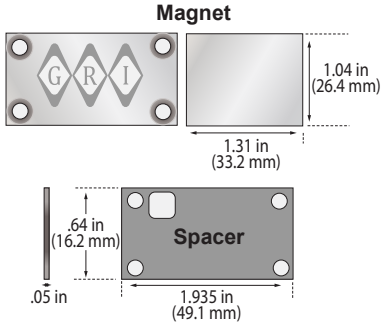


Dimensions



Component View of GR2722L





General Specifications

Sensing Air Gap	0 to 3/16"	Max. Power	6 W Resistive
Lateral Alignment	3/16"	Max. Leakage Current	10 µA
Max Current	0.2 A Resistive	Input Voltage	4 to 25.2 VDC
Max Voltage	30VDC	Input Current	20mA, max

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

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High Security Level 2 Standard Footprint

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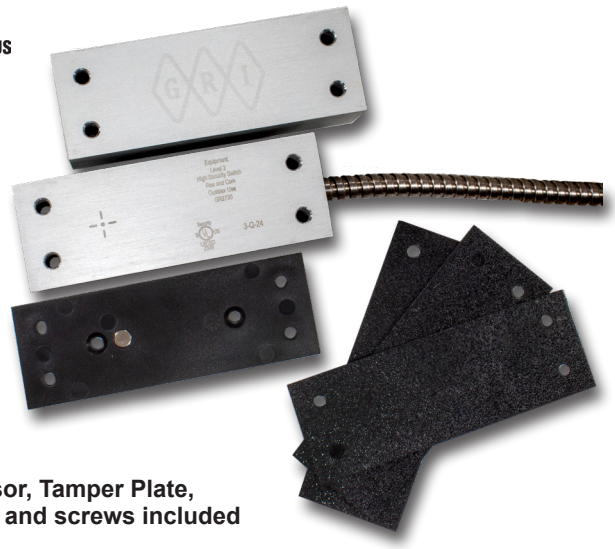
NEW

GR2723 High Security (Level 2) Standard Footprint

SECURITY c UL us LISTED

DIGITAL OUTPUT

- UL634 Level 2 Certified
- ULC/ORD-C634 Level 2 Certified
- Wood or metal mounting
- Insensitive to vibration and shock
- Temperature rated -35° to +70° C
- Sensing air gap: 0 to 3/16”
- Resistant to tamper and defeat



Sensor, Tamper Plate, Actuator and screws included

The GR2723 uses reliable solid state sensing methods to monitor entries to high security locations. It has been tested to one of the highest security specifications, UL 634 Level 2. With solid state technology there are no moving parts, so the switch can reliably operate for millions of operations. The GR2723 includes pry and magnetic tampering protection. It is immune to shock and vibration that cause false alarms on other switch types. It is also resistant to lightning, static shock and radio frequencies.

The GR2723 has an industry standard footprint for easy retrofitting. It can be used on both wood and steel doors. Each switch set comes with switch, actuator, tamper plate and mounting hardware for easy installation.

The GR2723 can be used to protect doors in high security locations; airports, biotechnology labs and other medical research settings, warehouses, manufacturing plants, jewelry stores, banks, data processing centers, military bases, ammunition depots, nuclear power plants, government facilities and energy-generation facilities.

INSTALLATION INSTRUCTIONS

The GR2723 sensor and tamper plate will be mounted to the door frame, close to the gap, without door interference. If the tamper plate is not installed, the sensor will only display a tamper state. For proper operation, the tamper plate must be mounted using the screws provided taking care to ensure that the magnet aligns with engraved target on the rear face of the sensor. The actuator will be mounted directly below the sensor. Be sure to aim the engraved targets at each other once fully installed. The sensor and actuator can be mounted on an inward or outward swinging door.

For steel mounting surfaces, mount the sensor and actuator at the edge of the mounting surface or slightly overhanging the edge of the mounting surface. This is particularly important when the air gap between the sensor and the actuator is small. False tamper indications may occur if this is not done.

The operating gap must not be greater than 3/16”.

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

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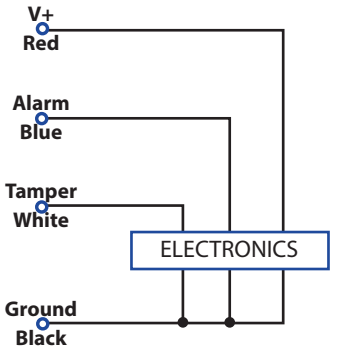
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High Security Level 2 Standard Footprint

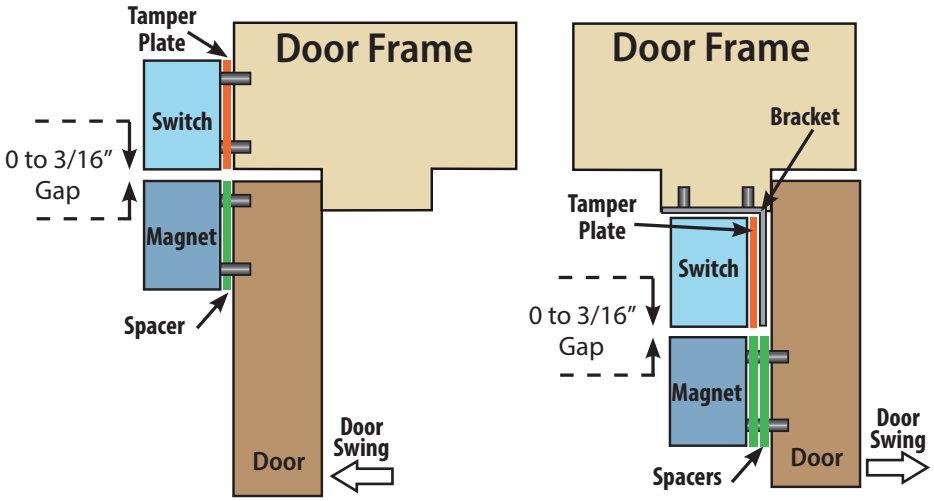
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GR2723 Wiring Diagram

Red	Power
Black	Ground
Blue	Output 1 (Alarm)
White	Output 2 (Tamper)



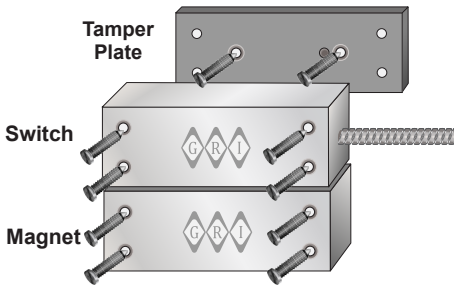
Installation Plans



State Diagram:

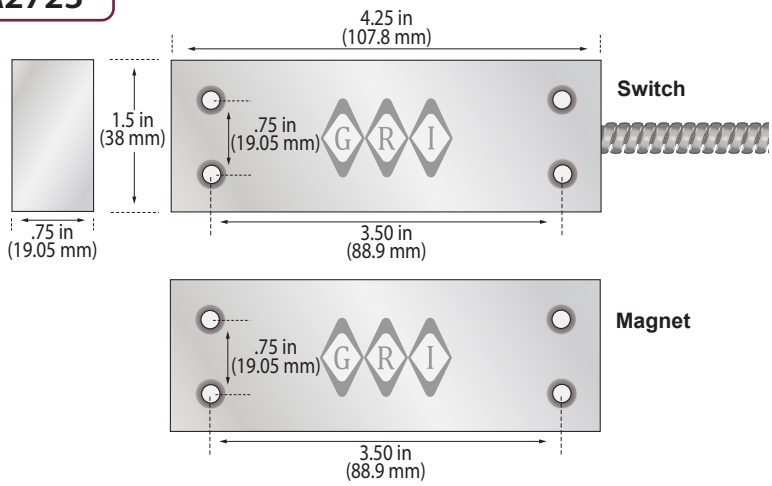
STATE	BLUE WIRE	WHITE WIRE
Secure	Closed	Closed
Insecure	Open	Closed
Tamper	Closed	Open
Alignment	Open	Open

Component View



GR2723

Dimensions



General Specifications

Sensing Air Gap	0 to 3/16"	Max. Power	6 W Resistive
Lateral Alignment	3/16"	Max. Leakage Current	10 µA
Max Current	0.2 A Resistive	Input Voltage	4 to 25.2 VDC
Max Voltage	30VDC	Input Current	20mA, max.

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

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3/8" Mini Recessed Magnasphere

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



MS20RS-12

- 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. Resisters and Diodes upon request
- Switches and magnets available separately
- Colors: white, brown or gray
- Lifetime Warranty
- Standard Gap 3/8"



MS20RS-T

INSTALLATION APPLICATIONS

The GRI recessed "shortie" switch set is designed for applications with 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

Magnaspere'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.

Continued on back

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

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3/8" Mini Recessed Magnasphere

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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.

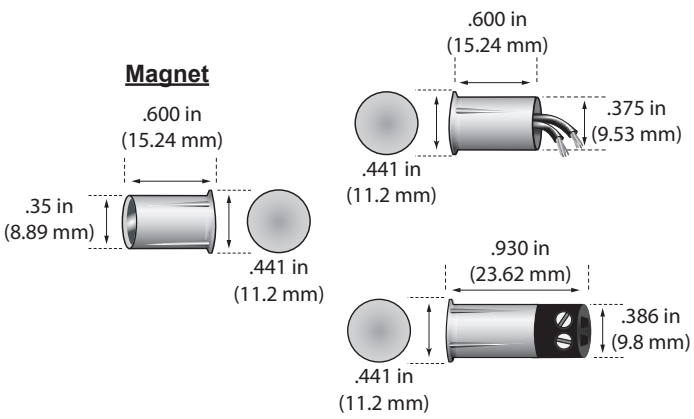
When the actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

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 center electrode to open the switch.

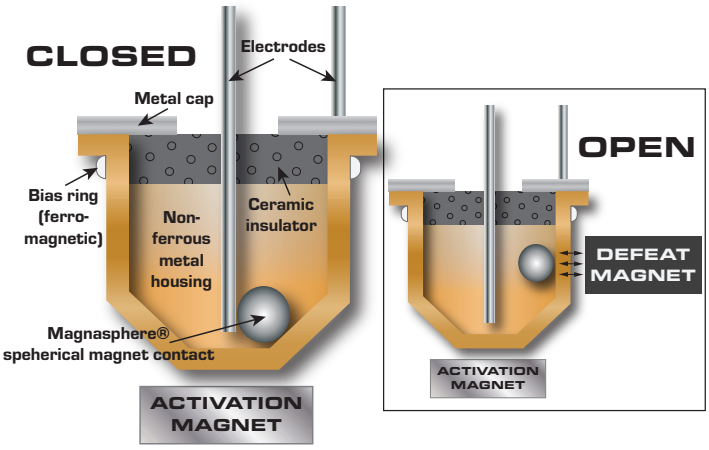
PRINCIPLES OF SPHERICAL MAGNETISM:

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.

MS20RS-12



MS20RS-T



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
MS20RS-12	Closed	N/O	A	.400	5	250 AC/DC	.180*
MS20RS-T	Closed	N/O	A	.400	5	250 AC/DC	.180*

*Higher maximum switching current ratings available.

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

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3/8" Recessed Magnasphere

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



MS2020-12

- 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. Resisters and Diodes upon request
- Switches and magnets available separately
- Colors: white, brown or gray
- Lifetime Warranty
- Standard Gap 3/8"



MS2020-T

INSTALLATION APPLICATIONS

GRI'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

Magnaspere'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.

Continued on back

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

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

WWW.GRISK.COM

Proudly Made in U.S.A.

1-800-445-5218
1-800-523-1227
(308) 235-4645
FAX (308) 235-3561
E-MAIL: sales@grisk.com

3/8" Recessed Magnasphere

WWW.GRISK.COM

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.

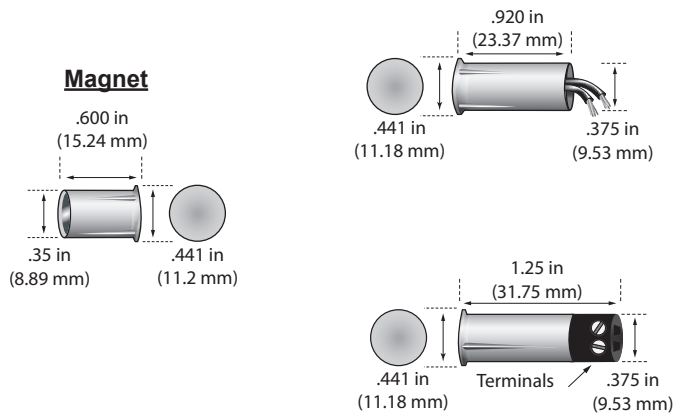
When the actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

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 center electrode to open the switch.

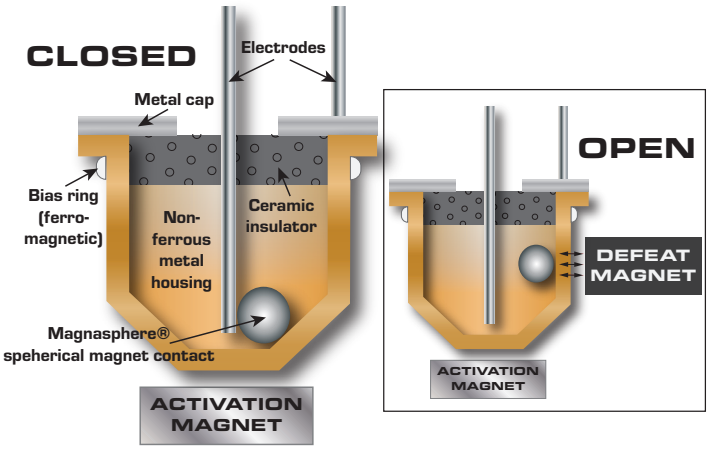
PRINCIPLES OF SPHERICAL MAGNETISM:

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.

MS2020-12



MS2020-T



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
MS2020-12	Closed	N/O	A	.400	5	250 AC/DC	.180*
MS2020-T	Closed	N/O	A	.400	5	250 AC/DC	.180*

*Higher maximum switching current ratings available.

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

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3/8” Recessed Flanged Magnasphere

WWW.GRISK.COM

Recessed 3/8” Flanged Switch Set with Magnasphere Technology MS20F-12 / MS20-OF



MS20F-12

- 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. Resisters and Diodes upon request
- Switches and magnets available separately
- Colors: white, brown or gray, black
- Lifetime Warranty
- Standard Gap 3/8”



MS20-OF-12

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 provided.

CONSTRUCTION

Magnaspere’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.

Continued on back

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

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3/8" Recessed Flanged Magnasphere

WWW.GRISK.COM

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.

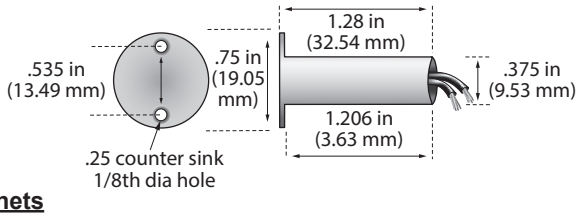
When the actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

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 center electrode to open the switch.

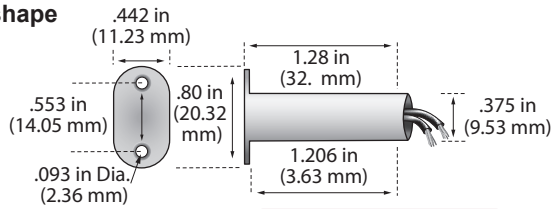
PRINCIPLES OF SPHERICAL MAGNETISM:

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.

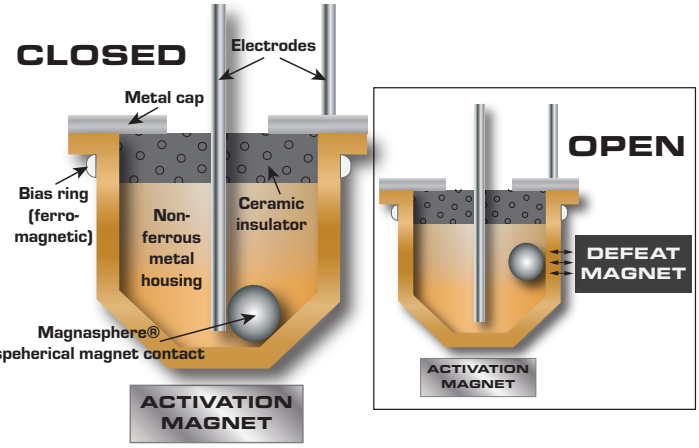
MS20F-12



Magnets match switch in size and shape



MS20-OF-12



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
MS20F-12	Closed	N/O	A	.400	5	250 AC/DC	.180*
MS20-OF-12	Closed	N/O	A	.400	5	250 AC/DC	.180*

*Higher maximum switching current ratings available.

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

GEORGE RISK INDUSTRIES, INC.
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E-MAIL: sales@grisk.com

1/2" Recessed Magnasphere

WWW.GRISK.COM

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. Resisters and Diodes upon request
- Switches and magnets available separately
- Colors: white, brown or gray, black
- Lifetime Warranty
- Standard Gap 3/8"



MS150-12



MS150-T

INSTALLATION APPLICATIONS

Larger than 3/8" but smaller than 3/4", GRI 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. resisters, etc., yet would install in the popular hollow core windows. The GRI 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 GRI 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 GRI magnets to help resolve difficult installation applications, such as our MF-875. Patent Pending.

Continued on back

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

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1/2" Recessed Magnasphere

WWW.GRISK.COM

CONSTRUCTION

Magnaspere'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.

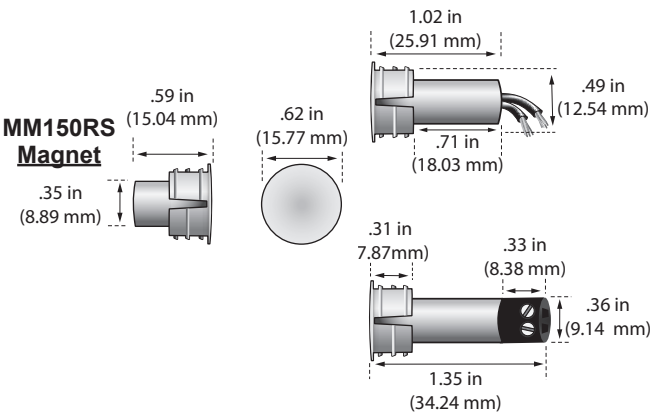
When the actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

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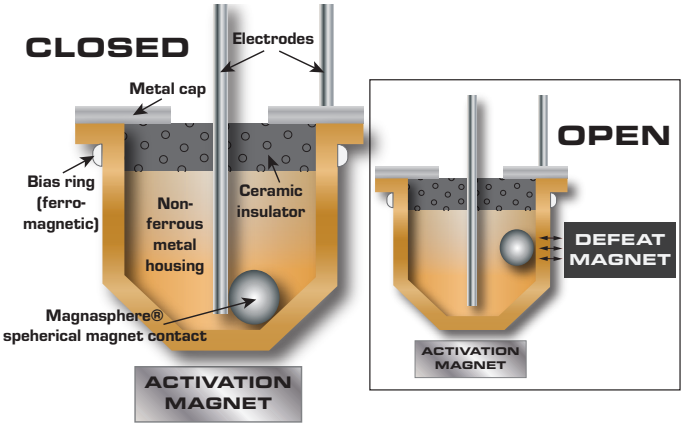
PRINCIPLES OF SPHERICAL MAGNETISM:

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.

MS150-12



MS150-T



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
MS150-12	Closed	N/O	A	.400	5	250 AC/DC	.180*
MS150-T	Closed	N/O	A	.400	5	250 AC/DC	.180*

*Higher maximum switching current ratings available.

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

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3/4" Recessed Steel Door Magnasphere

WWW.GRISK.COM

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. Resisters and Diodes upon request
- Switches and magnets available separately
- Colors: white, brown or gray, black
- Custom lead lengths upon request
- Lifetime Warranty
- Standard Gap 3/8"



MS180-12



MS8080-T

INSTALLATION APPLICATIONS

The GRI 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

Magnaspere'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.

Continued on back

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

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E-MAIL: sales@grisk.com

3/4" Recessed Steel Door Magnasphere

WWW.GRISK.COM

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.

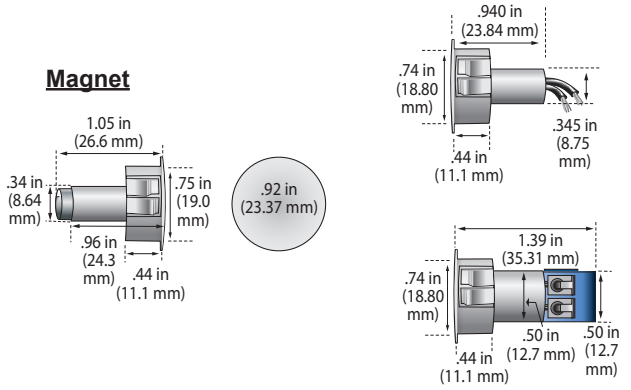
When the actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

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 center electrode to open the switch.

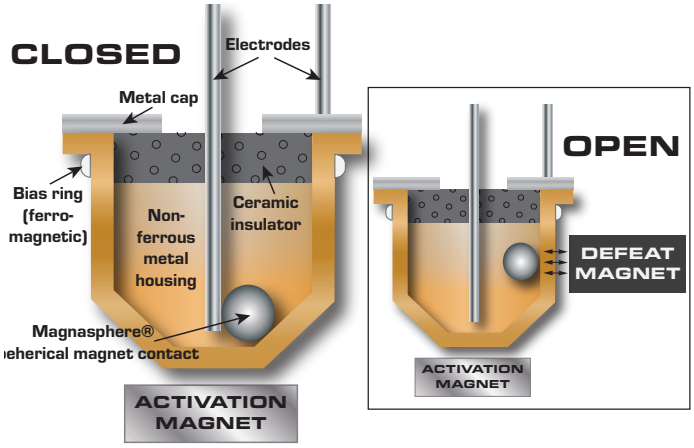
PRINCIPLES OF SPHERICAL MAGNETISM:

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.

MS180-12



MS8080-T



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
MS180-12	Closed	N/O	A	.400	5	250 AC/DC	.180*
MS180-T	Closed	N/O	A	.400	5	250 AC/DC	.180*

*Higher maximum switching current ratings available.

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

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E-MAIL: sales@grisk.com

Surface Mount Magnasphere

WWW.GRISK.COM

Surface Mount Switch Set with Magnasphere Technology MS28A / MS29A / MS29P



MS28A

- 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. Resisters and Diodes upon request
- Switches and magnets available separately
- Colors: white, brown or gray
- Private labeling upon request
- Lifetime Warranty
- Standard Gap 3/8”



MS29A



MS29PA

INSTALLATION APPLICATIONS

This series offers a standard gap of 1/2” 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 GRI full line catalog.)

CONSTRUCTION

Magnaspere’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.

Continued on back

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

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Surface Mount Magnasphere

WWW.GRISK.COM

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

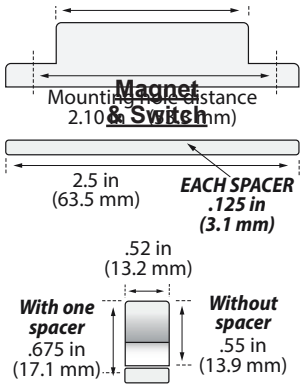
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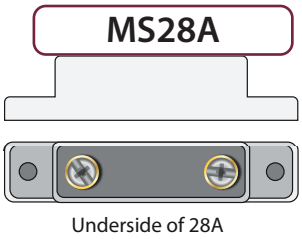
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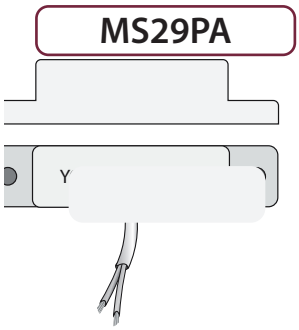
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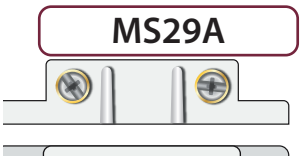
PRINCIPLES OF SPHERICAL MAGNETISM:

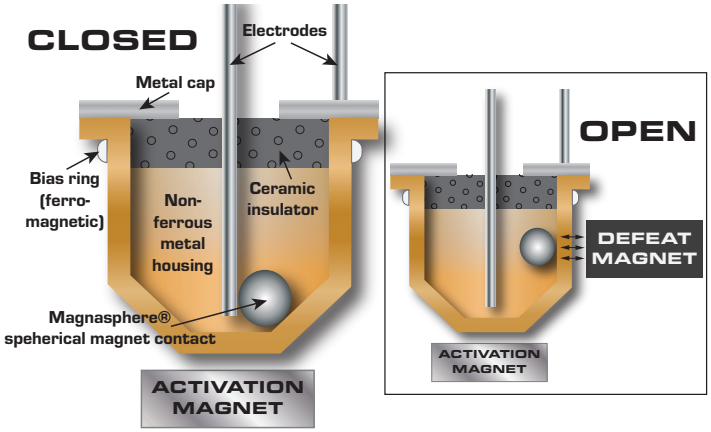
Finite element analysis shows magnetic flux paths of the Magnasphere® magnetic ball contact. The spherical shape is not polarity sensitive and will be attracted to either pole of the actuating magnet.











GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
MS28A	Closed	N/O	A	.400	5	250 AC/DC	.180*
MS29A	Closed	N/O	A	.400	5	250 AC/DC	.180*
MS29PA	Closed	N/O	A	.400	5	250 AC/DC	.180*

*Higher maximum switching current ratings available.

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

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Aluminum Industrial Magnasphere

WWW.GRISK.COM

Aluminum Industrial Switch Set with High Security Magnasphere Technology MS4400 Series



MS4400-A



- 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
- Variety of optional mounting brackets available
- Built-in E.O.L. Resisters and Diodes upon request
- Lifetime Warranty
- Standard Gap 3/8”

INSTALLATION APPLICATIONS

GRI’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 space #5226 if mounting on steel; and that the switch and magnet me metered for maximum gap. Please call factory for further installation instructions.

CONSTRUCTION

Magnaspere’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.

Continued on back

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

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Aluminum Industrial Magnasphere

WWW.GRISK.COM

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

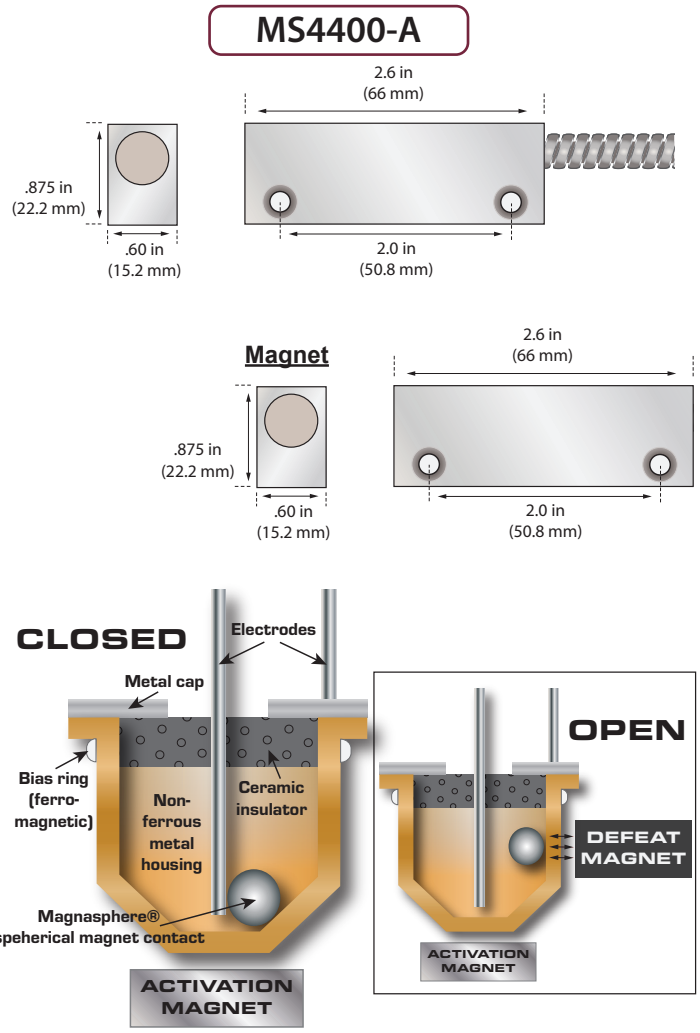
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When the actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

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 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 Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
MS4400	Closed	N/O	A	.400	5	250 AC/DC	.180*
MS4400-A	Closed	N/O	A	.400	5	250 AC/DC	.180*

*Higher maximum switching current ratings available.

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

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Special Pull Apart Magnasphere

WWW.GRISK.COM

Special Purpose Pull Apart Switch Set with Magnasphere Technology MS4702 / MS4702-A



MS4702 / MS4702A

- Higher level of security
- Spherical magnetism
- Resistant to magnetic tamper and defeat
- Hermetically sealed
- Heavy duty for improved durability
- Great for marinas, truck docks and any portable merchandise
- 3 foot jacketed or armored cable
- Custom lead lengths upon request
- Armored disconnect cable available
- Gray only
- Lifetime Warranty

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 trailers, 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

Magnaspere'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

Continued on back

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

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Special Pull Apart Magnasphere

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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.

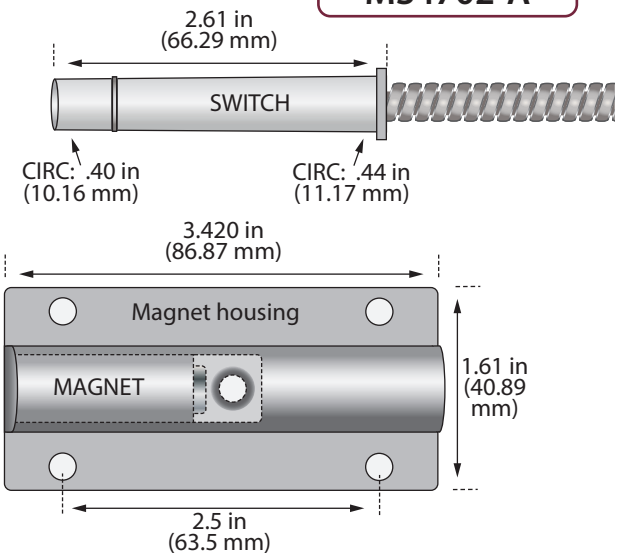
When the actuator magnet approaches the switch from the end of the switch opposite the electrode, the magnetic ball is attracted to this field, and "snaps" to the bottom of the case, making contact with the electrode and case, closing the switch.

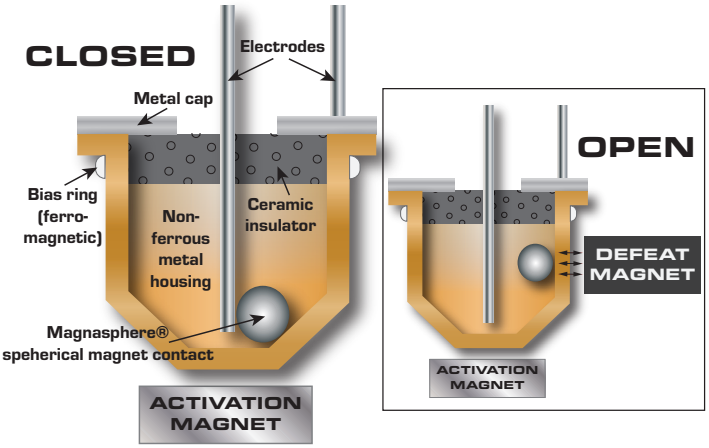
Unlike a reed switch that responds to a magnet within a global activation zone, the Magnasphere® switch responds to a magnet only within a restricted zone. A magnet outside the zone pulls the ball off center electrode to open the switch.

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.

MS4702-A





GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
MS4702	Closed	N/O	A	.400	5	250 AC/DC	.180*
MS4702-A	Closed	N/O	A	.400	5	250 AC/DC	.180*

*Higher maximum switching current ratings available.

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

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Wire Trip Switch WT-01
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GRI

Dual Function Switches

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AA / AC Series

- Security to access control
- Security to relays
- Security to recorders
- Access to VCR for CCTV timers
- Security to pool alarms
- Indicates U.L. 10C fire rating



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 "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 that factory for further information.

Part Numbers

Surface Mount		Recessed	U.L. 10C Fire Rated
AA1100	AC29P-A	AA180-A	AA180
AC1100	AA410P	AC180-A	AC180
AA200	AC410P	AA2020	AA184
AC200	AA410P-A	AC2020	AC184
AA250	AC410P-A		
AC250	AA4400		
AA29P	AC4400		
AC29P	AA4400-A		
AA29P-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 # denotes armored cable.
All come with standard 36 inch leads.

Wire Code:

	1st (A)	2nd (A)
AA	Red/Black	Green/White
AC	(A) Circuit Black/Blue	(C) Circuit White - C Red - N.C. Green - N.O.

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

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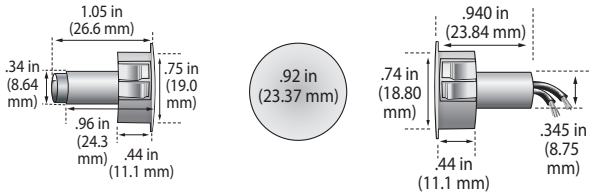
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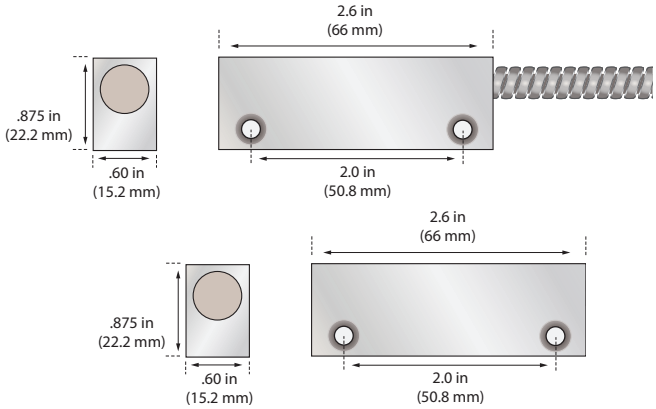
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Dual Function Switches

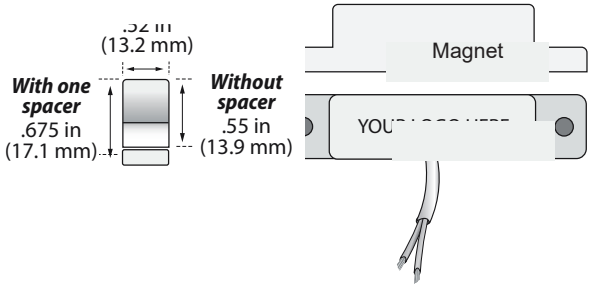
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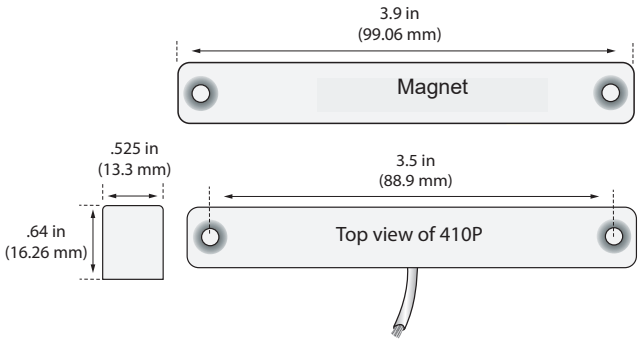
AA/AC180



AA/AC4400-A



AA/AC29P



AA/AC410P

GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
A	Closed	N/O	A	.150	10	160	.400
C	Open/Closed	SPDT	C	.140	5	175	.250

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

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High Current Contact Switches

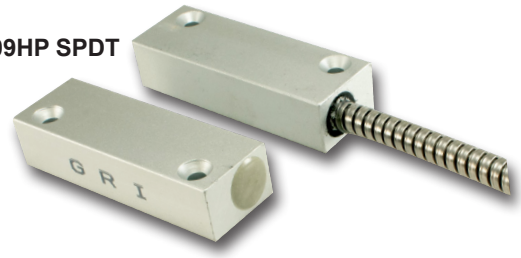
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- Hermetically sealed solid tungsten contacts
- Capable of extended operation applications in extreme environments with aluminum case and high temperature wire
- Capable of switching power loads between three and 100 Watts
- 18 AWG wire to accommodate higher current loads (gray only)
- Excellent match for applications needing a reed switch to activate higher voltage components; lights, blower motors, light industrial air compressors, home water fountains, pumps, etc.
- Available in a variety of switch styles

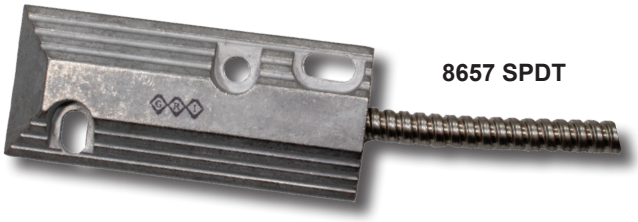
8180 HP-W SPDT



8709HP SPDT



8657 SPDT



10645 SPDT



HS-634 Reed Specifications	
Power	100 Watts Maximum
Switching Current	120 VAC Maximum
Switching Current	3 Amp Maximum
Operating Temperatures	-40°F to 257°F
C-Form Reed	SPDT

Note: Not for use on electrical 110 AC applications.

Part Numbers

Call factory for other available parts and part numbers with this reed.

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

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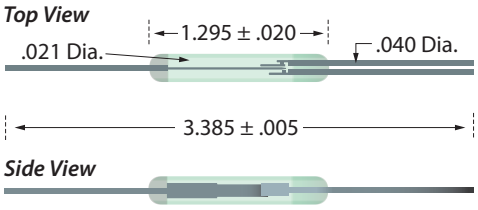
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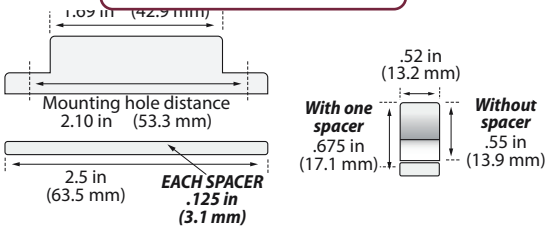
High Current Contact Switches

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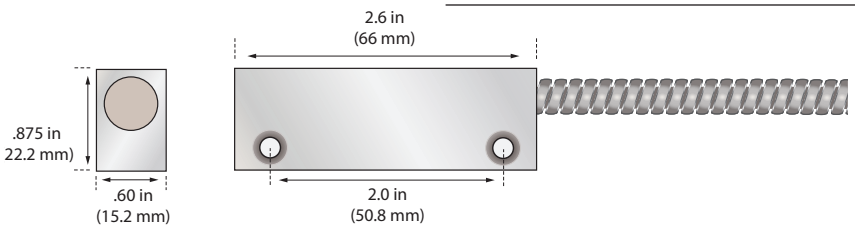
HSR-634 Reed



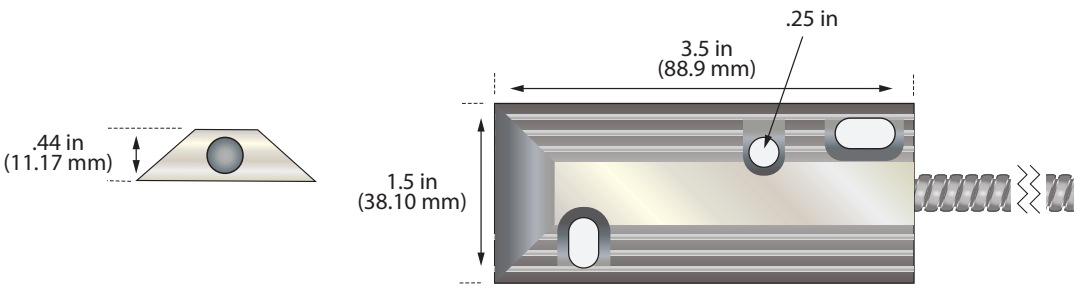
8180 HP-W SPDT



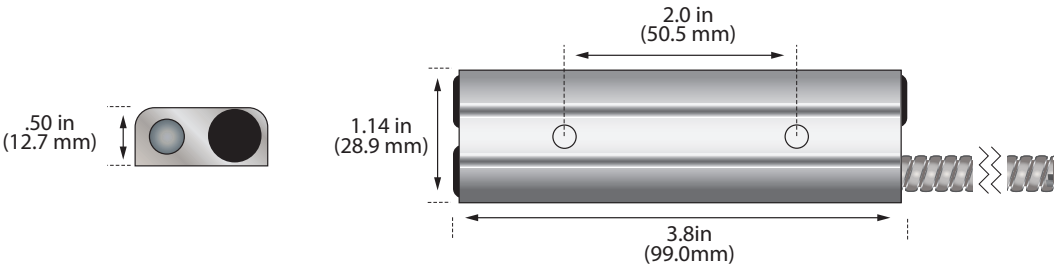
8709HP



8657 SPDT



10645 SPDT



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Max. Contact Rating (W)	Max. Switching Voltage (VAC)	Max. Switching Current (A)
HS-634	Open/Closed	SPDT	3	120	3

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

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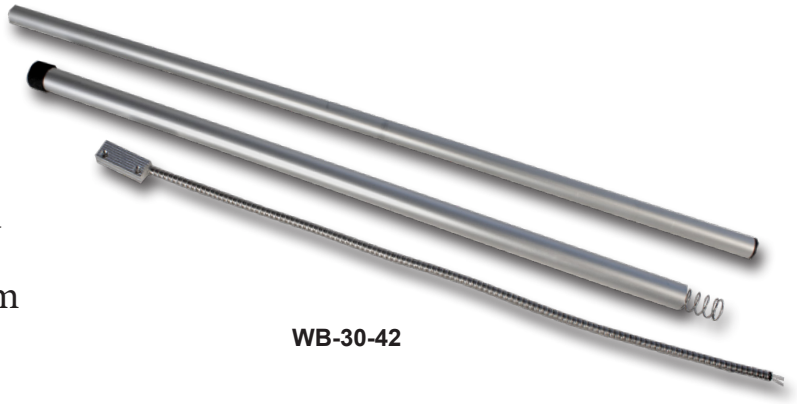
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Alarmed Window Bar

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Window Bar Series

- Fits windows 30” - 42”
- No cutting required
- Removes easily in emergency
- Reinforced extruded aluminum
- Protects 24 - 7



WB-30-42

GRI’s Alarmed Window Bars will fit windows from 30” to 42” wide with no cutting required. If window is higher than 14”, to 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 GRI Alarmed Window Bars are easy to removed 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.

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.

Part Numbers

WB-30-42	WB-ASB (Angled Bracket Kit)

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

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Alarmed Window Bar

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INSTALLATION INSTRUCTIONS FOR WB-30-42:

LIST OF COMPONENTS

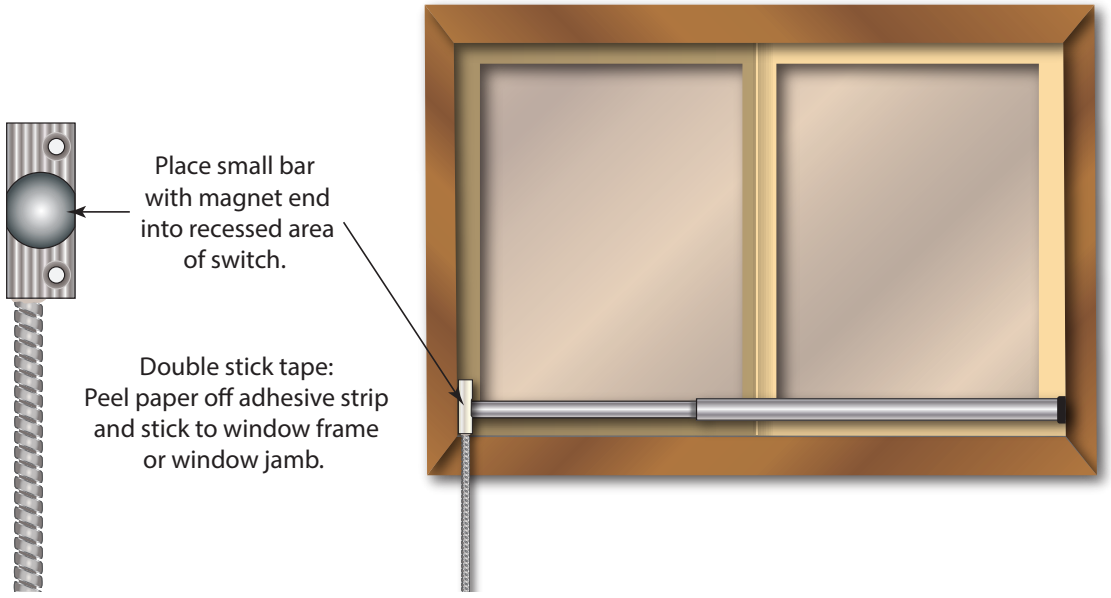
1 - spring	1 - 20" round bar 3/4" diameter	1 - 8504 switch
2 - #4 x 1 screws	1 - 24" round bar 5/8" diameter	1 - M-5065 magnet (in 5/8" bar)
2 - #6 x 1" self-tap screws	2 - nylon clamps	1 - non-slip end cap

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 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.



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

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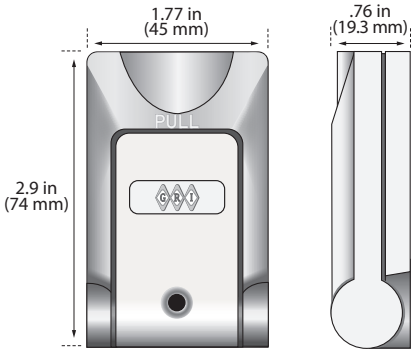
Panic Switch

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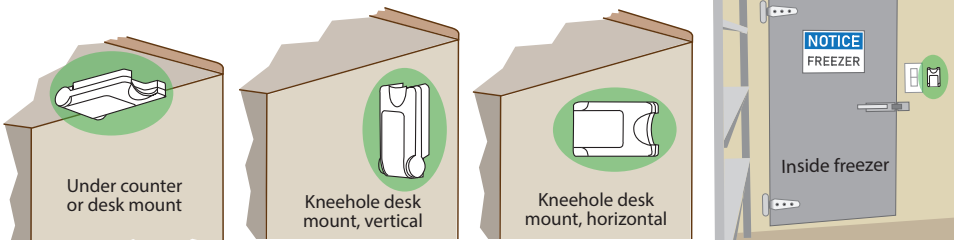
GR3045 Series *UL pending*

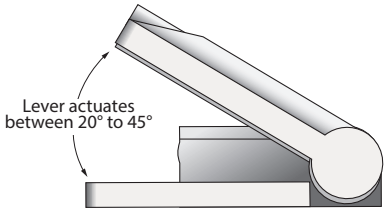


- Easy installation
- Mounts underneath or on the side of desk or counter
- Mounts horizontal or vertical
- Smooth housing prevents accidental clothing damage
- Actuating lever designed for finger tip
- Reed contacts reset when lever is in closed position
- Closed Loop and SPDT outputs available
- Cold temp versions for refrigerators and freezers
- Latching and Non-Latching LED indicator available
- Screw terminals and 12 ft. jacketed leads available
- Available in white



Suggested mounting options.





Part Numbers

	LED	Loop	Terminal	Operating Temperature
GR3040	Latching-Red	Open/Closed	5 screw terminals	32°F to 140°F (0°C to 60°C)
GR3040CT	Latching-Red	Open/Closed	12 ft jacketed leads	-40°F to 140°F (-40°C to 60°C)
GR3045	No LED	Closed Loop	2 screw terminals	32°F to 140°F (0°C to 60°C)
GR3045CT	No LED	Closed Loop	12 ft jacketed leads	-40°F to 140°F (-40°C to 60°C)
GR3046	No LED	Open/Closed	3 screw terminals	32°F to 140°F (0°C to 60°C)
GR3046CT	No LED	Open/Closed	12 ft jacketed leads	-40°F to 140°F (-40°C to 60°C)
GR3050	Latching-Red/Green	Open/Closed	5 screw terminals	32°F to 140°F (0°C to 60°C)
GR3055	Non Latching-Red/Green	Open/Closed	5 screw terminals	32°F to 140°F (0°C to 60°C)

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Panic Switch

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INSTALLATION

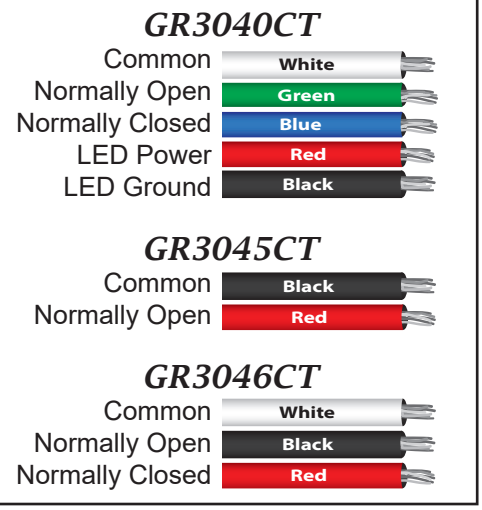
MOUNTING INSTRUCTIONS

1. Determine the best mounting position so that the panic switch can be easily found and reached in an emergency, but that will not attract attention when the user activates the switch. Typical locations are on the underside of a counter top, on the side of a knee hole of a desk, in a hallway or bedroom, or near an entryway. The unit can be mounted horizontally or vertically and should be mounted low enough so that a person could reach it from the floor. Three inches of clearance above the mounting surface is required so that the lever can be fully opened.
2. Temporarily place the switch were it will be mounted and mark the screw locations.
3. Drill pilot holes or start the screws to make installing screws easier.
4. **Terminal Version:** Connect the wires to the terminals per the wiring instructions before mounting switch.
5. After wiring is complete, install screws through the switch housing and firmly secure in place.
6. **Leaded Version:** After securing switch in place, run wire cable as needed and connect wires per the wiring instructions.
7. Test unit by pulling the lever and then closing it again.

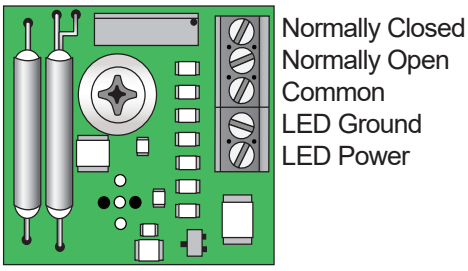
WIRING INSTRUCTIONS

The switch circuit is not latching on all versions and will re-activate when the lever is closed. The LED circuit is either latching or non-latching. To reset the latching version, LED power must be disconnected. Adding a switch in series with the LED power to one or more Panic Switches is an easy way to reset all the latched switches.

WIRING DIAGRAM FOR LEADED VERSIONS



WIRING DIAGRAM FOR TERMINAL VERSIONS



GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max Initial Contact Resistance	Max Contact Rating (W)	Max Switching Voltage (VDC)	Max Switching Current (A)
GR3040	Open/Closed	SPDT	C	0.140	5	175	0.250
GR3040CT	Open/Closed	SPDT	C	0.140	5	175	0.250
GR3045	Closed Loop	N/O	A	0.150	10	160	0.500
GR304CT	Closed Loop	N/O	A	0.150	10	160	0.500
GR3046	Open/Closed	SPDT	C	0.140	5	175	0.250
GR3046CT	Open/Closed	SPDT	C	0.140	5	175	0.250
GR3050	Open/Closed	SPDT	C	0.140	5	175	0.250
GR3055	Open/Closed	SPDT	C	0.140	5	175	0.250

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

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Hold-Up Switch

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HD-1 Latching / Non-Latching

Will trip alarm even when 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



HD-1

The GRI 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 the alarm condition. To reset to the armed condition of the latching option, simply touch the left finder pad. An accidental bump or touch will not trigger the GRI Hold-Up Devices. CT technology allows even an operator wearing gloves to activate sensor. Perfect Hold-Up Devices 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.

Specifications:

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

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

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Hold-Up Switch

WWW.GRISK.COM

INSTALLATION INSTRUCTIONS FOR HD-1:

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

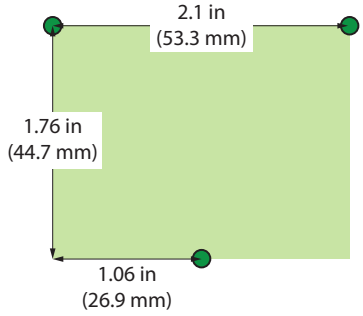
2) Connect power lines (+12 volts DC and Ground) to holdup terminal block. Then connect zone wires to Common and Z lines to security panel. If using an E.O.L. resistor, place one end to the resistor on Z and the other end on EOL.

3) Mount until 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.

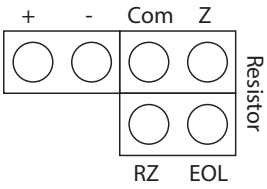
When both pads are touched at the same time, the armed green light will go out and the zone will be put into an alarm condition indicated by the red LED.

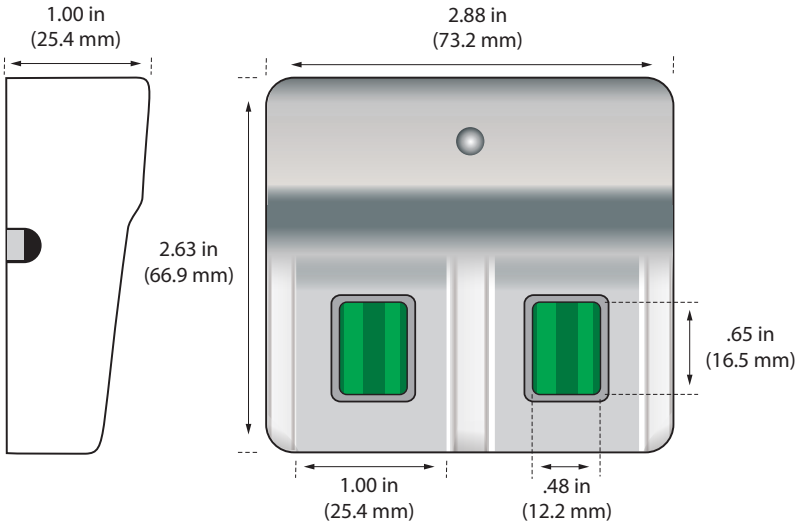
The non-latching option unit will automatically reset the output once the pads are released. To reset the output on the latching option, touch the left finder pad. Note that the LED will always latch red after going into the alarm and must be reset.



JUMPER SETTING







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

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Quick Disconnect Cord

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QDC-20



QDC-20

- Weather pack nylon connectors environmentally sealed to withstand exposure to temperature and moisture
- Mounting cases potted with epoxy
- Idea 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-20 can be installed in-line for multiple door openings

- *QDCW-20 has 12" 8AWG two conductor cable leads instead of screw terminals to prevent corrosion in harsh environments*

Part Number	Max Switching Voltage (VDC)	Max Switching Current (A)
QDC-20	200	2 Amps
QDCW-20	200	2 Amps

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

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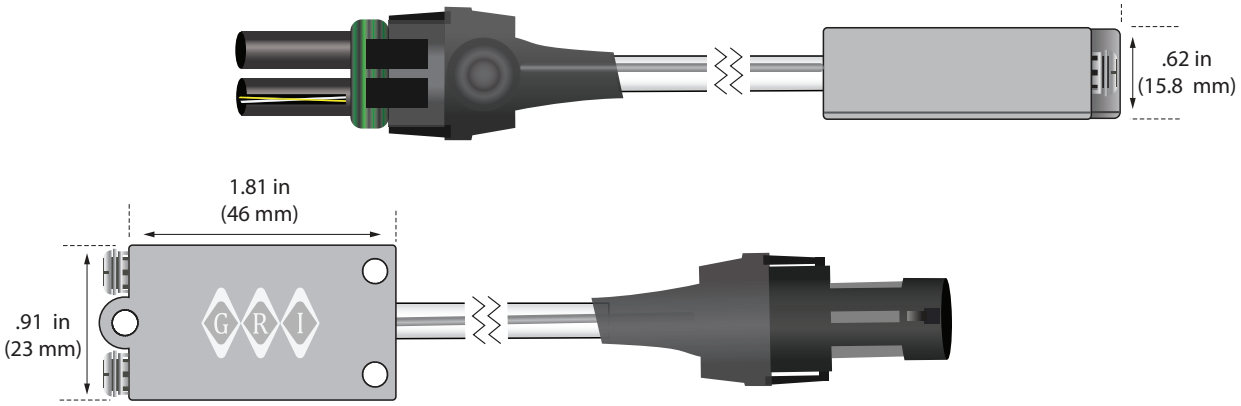
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QDC-20



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

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Service Repair Connector

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SRC-12

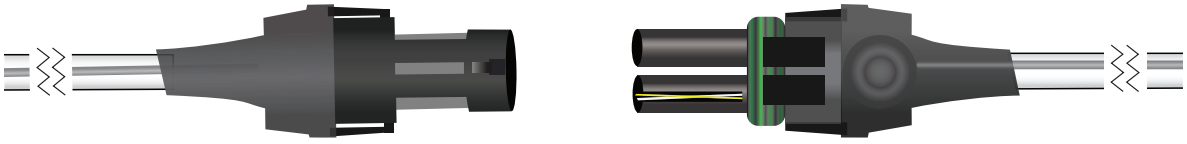
Rugged, Fast and Simple

- Weather pack nylon connectors environmentally sealed to withstand exposure to temperature and moisture
- 12” two conductor cable



SRC-12

This connector is used in the agricultural and industrial industries for outdoor use. Ideal for use on HVAC and other applications for removal of equipment for service and repair.



Part Number	Max Switching Voltage (VDC)	Max Switching Current (A)
SRC-12	200	2 Amps
Temperature Range	-40ºF to 257ºF	-40ºC to 125ºC

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

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GRI

Recessed ANSI Switch

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ANSI Switch



- UL 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

Part Number	
229	SPDT
229PD	DPDT

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

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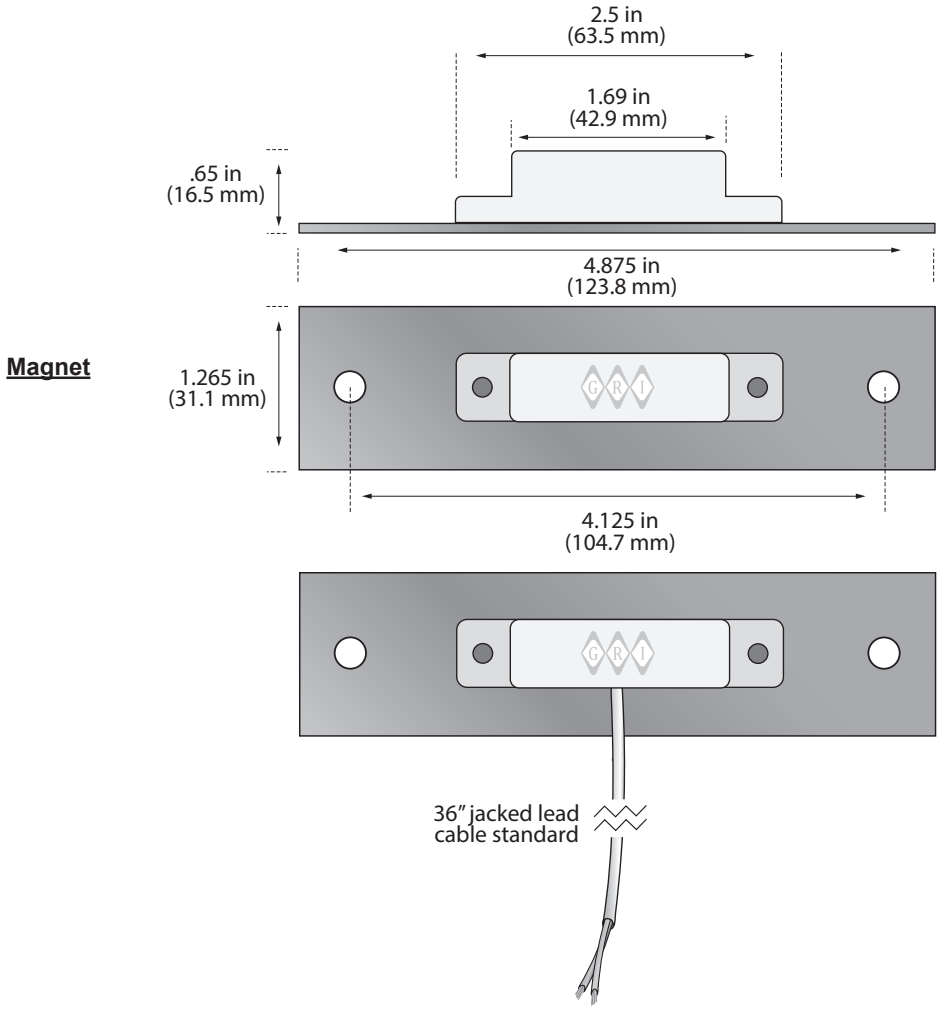
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Recessed ANSI Switch

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GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
229	Open/Closed	SPDT	C	.140	5	175	.250
229PD	Open/Closed	DPDT	C	.140	5	175	.250

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

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Concealed Contact Hinged Door Positioning Switch

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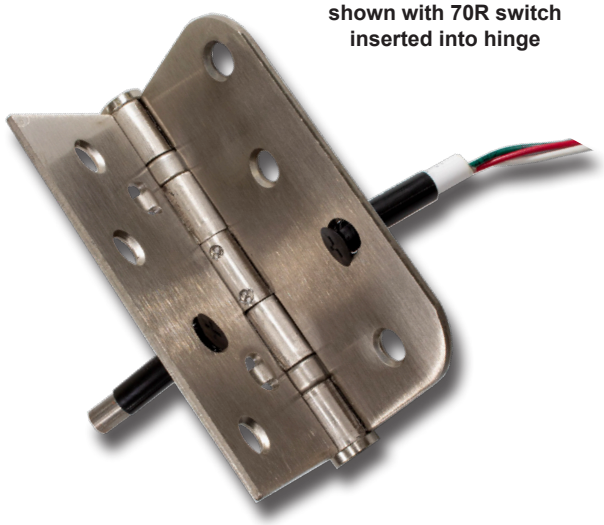
NEW

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 SPDT
- Allow 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 a 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 instruction included with product).**
- **Installs in just minutes, stays securely in place.**
- **Simple, U.L. listed, inexpensive design.**
- **Can be painted to match your hinge.**

DPS70R
shown with 70R switch inserted into hinge



Included:

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

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



DPS70R
close up of adapters



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

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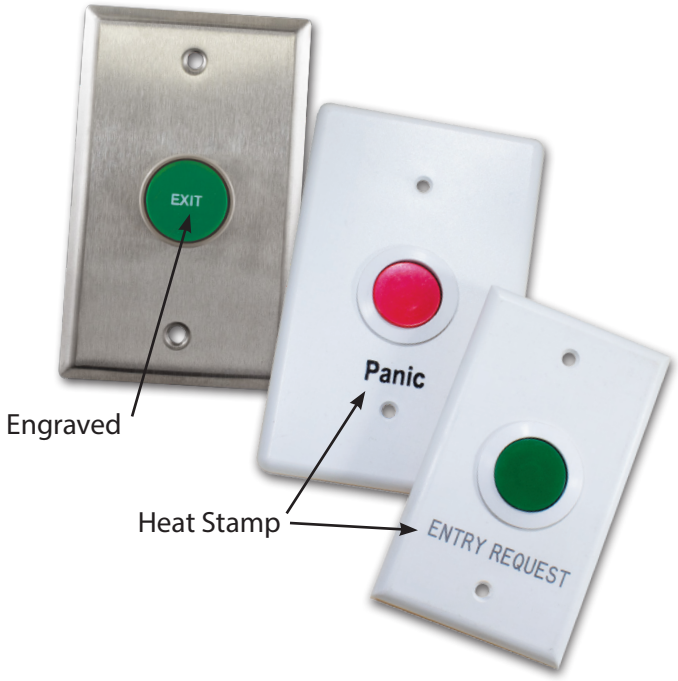
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GRI

Engraved Wall Plates

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- ♦ Button and collar available in white, black, red, green and blue
- ♦ Custom engraving or heat stamp
- ♦ Available in surface mount, small and oversized recessed single gang white plastic
- ♦ Oversized plate fits standard single gang box
- ♦ Surface mount has hole in back of box for switch wires



Part Numbers

	Dimensions	SPDT
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 Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
PP-30	Open/Closed	SPDT	C	.100	5	175	.250
PP-32	Open/Closed	SPDT	C	.100	5	175	.250
PP-34	Open/Closed	SPDT	C	.100	5	175	.250

Special: $15 set up fee, $0.12 per character.

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

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Engraved Wall Plates

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♦ Standard or Custom Design ♦ Momentary On / Off Action ♦ Alternate Push On / Push Off Action

♦ Custom Design ♦ Engraving and Silk Screening ♦ Stainless Steel or White Plastic



Part Number	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: One year warranty against workmanship, material and factory defects.

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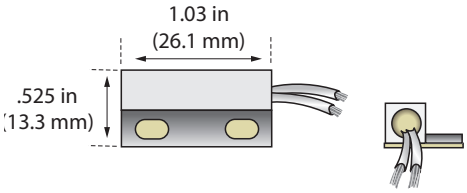
Tilt Sensor

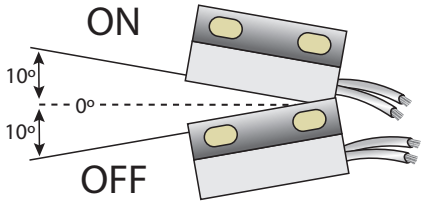
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4561

- 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







The GRI Tilt Sensor for 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 Sensor is very precise and accurately assures long reliable service in adverse environments.

Additional Applications: May be used on computer equipment as well as television 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 Sensor 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: Ratings

AC Rating	DC Rating
.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

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

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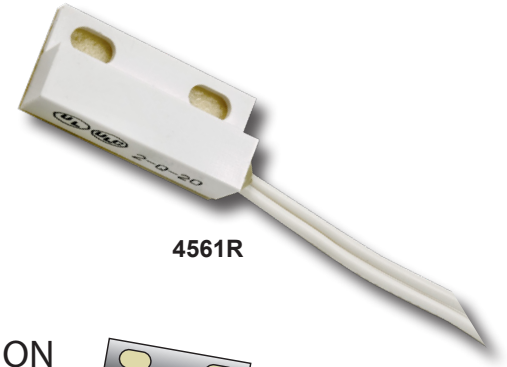
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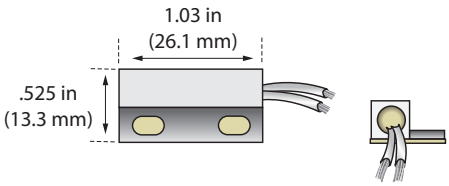
Tilt Sensor
RoHs Compliant

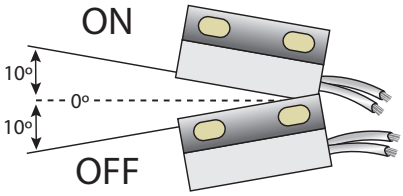
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4561R

- Attractive miniature profile
- Senses movement or removal of museum pieces, paintings and valuable art
- Senses tampering or movement of equipment covers
- Signals an alarm if equipment is moved







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.

Additional Applications: May be used on computer equipment as well as television or other valuables in hotels or apartments. The GRI 4561R Tilt Switch can be used in any situation where the movement or removal of objects must be monitored. Not recommended for HVAC or areas with vibration or shock. 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**

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

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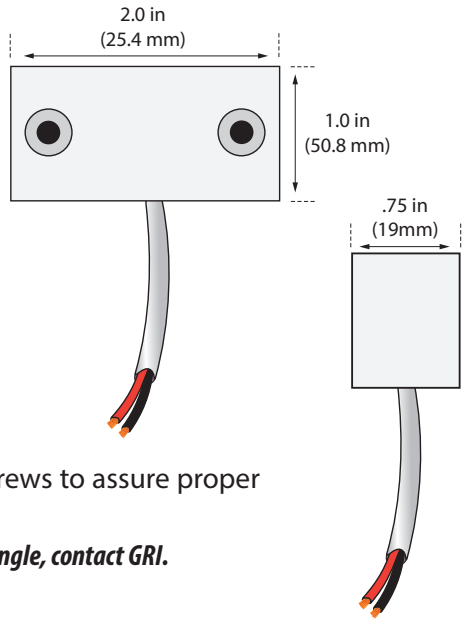
Omni-Directional Tilt Sensor

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ODTS-1 & 2



- Operating Temperature -4°F to 140°F (-20°C to 60°C)
- Senses tilts in any direction of 15° or more
- Only required on tilt sensor to detect tilts in any direction
- 24" jacketed cable
- **ODTS-2 is encased in aluminum housing**
- Can be used to sense: tampering or removal of museum pieces paintings and valuable objects; removal of equipment covers; vandalism or theft of computers, televisions and other equipment; removal or opening of access doors and hatches



DESCRIPTION:

The GRI Omni-Directional Tilt Sensor can sense tampering and removal of equipment and valuable objects. It senses movement by detecting tilts in any direction of more than 15°. Most tilt sensors on the market today only sense tilts in one direction. Being able to detect tilts in any direction with only one switch gives and 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 comping 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 any other mounting or case requirements or need a different operating angle, contact GRI.

NOT FOR SALE IN CALIFORNIA.

GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Max. Contact Resistance (Ω)	Max. Contact Rating (VA)	Max. Switching Voltage (VAC)	Max. 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°

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

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GRI

HVAC Kit

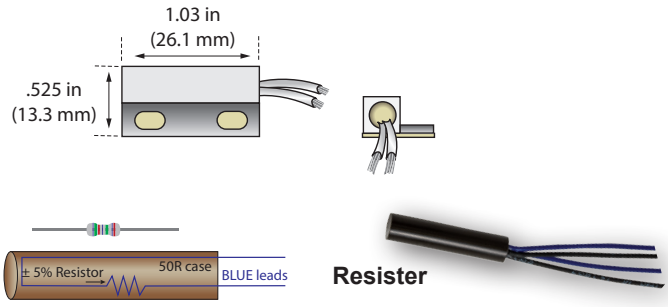
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HVAC Kit

HVAC-(specified resistor value)
Example: HVAC-2.2K
HVAC-5.6K



4561



Included

- 2 - 4561 Tilt Sensors
- 1 - Specified resistor pack w/72" leads
- 4 - 4" nylon wire ties

HVAC KIT:

The HVAC Kit is designed to help prevent loss of air conditioning coils on homes and commercial building 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 plus 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 GRI 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.

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

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HVAC Kit
Omni-Directional

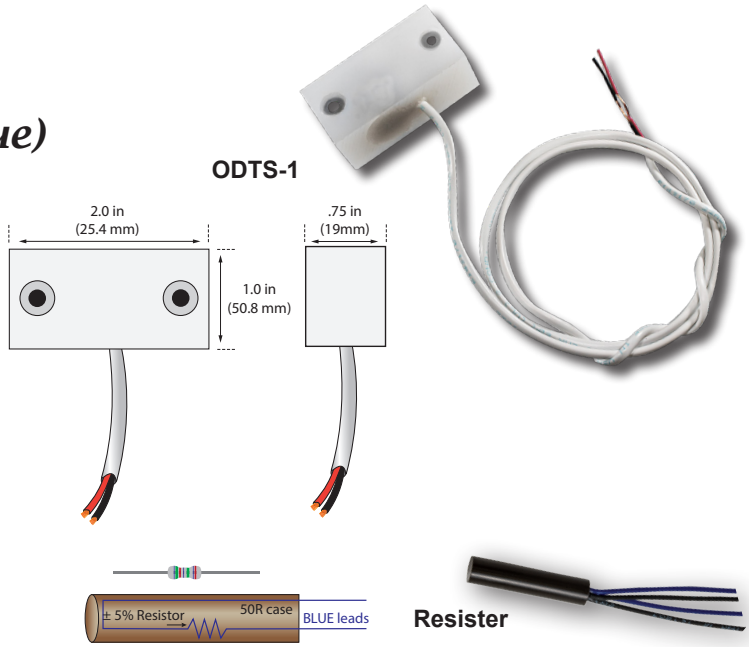
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HVACO Kit

HVACO (specified resistor value)
Example: HVAC-2.2K
HVAC-5.6K

Included

- 1 - ODTS-1 Omni-Directional Tilt Sensor w/24" Jacketed Cable
- 1 - Specified resistor pack w/72" leads
- 4 - 4" nylon wire ties



HVAC KIT:

The HVACO Kit is designed to help prevent loss of air conditioning coils on homes and commercial building 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 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 plus 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 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 GRI 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.

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

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Home Nurse Call System

WWW.GRISK.COM

NC-20 Series

- Instant alarm
- Signaling device
- Self contained
- Local alarm and flashing LED
- 2 Form C relays
- Microprocessor controlled
- Low battery indicator



NC-20
NC-21 Instant On

APPLICATION:

The NC-20 Series 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 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. Other features for the NC-20 would include and adjustable sounder volume, power/alarm LED indicator, low battery indicator and (2 form C relay) contacts for control of external devices.

The NC-20 and NC-21 have two form C relay contacts that will close or open on alarm for signal output. On the NC-20, once the alarm sounds, you will have a 60 second delay before tripping the relays so the caregiver has time to reset the alarm before the other device, such as a security control, phone dialer or remote sounder, is triggered. On the NC-21 the alarm sounds and the relays trip, so the caregiver can respond as soon as the button is pushed. This allows for other devices to be tripped, such as remote sounder, light or control panel in another location to inform the caregiver of the patient's needs. This give you two options; 60 second delay with the NC-20 and the instant on with the NC-21 to interface with up to two other devices at the same time as needed.

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

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G.R.I. PLAZA
KIMBALL, NE 69145

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Home Nurse Call System

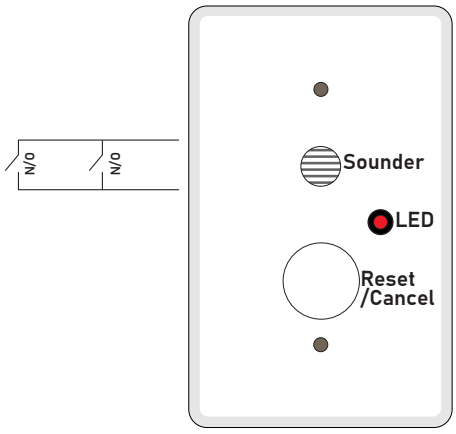
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NC-20 & NC-21

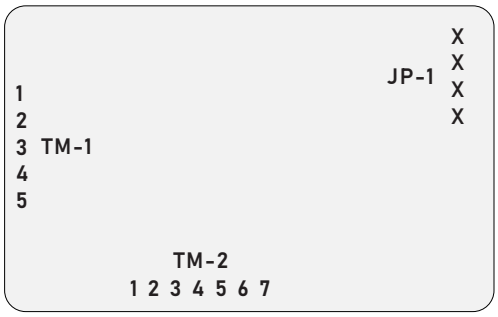
INSTALLATION WIRING DIAGRAM

for multiple call buttons

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



TERMINAL CONNECTIONS AND JUMPERS



TERMINAL BLOCK TM1

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

TERMINAL BLOCK TM2

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

JUMPER / NO JUMPER

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

It is suggested that applied voltage not exceed 15 VDC and surge protection, such as the GRI SC-1 Current Sensor, be used between the power supply and all GRI Low Voltage Alarms using eternal 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 VDCa
Max. Input Power	40 mA
Recommended External Power	12V DC 500 mA Regulated Output
Low Battery Mode	6.5V DC
Sounder Rated	85 dB at 10 ft. (3.5 M)
Switch	Open Loop

Relay Contacts

Nominal Switching Capacity	2A 30 VDC
Max Switching Power	60 Watts
Max Switching Current	2 Amps

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

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Call Button

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CB-20 Series

- Nurse call for medical facilities
- Panic switch for the elderly
- Mechanical type call button
- Momentary
- 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



CB-20

Part Number

Open Loop	
CB-20	Momentary Action
CB-20HD	

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

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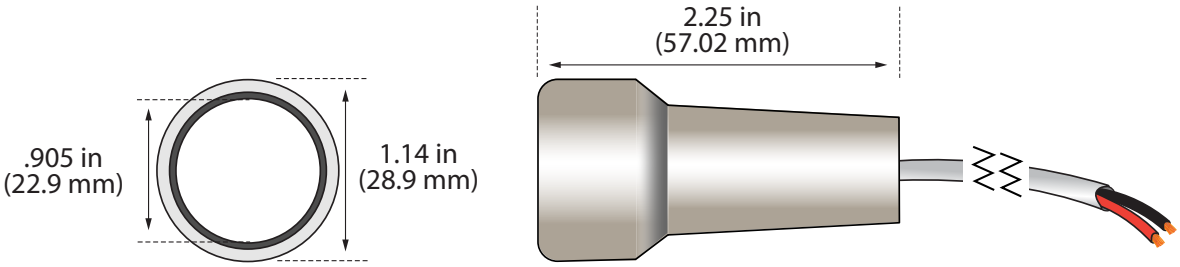
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Call Button

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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 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.



NC-20
& NC-21

GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
CB-20	Open	SPST N/O	Momentary	.100	12	.100
CB-20HD	Open	SPST N/O	Momentary	.100	12	.100

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

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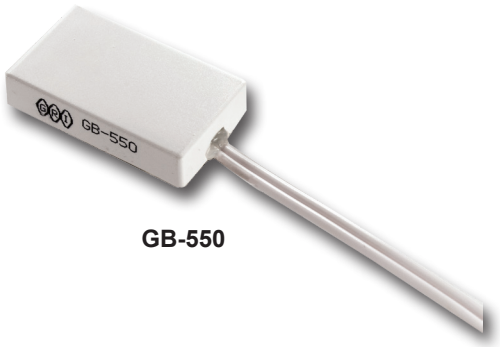
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Glass Guard Open Loop

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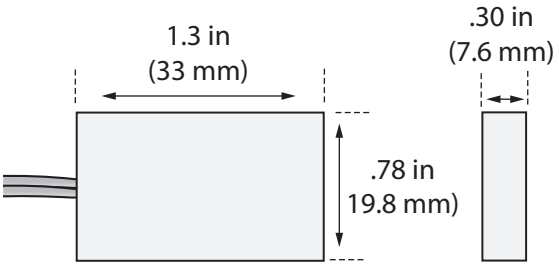
On Glass Shock Sensor

- ♦ Low profile
- ♦ Mounts directly on glass
- ♦ Hermetically sealed
- ♦ Latching
- ♦ Security panel operations only
- ♦ Reverse polarity protected
- ♦ Extreme UV resistant tape



GB-550

When glass breaks and/or shatters, shock waves are sent in a multitude of direction. 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 window, both narrow and wide. This device will detect shock waves of shattering glass on a radius measuring approximately 10' from the GB-550. Power for the device comes from the alarm panel zone power. The glass break sensor will momentarily close when it detects glass breaking. The petite size and elegance of the device makes it simple to install with double faced 3M UV resistant tape.



INSTALLATION:

Mount the Glass Guard near a corner of the window, preferably 1 ½" 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 wired to the negative side of the zone from the control panel.

TAPE APPLICATION: To apply the tape to the 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.***

Part Numbers: GB-550 and GB-GB-550-B

GB-550 Glass Guard Electrical Specifications

Voltage:	**10 Volts DC Max**
Switching current:	**14 mA**
On Resistance:	**85 Ohm Max**

Intended for Security Panel Operations ONLY!

Important Note: The loop response must be programmed for a fast reasponse (under 40 ms)

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GRI

ShockTec SG-2

WWW.GRISK.COM

- ♦ Solid state Piezo electric sensor
- ♦ Digital Microprocessor with Intelligent Digital Signal Processing
- ♦ Tri-color LED enables accurate and reliable calibration, with "over-sensitive" and "under- sensitive" indications
- ♦ Gross attack detection
- ♦ Encapsulated bi-morph piezo electric sensor
- ♦ Dual stage adjustment potentiometer
- ♦ Cover anti-tamper protection
- ♦ Compatibility with most control panels



SG-2 is a digital shock detector that provides reliable 24-hour perimeter protection. A break-in is detected as soon as the intruder attempts to force, smash, drill or even saw through the protected window, door, wall or roof. ShockTec employs an advanced digital microprocessor to analyze the vibration signal received from the piezo electric sensor. A unique feature of SG-2 is digital sampling of the signal simultaneously in two separate channels, each channel amplified at a different gain. This provides an extremely wide dynamic range of the sampled signal enabling precise measurement and analysis of the shock signal.

THREE OPERATIONAL MODES:

The LED of the SG-2 has three operational modes. The NC alarm contacts are non-latching in all modes of operation. On alarm activation, the alarm contacts open the circuit for 2-5 seconds.

1. Normal Operation Mode

- No voltage is applied to the LED Terminal. The LED illuminates while the ALARM contact is open in response to an input signal.
- GREEN indicates an alarm condition
- RED is an "under-sensitive" indication
- ORANGE is an "over-sensitive" indication.

2. Any to Latch Mode

12V is applied to the LED terminal causing it to be inhibited. Upon removal of the 12V the detector switches to a Normal Operation Mode and a continuously flashing ORANGE LED indicates if an alarm is detected (Alarm memory). Reapplication of 12V resets the latch (Alarm memory) and extinguishes the LED.

3. First to Latch Mode

12V is applied to the LED terminal via a 47K resistor (see Figure 2) causing it to be inhibited. Operation is the same as in Any to Latch Mode with the exception that only the first detector to detect an alarm is indicated by a continuous flashing ORANGE LED, whereas any subsequent detector is indicated by a steady ORANGE LED.

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

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ShockTec SG-2

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DETECTION RANGE*

Surface	Brick Wall	Steel	Wood	Concrete	Plywood	Glass
Radius	8 ft / 2.5 m	9.8 ft / 3 m	11.4 ft / 3.5 m	4.9 ft / 1.5 m	13 ft / 4 m	11.4 ft / 3.5 m

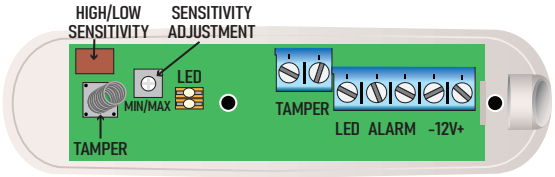
** The above values are typical and are subject to practical testing, which must be performed for each installation. In some environments, these values may differ from the values listed above.*

TECHNICAL SPECIFICATIONS

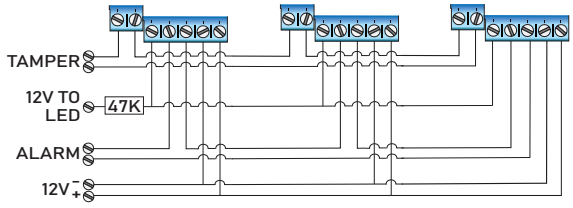
Supply voltage	9V - 16V DC
Current drain	8.5 mA Typical (17 mA Max)
Operational temperature	-20°C to +55°C (-4°F to 131°F)
Storage temperature	-20°C to +60°C (-4°F to 140°F)
Maximum humidity	95% non-condensing
Sensitivity settings	Dual stage potentiometer
Tri-color LED indicator	Orange: Over-sensitive Green: Alarm & correct calibration Red: Under-sensitive
Relay contact ratings:	
Alarm relay	100mA at 24VDC, NC, Opto relay
Tamper relay	500mA at 24VDC, NC
Time relay open in alarm	2.5 seconds
Latching modes	
Max. # of units on Any Latch loop	80
Max. # of units on First to Latch loop	10
False alarm protection	Digital microprocessor signal processing and noise reduction circuits with max. ground plane
Electrostatic discharge	No false alarms up to 8kV
RF immunity	According to EN 50130-4
Enclosure material	Flame retardant ABS
Enclosure dimensions	25x28x95mm - detector

TERMINAL WIRING

-12V+	12V power connection, reverse polarity protected
ALARM	NC Alarm output contact
LED	Connection for +12V remote latch control signal
TAMPER	NC Anti-Tamper and Anti-Magnet contact

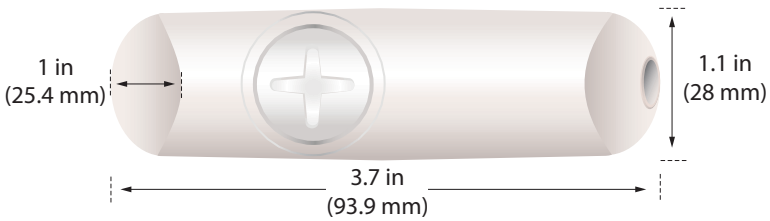


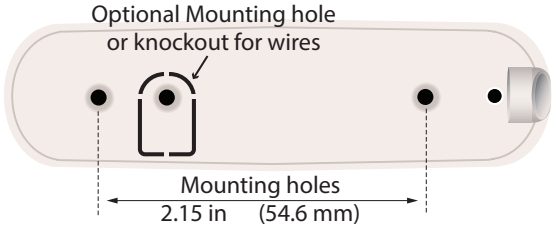
MULTIPLE UNIT CONNECTION PROCEDURE DIAGRAM



Please refer to Installation Instructions for complete directions and specifications.

SG-2





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

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Touch Sensor

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CT-3

- 2 Amp
- Touch Momentary On
- No moving parts
- Vandal resistant, solid
- Thru-hole mounting
- C^2T technology
- Custom engraving



CT3

Using a unique C^2T Technology, the GRI Touch Sensor can sense and respond to the slightest human touch. The CT3 was developed by GRI 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 GRI. The CT3 is blank and can be custom engraved.

Relay Output

CT3-2-1	12-24 VDC	Momentary Touch Sensor	C Form Relay	2 Amp

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

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Touch Sensor

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INSTALLATION:

Drill a 7/8" hole. Insert the nut and tighten until finger tight.

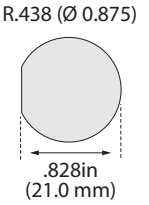
NOTE: If more secure mounting is required, see diagram for D-hole dimensions.

Insert the switch, connecting the red wire to 12 to 24VDC. Connect the black wire to the power ground.

CAUTION: Do not mount switch to grounded metal surfaces. Do not hook white or green wires to AC type signal or source.

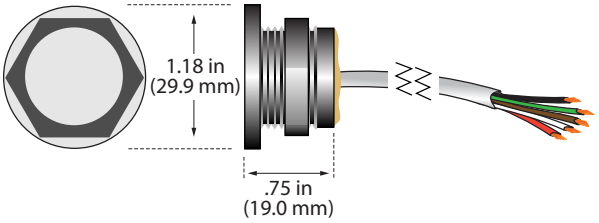
Test the switch by arming the zone and then touch switch.

D-hole Diagram



CT3-2-1 Relay normally de-energized: when touched relay energizes: when release relay de-energizes. White is the relay common, green is normally closed and brown is normally open.

CT3



Specifications

Five-wire touch switch, 12-24 VDC, ground, common, N/O, N/C
Touch activated by human hand.
Low current draw. Output rated at 2 amp. New Advanced C²T technology.

CAUTION: DO NOT MOUNT ON A GROUNDED METAL SURFACE!

INPUT	**Voltage**	**: 12 to 24VDC max.**	**RELAY**	**Voltage**	**: 25 volts DC max.**
	Current	**: 28 mA max.**		**Current**	**: 2 amp**
				Power	**: 50 watts**

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

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Vent Switch

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VS Series

- 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



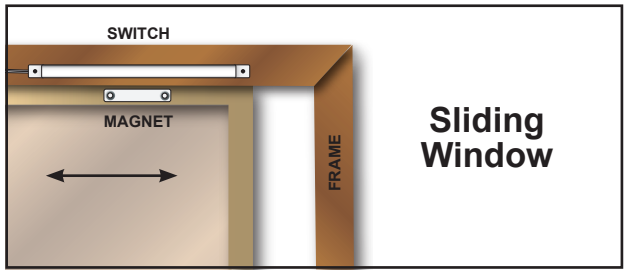
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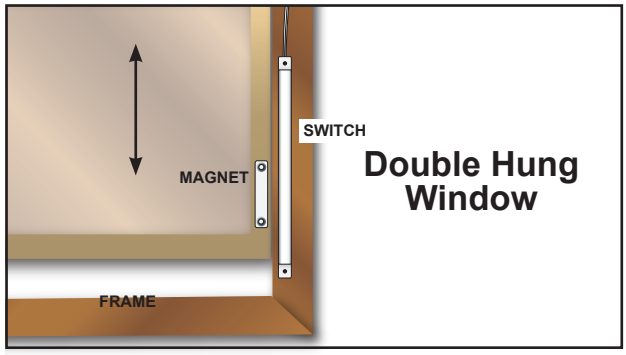
The unique invention has been designed in response to requests from installers for a switch that would allow window venting of four to six inches before breaking contact and creating an alarm condition.

The GRI Vent Switch will allow the homeowner to arm his system and at the same time permit venting of any window on witch the Vent Switch has been installed.

A slider of 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.





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

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Vent Switch

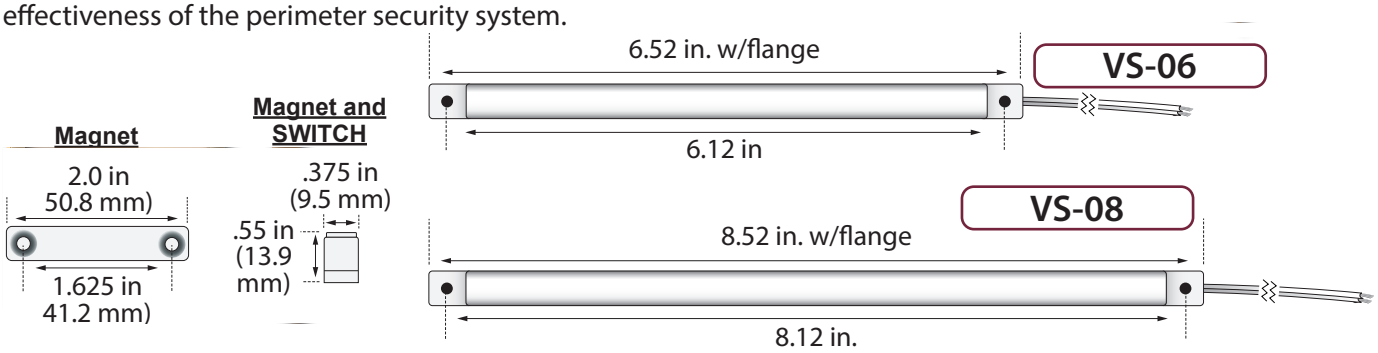
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INSTALLATION:

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 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 6" Linear Travel	VS-06 VS-06T	VSB-06
1/2" Air Gap 8" Linear Travel	VS-08 VS-08T	VSB-08

GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Initial Contact Resistance (Ω)	Max. Contact Rating	Max. Switching Voltage (V)	Max. 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	175	.250
VSB-08	Open	N/C	B	.140	5	175	.250

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Wire Trip Switch

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WT-01



- Use in windows, crawl spaces and attics
- Not susceptible to insects and temperature extremes like PIRS
- Covers unusual openings
- Environmentally seals contacts
- Eliminates false alarms and nuisance service calls
- Magnetically plunger actuated
- No blade 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 PIR's 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: One year warranty against workmanship, material and factory defects.

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Wire Trip Switch

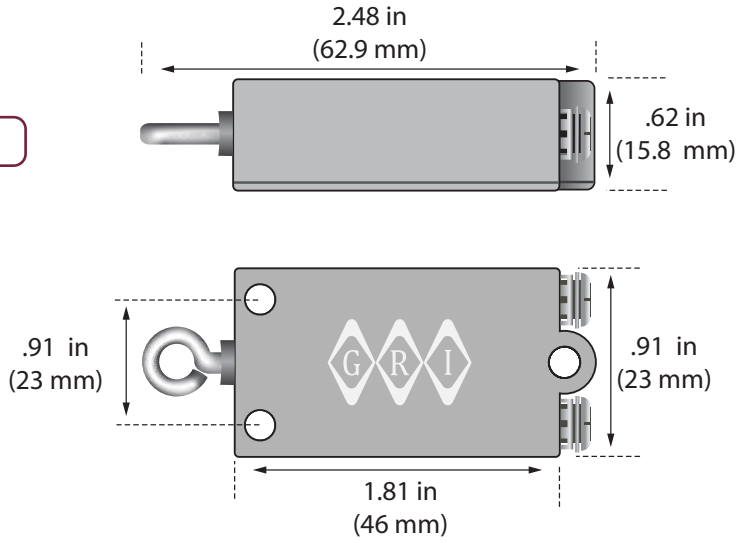
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INSTALLATION INSTRUCTION

The wire or string needed for this switch is not supplied. Select a light weight cord and plan for enough length so that the opening can be criss-crossed enough times to adequately cover the opening. The wire or string should be light 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 (or string) to the eye hook on the switch and run wire through other hooks to the 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 types of cord 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 Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. Switching Current (A)
WT-01	Closed	N/O	B	.150	10	160	.400

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

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Door Alert Annunciator

WWW.GRISK.COM

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 powered and/or external power

The GRI Door Alert Annunciator is designed to signal customer entry into a business establishment. A closed loop magnet 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 7 VDC at a very limited sounder volume. This power lever is considered total battery failure.

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

Part Number

DA-1	Recessed Door Alert Annunciator - Closed Loop
DA-2	Surface Mount Door Alert Annunciator - Closed Loop
PAAR-RS	Recessed Remote Sounder
PAAR-SS	Surface Mount Remote Sounder

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

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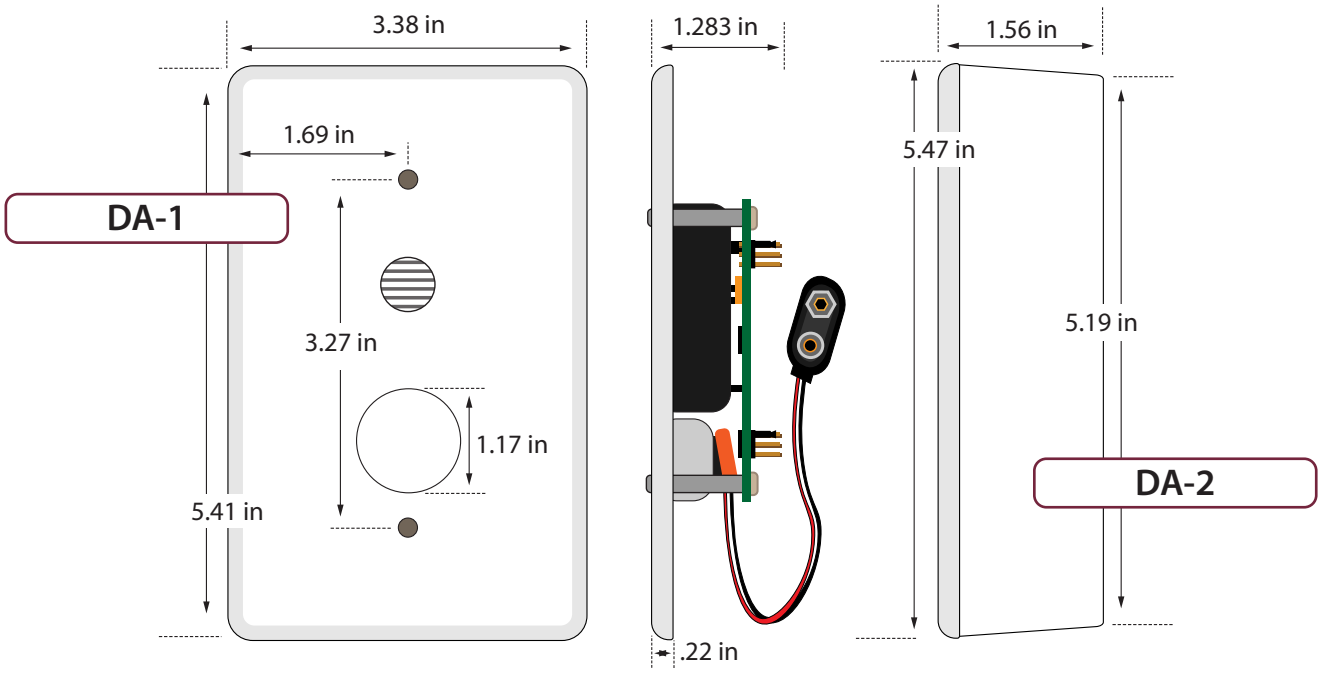
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Door Alert Annunciator

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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 and DA-2 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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Door Monitor

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- Monitors Entry / Exits
- Reprogrammable delay/shunt time
- Alarm sounding auto reset capable
- Surface or flush mount models
- Remote sounders and control options
- External or battery powered



290-1



290-2

The GRI 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 GRI 290-1 and 290-2 can be operated with a 12 volt externally supplied DC power source or battery only. With an external power supply a battery can be used to 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: 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 must not exceed 15 VDC.

Part Number

290-1	**Recessed Door Monitor, Closed Loop**
290-2	**Surface Mount Door Monitor, Closed Loop**

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

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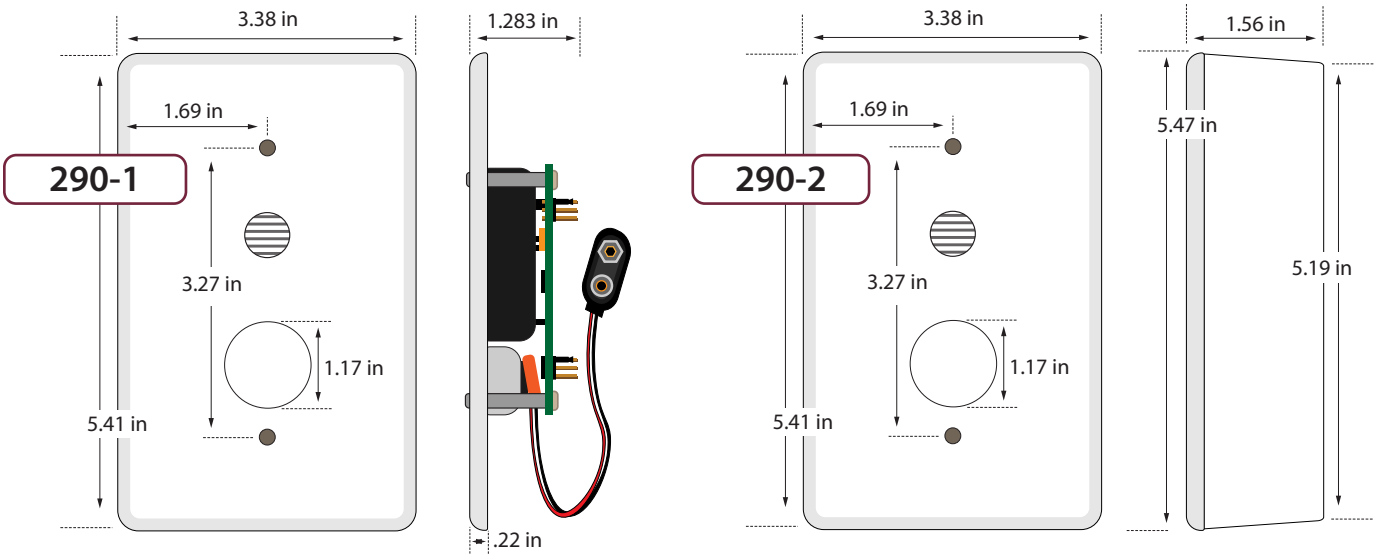
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Door Monitor

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INSTALLATION INSTRUCTIONS:

The GRI 290 Series Door Monitor mounts easily to the wall next to any door which allows 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 disable by simply holding down the deactivation button. If multiple openings lead to the area, the GRI 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 GRI factory representative for additional information or custom software options.

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

00 = 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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Door?Man

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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
- ♦ Sounder alerts that the door is about to close
- ♦ Can be scheduled to close same time every day
- ♦ 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 appliances



DM-1

Many home burglaries are committed through a garage door left open or unlocked.

Newspaper Headlines

"Suspect entered through open garage."

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

"Deputies investigating string of burglaries through garages."

Included (see below)

- Door?Man DM-1
- 6973 POWER SUPPLY
- S-12 L BRACKET
- 29A WIDE GAP SWITCH
- 50 FEET WIRE
- DOUBLE STICK TAPE
- SCREWS



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

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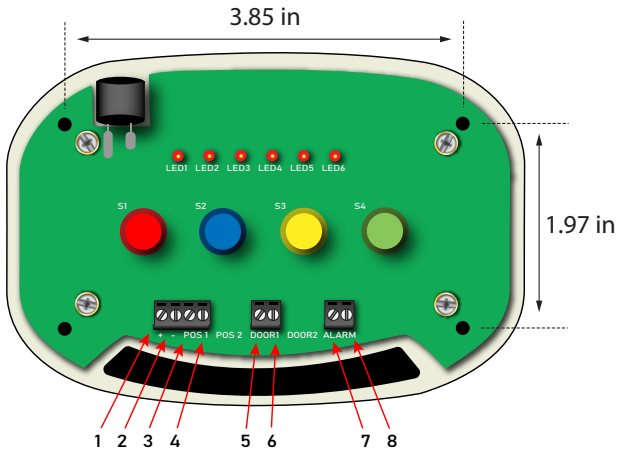
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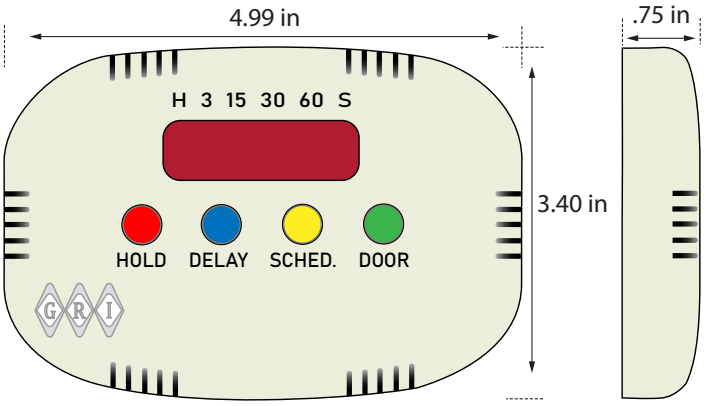
Door?Man

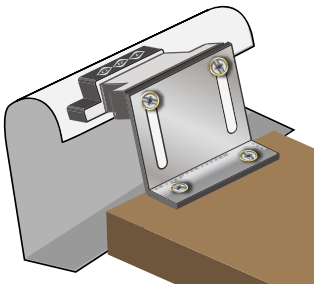
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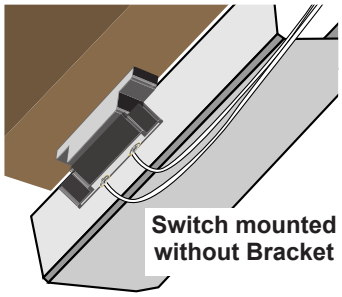
Door?Man Connections

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 with Bracket



Switch mounted without 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 to close every day. For example: 5 p.m. Starting with the door closed 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 the door and press hold.
- Reminder will beep every 30 minutes while the door is open.
- To turn of the 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.

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

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Timed Electronic Shunt Switch

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SB-2000 / SB-2001



- Adjustable times shunt with indicating LED
- Allows exit without disarming system
- Can be powered by an external 12V DC power supply or a 9V lithium battery
- Eliminated 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 55 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

4	3	2	1	Shunt Period	4	3	2	1	Shunt Period
¦	¦	¦	¦	120 Seconds	☒	¦	¦	¦	60 Seconds
¦	¦	¦	☒	105 Seconds	☒	¦	¦	☒	45 Seconds
¦	¦	☒	¦	90 Seconds	☒	¦	☒	¦	30 Seconds
¦	☒	¦	¦	75 Seconds	☒	☒	¦	¦	15 Seconds

Aux output TM1-7 is Grounded when on - 400ma max current

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

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Timed Electronic Shunt Switch

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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 7and 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, 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 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 and 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 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 the number of seconds preferred (See Table 1). Each time jumpers(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 up is accomplished. To power down, disconnect battery and/or external power source. To power up, reconnect battery and/or external power source.

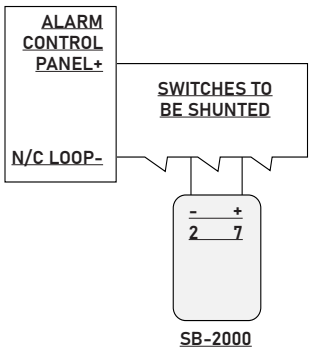


Figure 1. Wiring Diagram

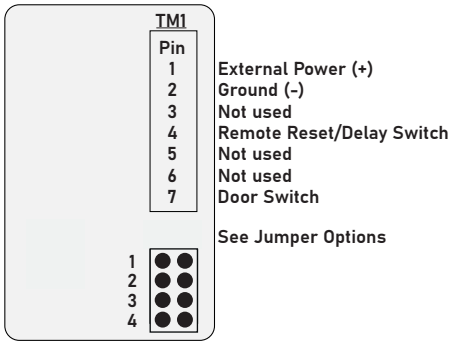


Figure 2. Terminal Connections & Jumpers

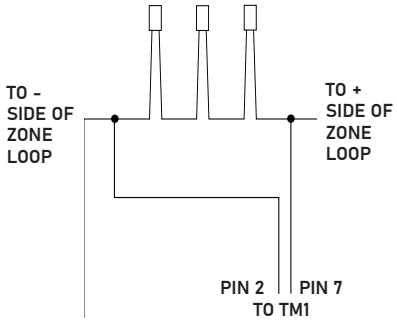


Figure 3. Devices to be shunted

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

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Absence of Water Detector2808

Liquid Level Detector 2826 / 2826FS

Home Water Leak Alarm System WS-20

Water Valve Shutoff WVS

Water Moccasin Sensor Strip with Relay Contact

GRI

Humidity Sensor

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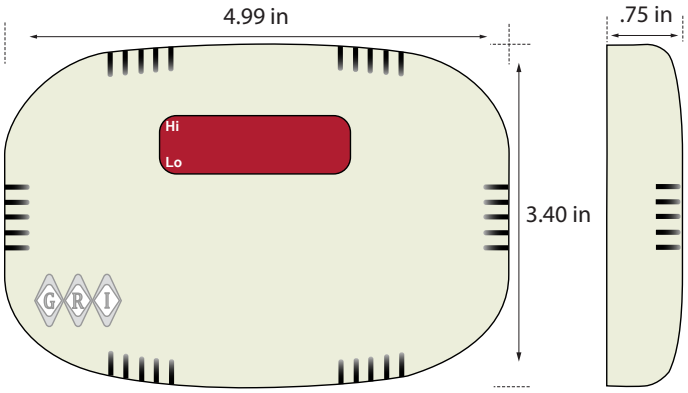
H8800 Series

- Low cost
- Non-volatile memory
- Single sensor or a Remote probe up to 500 ft.

The H8800 from GRI is a single sensor programmable humidity monitory security device. Unlike its first 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.



H8800





H88000R

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	

The range of the H8800 is 5% humidity to 95% humidity (+ or -5%)

Min - Max Temp Range	**Without Humidity Probe**	**-23°C to 80°C (-10°F to 176°F)**
Min - Max Temp Range	**With Humidity Probe**	**-40°C to 85°C (40°F to 185°F)**
Max distance for Probe from H8800 with 22 AWG wire		**500 Feet**
Operates with 10 VDC Min to 14 VDC Max		

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

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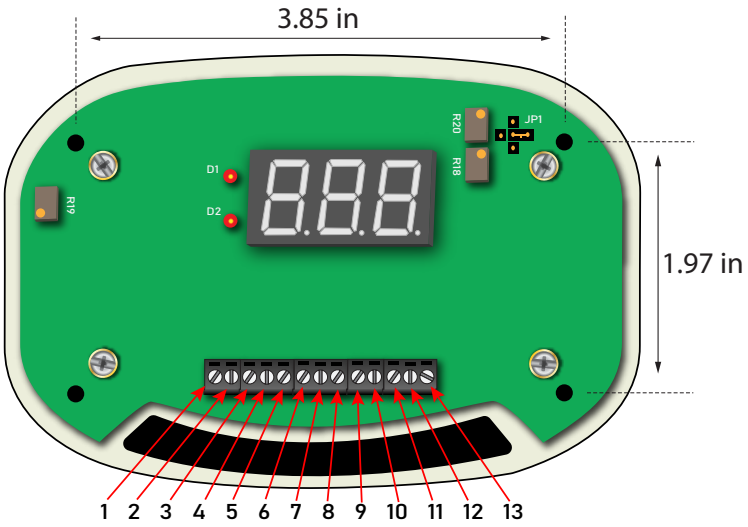
Humidity Sensor

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INSTALLATION INSTRUCTIONS:

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 is also 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 electromagnetic devices when routing and pulling wires to this device.***



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.

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 (orange)
10. Probe (white)
11. Probe (green)
12. Probe (black)
13. Probe (red)

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 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.

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Temperature Sensor

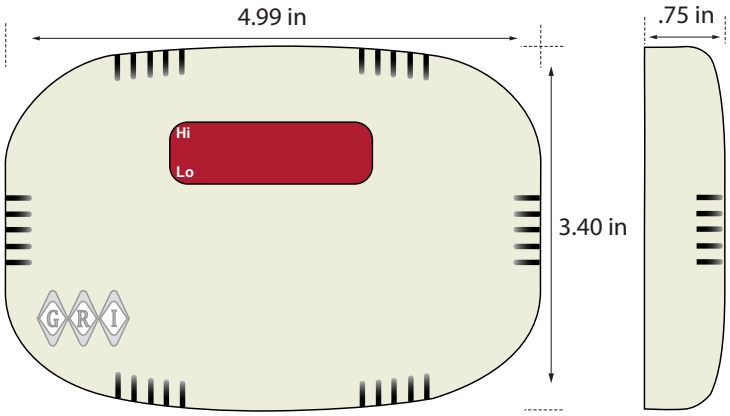
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T8800 Series

- 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





T88000R

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 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 Temp Range	**Without Probe**	**-23°C to 80°C (-10°F to 176°F)**
Min - Max Temp Range	**With Probe**	**-40°C to 85°C (-40°F to 185°F)**
Max distance for Probe from T8800 with 22 AWG wire		**500 Feet**
Operates with 10 VDC Min to 15 VDC Max		
65 Milliamps in Alarm		**55 Milliamps in Standby**

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

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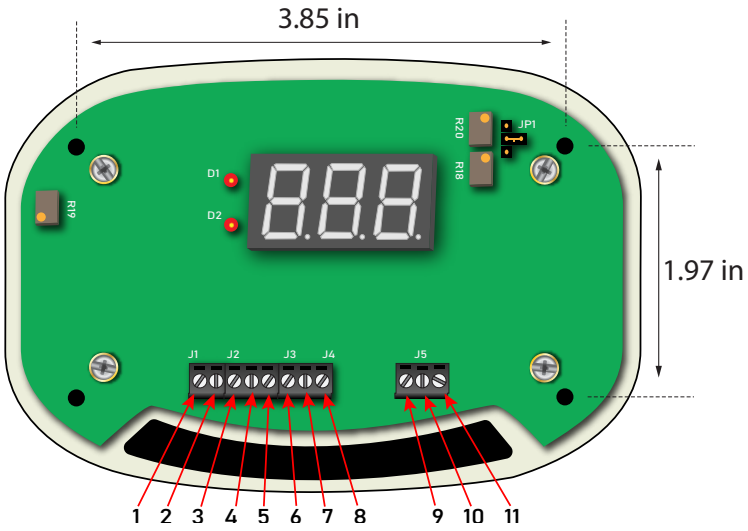
Temperature Sensor

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INSTALLATION INSTRUCTIONS:

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 is also 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)

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 limit 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 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.

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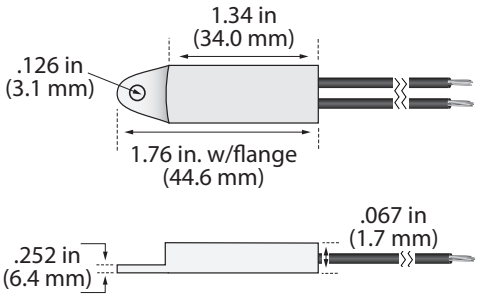
Fixed Temperature Sensors

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T8000 Series

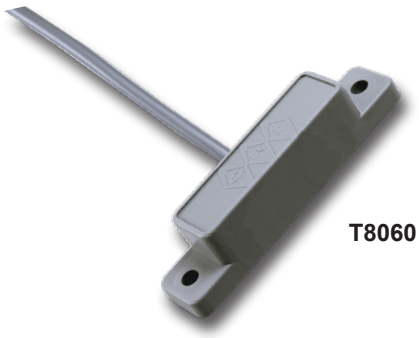
- General temperature monitoring
- Low cost protection
- Easy to install
- Small, unobtrusive surface mount
- Fixed temperature sensors:

32°F, 41°F, 50°F, 70°F and 140°F





T8000



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 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 (W)	Voltage Rating Max (VDC)
100 MA	48

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

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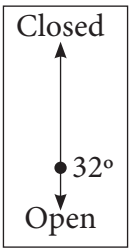
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Fixed Temperature Sensor

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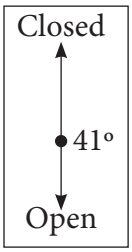
T8000 Electrical Specifications 0°C/32°F

Contact Arrangement	SPST
Switch Action	CLOSED 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



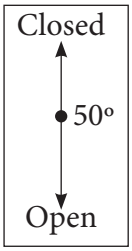
T8005 Electrical Specifications 5°C/41°F

Contact Arrangement	SPST
Switch Action	CLOSED 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" #20AWG Leads



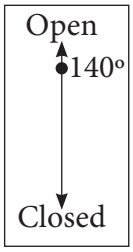
T8050 Electrical Specifications 10°C / 50°F

Contact Arrangement	SPST
Switch Action	CLOSED above Activation Temperature
Maximum Temperature	70°C / 158°F
Activation Temperature	
Nom.	10°C (50°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" #20AWG Leads



T8060 Electrical Specifications 60°C / 140°F

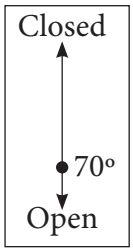
Contact Arrangement	SPST
Switch Action	OPEN above Activation Temperature
Maximum Temperature	115°C / 239°F
Activation Temperature	
Nom.	60°C (140°F)
Max.	64°C (147°F)
Min.	56°C (133°F)
Max. Reset Temperature	
Max.	64°C (147°F)
Min.	60°C (140°F)
Tolerance	+/-4°C(+/-7.2°F)
Lead Lengths	36" Two conductor jacketed leads



GRI recommends that you do NOT use double faced tape.

T8070 Electrical Specification 21°C / 70°F

Contact Arrangement	SPST
Switch Action	CLOSED above Activation Temperature
Maximum Temperature	81°C / 117°F
Activation Temperature	
Nom.	021°C (70°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" #20AWG Leads



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

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Water Sensor with Relay Contact

WWW.GRISK.COM

- ♦ Will detect any conductive non-flammable liquid
- ♦ Ideal anywhere water damage could occur
- ♦ Automatic reset
- ♦ 6 ft jacketed lead standard
- ♦ Custom lead length 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 conditions, 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.

In sump pumps and areas of high humidity, GRI recommends a low sensitivity version: 2600-LS, 2600T-LS.

The 2500 Open Loop Sensors use an external power source which will energize a built-in relay contact when water is detected. With the 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.

Part Numbers

Closed Loop	Configuration
2600/2600T	Normally Closed for a closed loop circuit 12 Volts DC
2600-LS/2600T-LS	Normally Closed for a closed loop circuit 12 Volts DC low sensitivity
2600T-P	Remote sensor with 36" leads (works with 2600T and 2500T)
2605	Normally Closed for a closed loop circuit 5 Volts DC
2624/2624T	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
2524/2524T	Normally Open for an open loop with 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

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

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Water Sensor with Relay Contact

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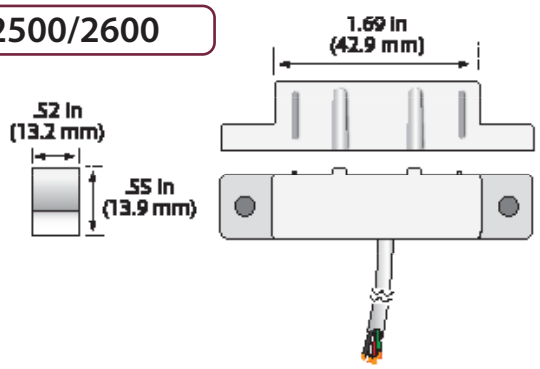
INSTALLATION INSTRUCTIONS:

GRI 2505, 2605, 2600, 2524, and 2624 Water Sensors: When connecting these sensors to the panel, the red wire is connected to the positive side of 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.

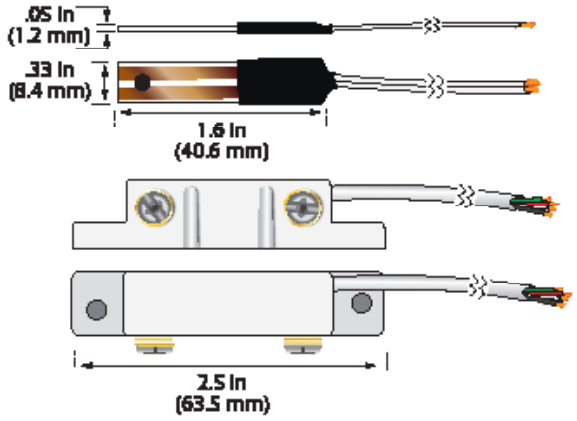
GRI 2500T, 2524T, 2624T, 2500K and 2600K Sensors: Provide a means of detecting water in difficult to monitor locations, such as under carpets an in drop ceiling panels. This is accomplished by mounting 1 or more 2600T-P or 2600T-PHS's in various locations around the area to be monitored, then run the senor wires to the terminal screws on the 2600T or 2624T. These can then be wired for power as described above 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.

2500/2600



2500T/2600T



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	100mΩ
Switching Voltage	30 VDC Max
Switching Current	500 mA Max
Power	250 mW Max

*Note: Battery power not recommended.

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

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Fluid Sensor with Relay Contact

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- 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 length available
- 24 Volt AC sensor



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 SPDT 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.

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

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Fluid Sensor with Relay Contact

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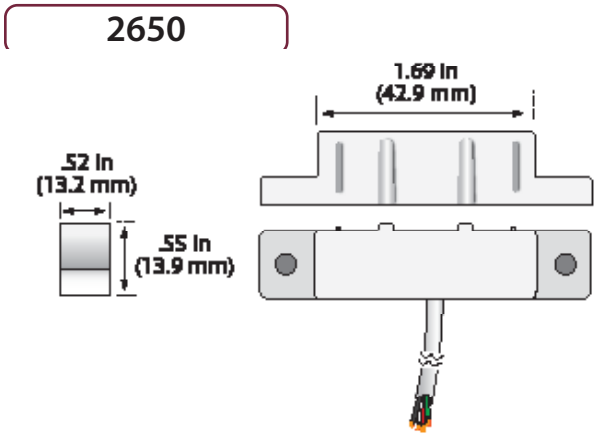
INSTALLATION INSTRUCTIONS:

GRI 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 orange, 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 sensors should be replaced.

2650 Open Loop Specifications

Power Requirements:		
Operating Voltage		24 Volts AC
Operating Current		12 mA
Wire Contacts:		
Red Wire		24 V AC
Black Wire		24 V AC
Green Wire		C Form
White Wire		Relay Contact
Orange Wire	N.C. / C / N.O.	
Contact Characteristics:		
Initial Contact Resistance, Max.		100mΩ
Normally Switching Capacity		1 A 30 V DC
(resistive load)		0.3 A 125 V AC
Max. Switching Power		30 W
(resistive load)		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 Contact

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- Will detect any conductive non-flammable liquid
- Ideal anywhere water damage could occur
- Automatic reset
- 6 foot jacketed lead standard
- Custom lead length available
- For maximum protection we recommend using the 2600 4-wire sensor



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 a minute as 1/16 of an inch in depth.

Requiring only two wires for signal and power, the GRI 2800 Water Sensor utilizes and open collector electronic trigger. The sensor stimulates 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 GRI Water Sensors will continue to protect against troublesome and costly water leaks for years to come.

Part Numbers

	Configuration
2800	Normally Open for an open loop circuit 5-24 Volts DC

2800 Open Loop Specifications

Power Requirements:	
Operating Voltage (min./max.)	5-24 Volts DC
Standby Current (at max. voltage)	10 uA
Alarm Current (max.)	400 mA
Wire Contacts:	
Red Wire	+5-24 Volts DC
Black Wire	- Ground
Contact Characteristics:	
Contacts	Normally Open

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

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Surface Mount Water Contact

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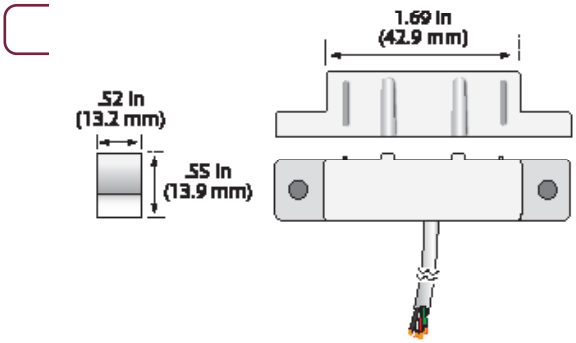
INSTALLATION INSTRUCTIONS:

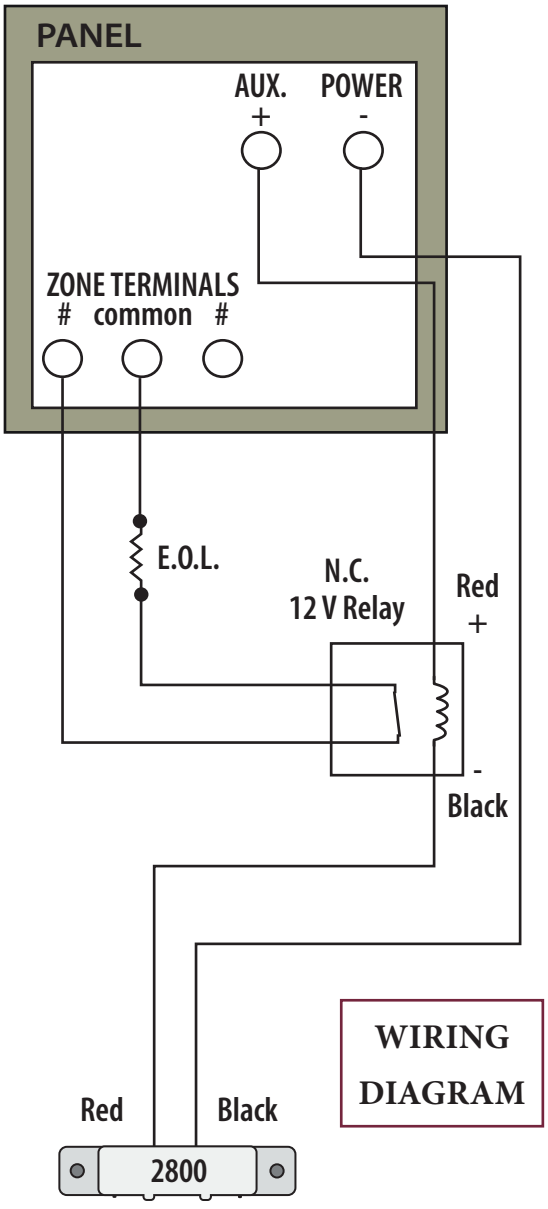
MINIMUM 5 VDC REQUIRED

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 5 VDC minimum for the zone loop.* (In the even 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 a damp sponge or paper towel 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.)





WIRING DIAGRAM

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

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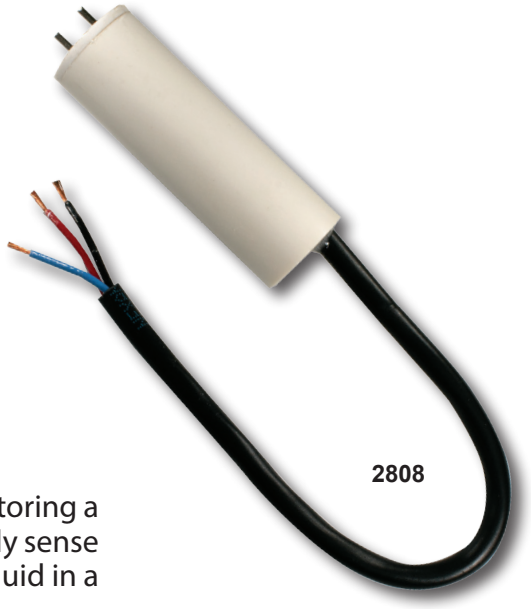
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Absence of Water Detector

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2808 Series

- Senses the lack of or presence of any non-volatile liquid
- Microprocessor controlled
- Submersible and fully self contained
- 12” cable



The GRI 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 GRI 2808 series of water detectors are microprocessor controlled devices that produce and 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 10 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 lengths are also available on request.

Part Numbers

2808	**Self powered / 2.5 minute sample rate / C form relay output**
2808-12V	**External 12VDC / 30 second sample rate / C form relay output**

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

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Absence of Water Detector

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INSTALLATION INSTRUCTIONS:

The GRI Absence of Water Detector is installed by mounting the unit so that sensor probes are located at 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, signaling 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.

Specifications

2808-12V Only

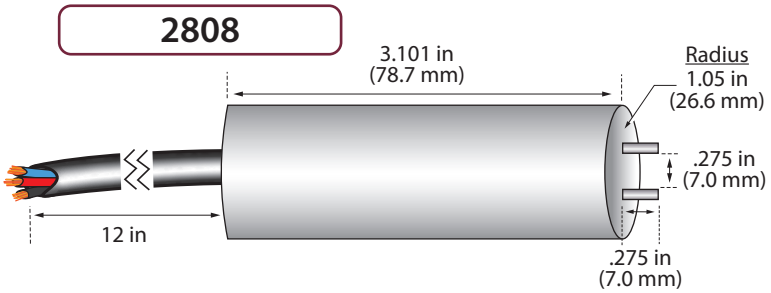
Operating Voltage	9 Volts DC - 28 Volts DC
Operating Current	7 mA nominal

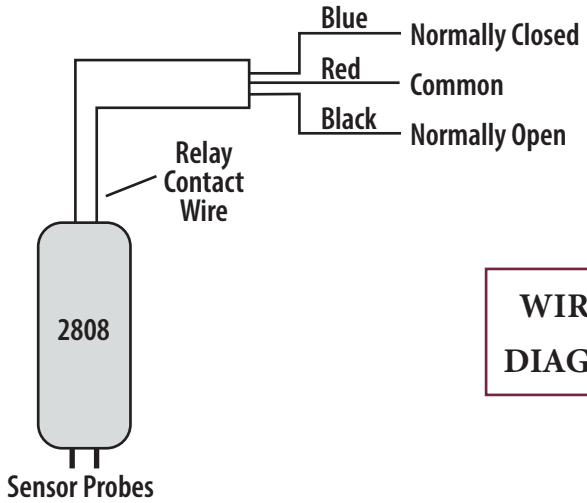
2808 and 2808-12V

Operating Temperature:	70 C to -40C

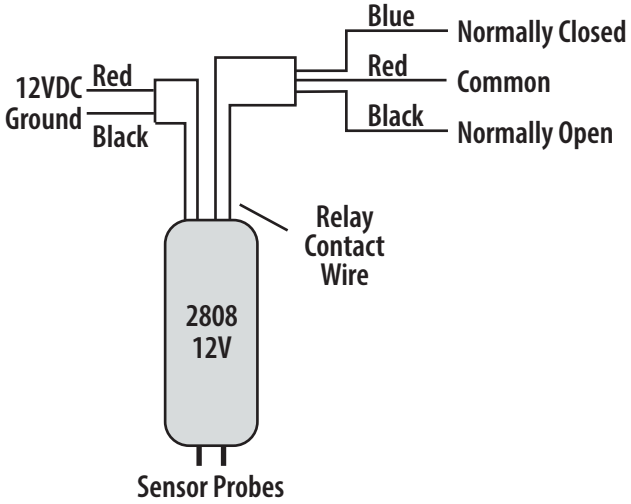
Contact Rating:

Nominal Switching Capacity	2A @ 30VDC
Max. Switching Power	60 W
Max. Switching Voltage	220 VDC
Max. Switching Current	2 A





WIRING DIAGRAM



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

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KIMBALL, NE 69145

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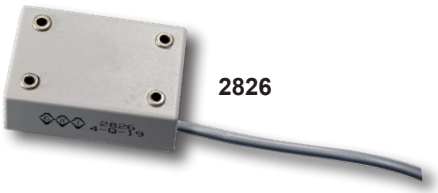
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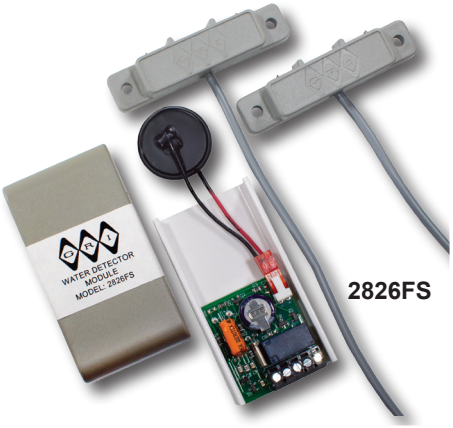
Liquid Level Detector

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2826 / 2826FS



- Detects non-volatile liquids
- For use with wireless transmitters
- Installs easily
- C Form relay contacts
- Fail safe version available



APPLICATION:

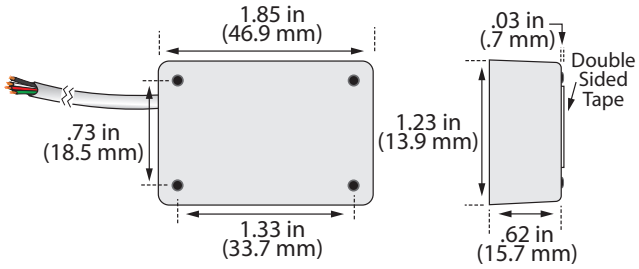
The GRI 2826 detector was designed in response to a direct request for a small electronic sensor capable of detecting non-volatile liquids in remote hard to reach locations. The sensor, in conjunction with your favorite wireless transmitter, can be used to detect and report the encroachment of non-volatile liquids into an isolated sensitive location.

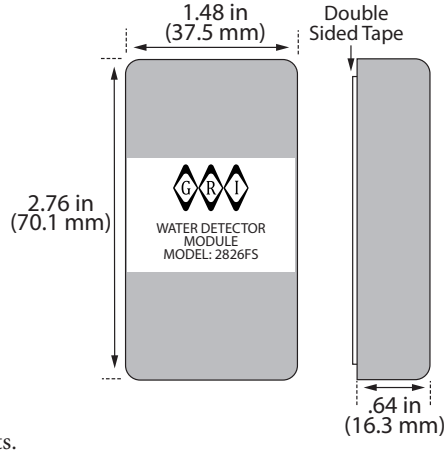
The new 2826FS from GRI provides remote probes plus a ***fail safe*** capability. When the on board battery expends the last of its power, 3 to 5 years under normal conditions, the 2826FS automatically places itself in a safe mode to help prevent danger to devices, properly and/or people. This ***safe*** 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 resettling and re-arming the system.

DESCRIPTION:

The GRI 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.





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

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Liquid Level Detector

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INSTALLATION INSTRUCTIONS

2826 Liquid Level Detector

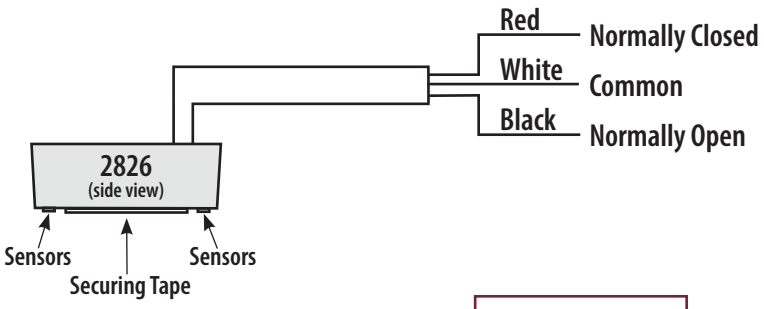
To install the GRI 2826 detector, place the unit where liquid is most likely to accumulate. Clean and dry the desired placement location. A smooth surface is preferable and preparing surface by using an alcohol wipe is recommended. Remove protective paper from double sided tape, then stick the unit to 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

Ave. Duty Cycle at Manufacturer	Approx. 5 years
Contact Wires	22 ga. 36"
Contact Rating:	
Nominal Switching Capacity	2A @ 30VDC
Max. Switching Power	60 W
Max. Switching Voltage	220 VDC
Max. Switching Current	2 A



WIRING DIAGRAMS

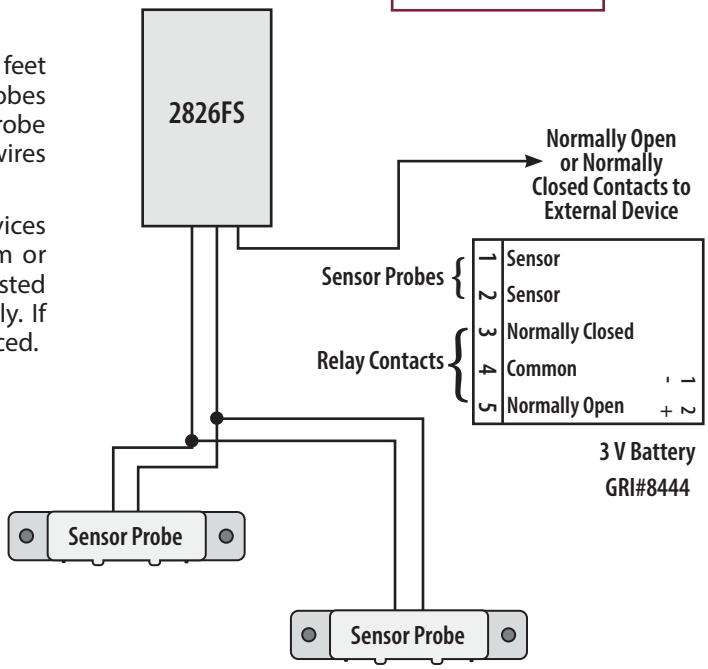
2826FS Liquid Level Detector

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 a damp sponge or paper towel 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	Approx. 4 years
Contact Rating:	
Nominal Switching Capacity	2A @ 30VDC
Max. Switching Power	60 W
Max. Switching Voltage	220 VDC
Max. Switching Current	2 A
Max. Number Sensor Probe	10
Max. Wire length for detector to probe	100 foot



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Home Water Leak Alarm System

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WS-20

- Instant alarm
- Signaling device
- Self contained
- Local alarm and flashing LED
- Low battery indicator
- 6’ Jacketed lead
- Form C relay
- Additional sensors, PN WS-20-240-S (20’ jacketed lead, max. wire run 106 ft.) Up to 6 sensors per unit



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 and LED indicator, should water come in contact with the WS-20 water sensor.

DESCRIPTION:

The Home Water Leak Alarm System uses a microprocessor to monitor a Water Sensor, 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. The sounder will continue to sound until the reset/cancel button is depressed. Other features for the eWS-20 would include an adjustable sounder volume, power/alarm LED indicator, a latching relay and 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 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 1/16th above any flooring surface. The sensor can be mounted to a wall with stainless steel straps facing down or the sensor can be mounted to the floor surface.

A 9-volt alkaline battery can then be connected to the battery strap or the unit can be powered from an external 12 VDC power supply, connected to the + and - terminals.

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

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Home Water Leak Alarm System

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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 conditions.

2. While in normal operating condition, depressing the cancel button will place the unit in a stand by condition (sensor 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 sensor until the unit enters the alarm mode. This mode is indicated by a continually annunciating sounder and 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 (sensor still sensing water), or places the unit back to normal operation (sensor not sensing water). If the sensor is still sensing water and the unit enters the alarm standby mode, an alarm standby annunciation will be sounded (6 short peeps 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 no longer senses water.

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.

Specifications

Battery Type	9 Volt Alkaline
Battery Life (approximate)	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)
Wire Run	106' Maximum

Relay Contacts

Nominal Switching Capacity	2A @ 30VDC
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

☒ ☒ X X	Full Volume
X ☒ ☒ X	3/4 Volume
X X ☒ ☒	1/2 Volume

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

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Water Valve Shutoff

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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



The GRI 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 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

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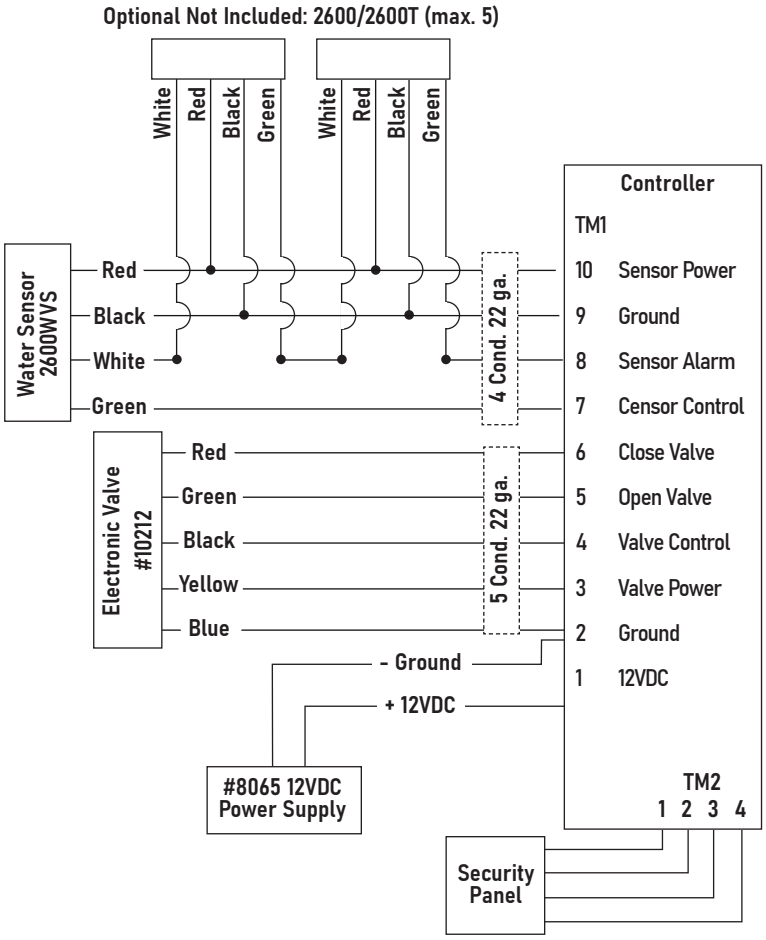
WVS

The GRI 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 flashed 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.

Prior to installation GRI recommends performing a bench test on the WVS to become familiar with the proper wiring and operation of the unit.

And adequate bench test would consist of connecting the valve assembly, 2600WVS and power supply directly to the controller and check for proper valve control operation.



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

Specifications

Operation Voltage	9 to 12 VDC
Max. Voltage	13.5 VDC
Average Current	55 mA w/5 sensors
Max. Current	300 mA
Backup Battery	9 V 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 30 W - AC 60 VA
Max. Switching Volts	60 VDC - 120 VAC
Max. Switching Current	2 Amps DC/AC
Max. Water Sensors	5
Max. Wire Length to Sensors	200 ft.
Max. Wire Length to Valve	50 ft.

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

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Water Moccasin Sensor Strip with Relay Contact

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- 2600 Water sensor built into a10 foot mesh water strip sensor for perimeter or large area flood detecting
- Idea for basements, 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 and external device, i.e. transmitter, annunciator, etc.

Part Numbers

WM2600-10	**Normally closed for a closed loop circuit 12 Volts DC**
WM10-P	**10 ft. extension probe series connected**

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.

Specifications

Power Requirements	
Operation 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	100 mOhms
Switching Voltage	200 Volts DC Max
Switching Current	500 mA Max
Carry Current	1 Amp Max
Power	10 VA Max
Temperatures	
Operating Temperature	-40ºC to +75ºC
Storage Temperature	-40ºC to +85ºC
Polyester Mesh	+125ºC Max
WM10-P Extension Probes	
Series Connected	5 Max

WM10-P Specifications

Wire	2 Conductor 22 ga PVC Jacket
Temperature	-70ºC Min to +125ºC Max
Mesh Material	Polyester
Length	10 feet

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

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Water Moccasin Sensor Strip with Relay Contact

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INSTALLATION INSTRUCTIONS

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 preselected closed loop terminal. A resistor can be connected in series with either the green or white wire for those panels that require end-of-the 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 to the area to be monitored using the supplied screws.

For water pipe leak detecting, the sensor can bee 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.

INSTALLATION INSTRUCTIONS

WM2600-10 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 pre-installed working water switch, and we 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 endd 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 seensors should be replaced.*

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

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Current Sensor CC15

Current Sensor CS Series

Low Voltage Switching Device LVSD

Power Supplies and Regulators

Power Transfer Device PTD-1

Junction Box 6600

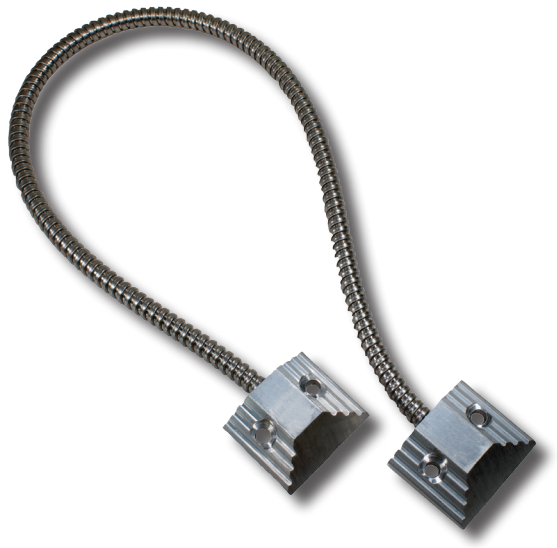
GRI

Power Transfer Device with Custom Lengths .218 Diameter

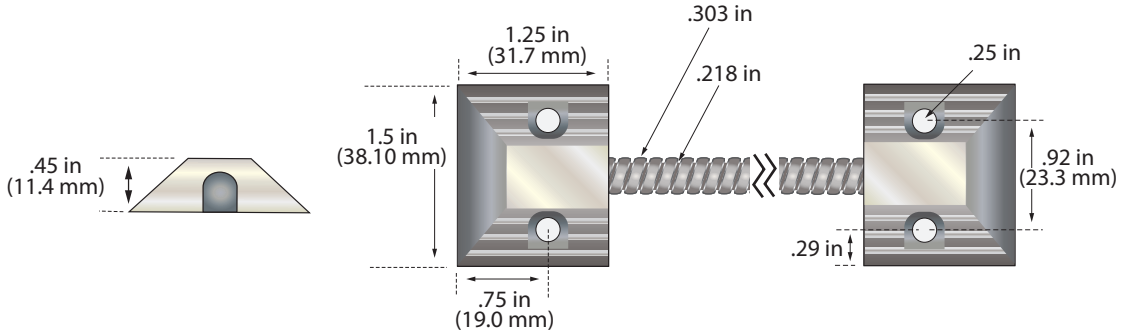
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REGULAR SIZE

PTDC



- Heavy duty aluminum ends
- 8296 Stainless steel armored cable
- 0.218" / 5.55mm inside diameter
- 0.303"/ 7.77mm outside diameter
- Includes mounting screws
- Twist lock cable into ends
- Secure with #832 set screws (use 5/64 allen wrench)
- Custom armored cable lengths upon request



Part Numbers

	Length	Inside Diameter	Outside Diameter
PTDC (ends only)			
PTDC-7	**7"**	**0.218"/5.55mm**	**0.303" /7.77mm**
PTDC-12	**12"**	**0.218"/5.55mm**	**0.303" /7.77mm**
PTDC-18	**18"**	**0.218"/5.55mm**	**0.303" /7.77mm**
PTDC-24	**24"**	**0.218"/5.55mm**	**0.303" /7.77mm**
PTDC-36	**36"**	**0.218"/5.55mm**	**0.303" /7.77mm**

8296 estimated wire allowance: Six 22 gauge stranded, 2 each, 2 & 3 conductor, 1 each 4-6 conductor.

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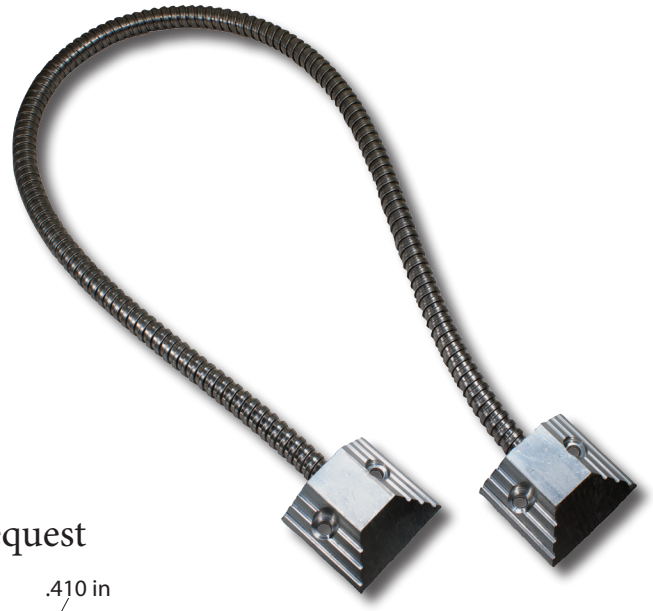
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Power Transfer Device with Custom Lengths .313" Diameter

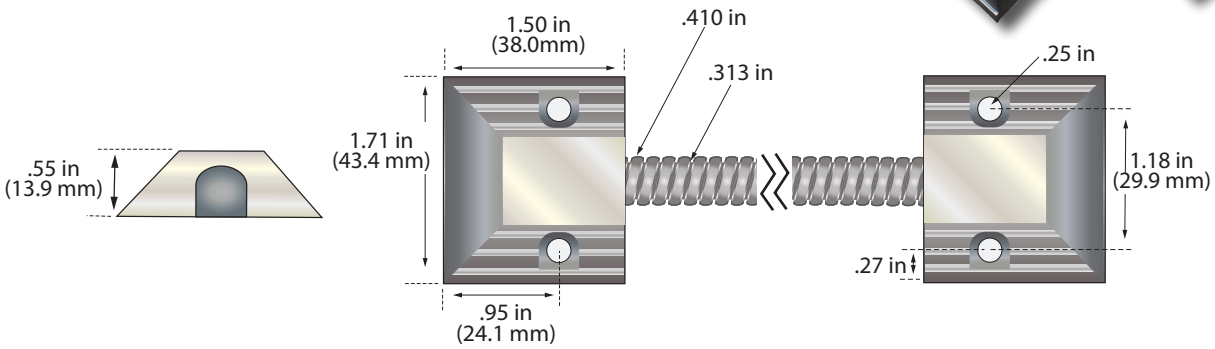
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LARGE SIZE

PTDCL



- Heavy duty aluminum ends
- 8449 Stainless steel armored cable
- 0.313" / 7.94mm inside diameter
- 0.410"/ 10.91mm outside diameter
- Includes mounting screws
- Twist lock cable into ends
- Secure with #832 set screws (use 5/64 allen wrench)
- Custom armored cable lengths upon request



Part Numbers

	Length	Inside Diameter	Outside Diameter
PTDCL (ends only)			
PTDCL-7	**7"**	**0.313"/7.94mm**	**0.410" /10.91mm**
PTDCL-12	**12"**	**0.313"/7.94mm**	**0.410" /10.91mm**
PTDCL-18	**18"**	**0.313"/7.94mm**	**0.410" /10.91mm**
PTDCL-24	**24"**	**0.313"/7.94mm**	**0.410" /10.91mm**
PTDCL-36	**36"**	**0.313"/7.94mm**	**0.410" /10.91mm**

8449 estimated wire allowance: Ten 22 gauge stranded,
5 each, 2 conductor, 4 each 3 conductor
3 each 4/5 conductor, 2 each 6 conductor

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

GEORGE RISK INDUSTRIES, INC.
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KIMBALL, NE 69145

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Proudly Made in U.S.A.

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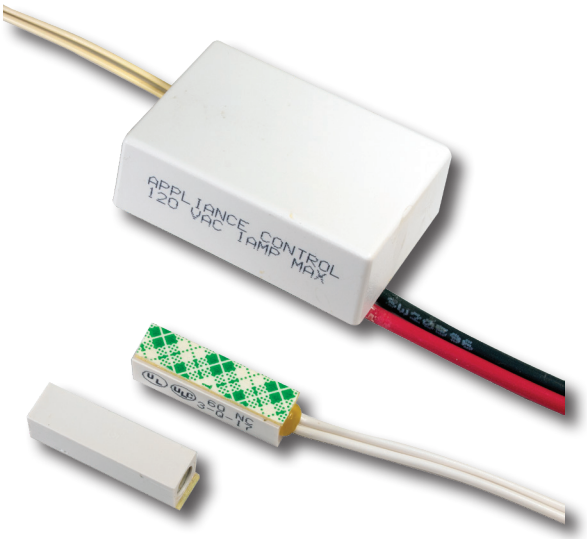
Current Controller CC-01

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CC-01

UL LISTED ULC LISTED

- U.L and 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



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

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

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Current Controller CC-01

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INSTALLATION INSTRUCTIONS:

Installing the Door Sensor

NOTE: Open loop sensor required (included).

Install the switch on the door, according to the manufacturers installation instructions. Run wires from the door switch to the electrical junction box.

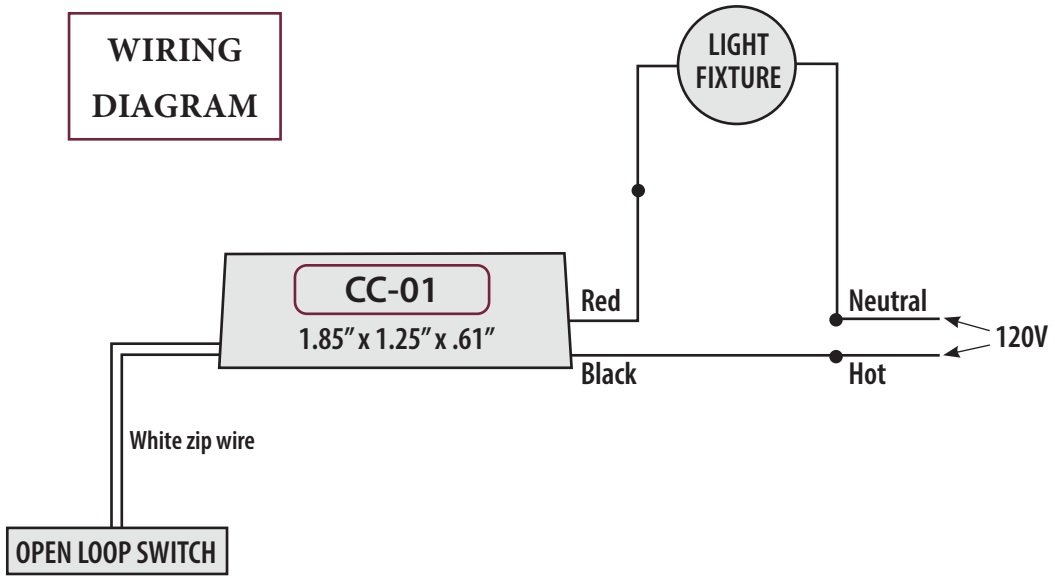
Installing the GRI Current Controller

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.

WIRING DIAGRAM



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

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Current Sensor CC15

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CC15

UL LISTED ULC LISTED

- U.L and U.L.C. Listed
- 15 Amp switching
- Designed for appliance control
- Used in environmental control and lighting systems
- Controlled with low voltage applications
- Custom programming options available



APPLICATION:

The GRI CC15 Current Controller is an automatic current switching device. This device was designed to be used primarily for switching appliance and lighting systems, such as area lighting, LED lighting and environmental control units. It operates by monitoring the state of a low voltage witch that can be placed in remote locations such as a door or window. Therefore the appliance can be controlled by an opening or closing of that door or window.

DESCRIPTION:

The GRI CC15 Current Controllers are 15 Amp general purpose relay circuits that can be controlled remotely with any normally open dry contact switch. It comes with an enclosure that can be attached to or into an approved electrical junction box. It also comes with connecting wires and hardware for connecting to a power source, an appliance load and for the remote switch (switch not included). The low voltage switch circuit for this device is an electrically isolated battery powered (battery included), with a microprocessor controlled input. It can be switched from remote locations up to 1000 feet away using low voltage wiring applications.

Part Numbers

CC15-230VAC	CC15-24VDC
CC15-115VAC	CC15-12VDC
CC15-24VAC	

OPEN LOOP SWITCH REQUIRED.

GRI has a complete line of open loop switches to meet your applications.

Specifications

High Voltage	
Contact Rating	15 Amp
Maximum Current	16 Amps
Coil Power	.76 VA (Typ)
Operating Temperature	-20° C to 70° C
Low Voltage	
Voltage	3 VDC
Max. Voltage	5 VDC
Supply Current	.25 uA(Typ)
Battery Life	Min. 5 years

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

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Current Sensor CC15

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INSTALLATION INSTRUCTIONS:

NOTE: The installation of the GRI Current Controller must be performed by a licensed Electrician.

The GRI CC15-115 CC15-230 enclosure must be attached on to, or into a UL approved electrical junction box.

1. Remove plastic knock out

Determine the best knock out hole for the high voltage wires that provide the best fit when secured properly to the electrical junction box. Knock out the plastic using a large screw driver or needle nose pliers. Next remove plastic from top side of enclosure for the low voltage wires.

2. Install battery, circuit board, lid and pretest

Connect battery to circuit board (observing voltage polarity). Install conduit nipple through CC15 enclosure. Insert wires through the appropriate knock outs, and then attach the lid with the provided screws.

Pretest by simulating the on and off signal by connecting and disconnecting the two ends of the low voltage wires. Listen for a relay activation (clicking sound). If the relay cannot be heard, DO NOT INSTALL. Check the battery, return or contact manufacturer at 800-445-5218.

3. Attach CC15 enclosure to electrical junction box

CAUTION: Remove all power entering the electrical junction box before connecting or disconnecting the GRI CC15.

Attach boxes together using the supplied conduit nipple and lock nut.

4. Connect the circuit wires

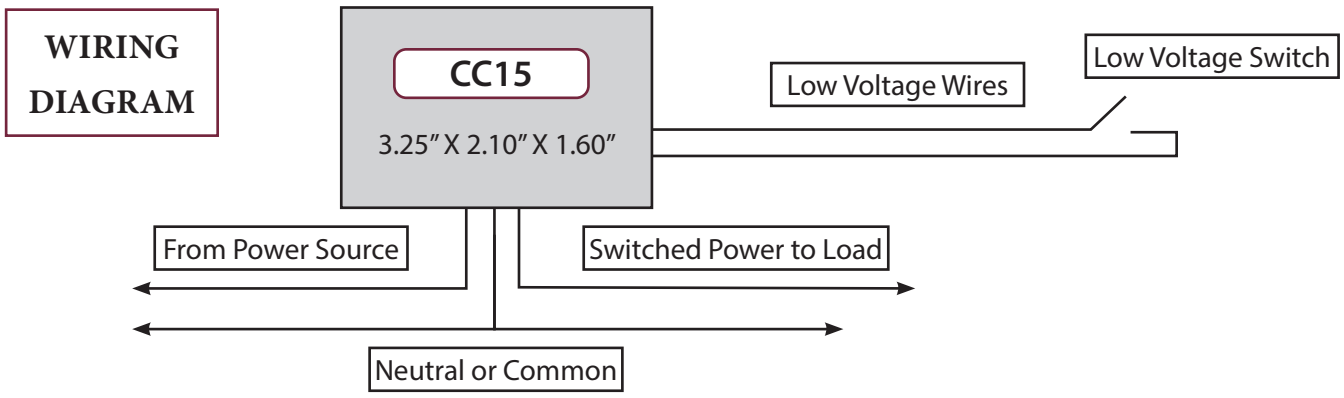
Attach the CC15 High Voltage wires cording with the diagram shown for each CC15 model number. Use the supplied wire connectors to make the connections.

The Low Voltage wires can then be attached to a normally open low voltage dry contact switch.

Contact Factory for optional input switching or programmable control 800-445-5218.

Reapply power to junction box and test for power at load with a switch closure.

NOTE: The installation of the GRI CC15-115 and CC15-230 must be performed by a licensed Electrician.



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

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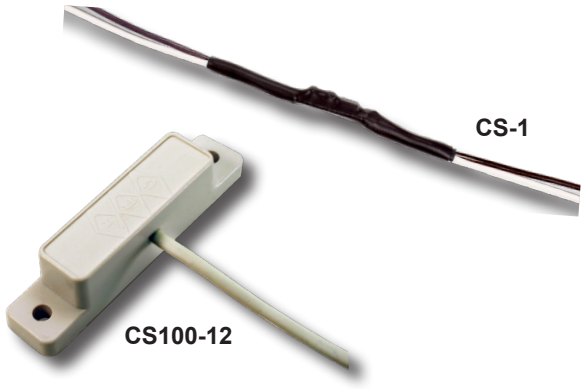
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Current Sensors

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CS Series

- Fails safe with excessive current
- Micro-weld switch protection
- Channels voltage above 60 V to ground
- Available in recessed and 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 protection plus minimum and maximum zone protection. When using the CS-1, it should be installed directly in front of the contact(s).

Part Numbers

Heat Shrink:	**CS-1**		
Fused Switch:	**CS2020-12**	**CS2020-T**	**CS100-12**
	CS29A	**CS4400**	**CS400**
	CS200-36		

CIRCUIT	**Fuse and SIDActor**
Internal Fuse	**.500 A**
Break Over Voltage	**60 to 100 Volts**

GRI PRODUCTS MEET OR EXCEED THESE MINIMUM GENERAL SPECIFICATIONS:

Part Number	Loop Type	Electrical Configuration	Reed Form	Max. Initial Contact Resistance (Ω)	Max. Contact Rating (W)	Max. Switching Voltage (VDC)	Max. 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

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

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Current Sensors

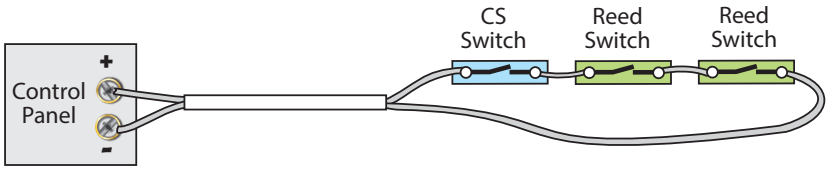
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SWITCH AND ZONE PROTECTION

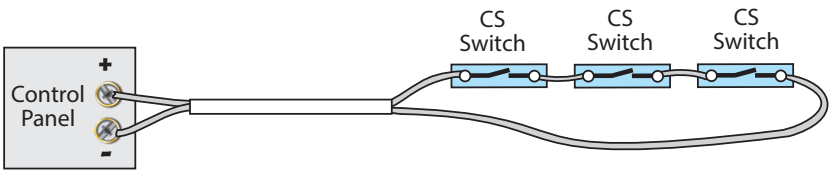
CURRENT PROTECTION SWITCH



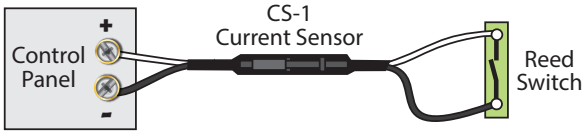
MINIMUM ZONE PROTECTION



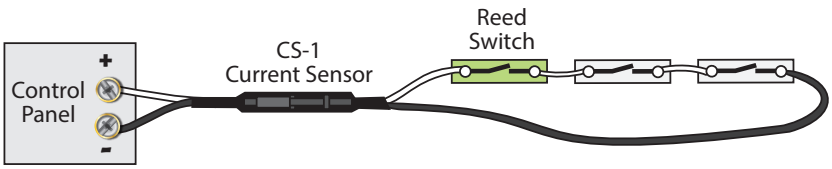
MAXIMUM ZONE PROTECTION



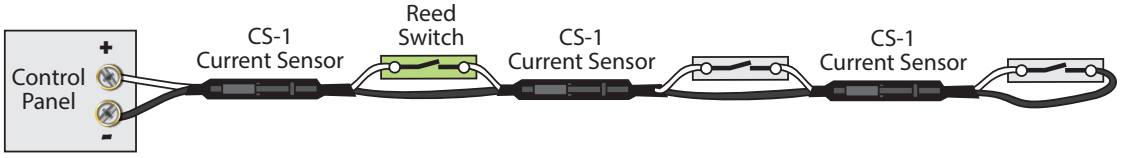
SWITCH PROTECTION WITH CS-1



MINIMUM ZONE PROTECTION WITH CS-1



MAXIMUM ZONE PROTECTION WITH CS-1



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

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Low Voltage Switching Device

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LVSD / LEDSD

- 2 Amps switching
- Light gauge wire uses
- Designed for appliance control
- Used in environmental control and lighting systems
- Controlled with low voltage applications
- Custom programming options available





The GRI Low Voltage Switching Device (LVSD) is a 2 Amp 12/24 VDC controller with connecting wires for connecting to a DC Power Source, a DC Load and a Dry Contact Switch. This GRI Controller is designed to switch up to 2 Amps of DC power with a C form relay that will power devices such as small motors, relays, fans, sirens, strobes and LED lights, and capable of switching from long distances using small gauge wire and most any proximity switch or dry contact device. ***Open loop switch required, not included.*** GRI has a complete line of open loop switches to meet your applications.

The GRI LED Switch Device (LEDSD) is a 2 Amp 12/24 VDC controller with 2.1 mm x 5.5 mm connectors for use with LED Lighting (rope, strip, track and more). Ideal for cabinets and display cases, CCTV cameras, closets, pantries, etc. Includes 3030-T. Open loop switch required.

Specifications

Max. Input Voltage	28 VDC
Min. Input Voltage	9 VDC
Max. Output Current	2A at 30V
Max. Output Power	60 W
Max. Current Consumption	65 mA
Switch Input	Open Loop
Max. Switch Distance	200 ft.
LED Green Flash	Turning On
LED Red Flash	Turning Off

Part Numbers

LVSD	Low Voltage Switching Device
LEDSD	LED Lighting Switching Device

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

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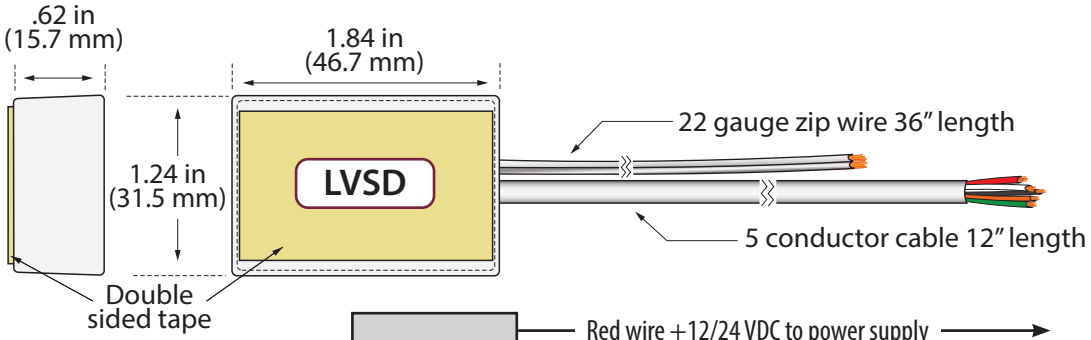
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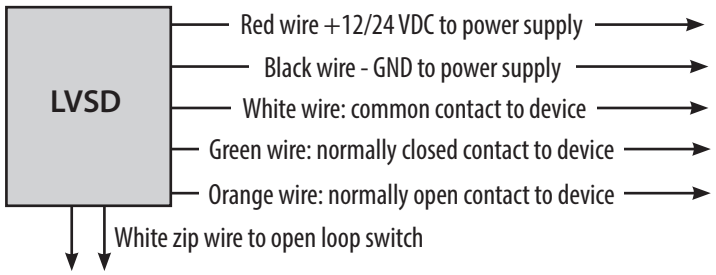
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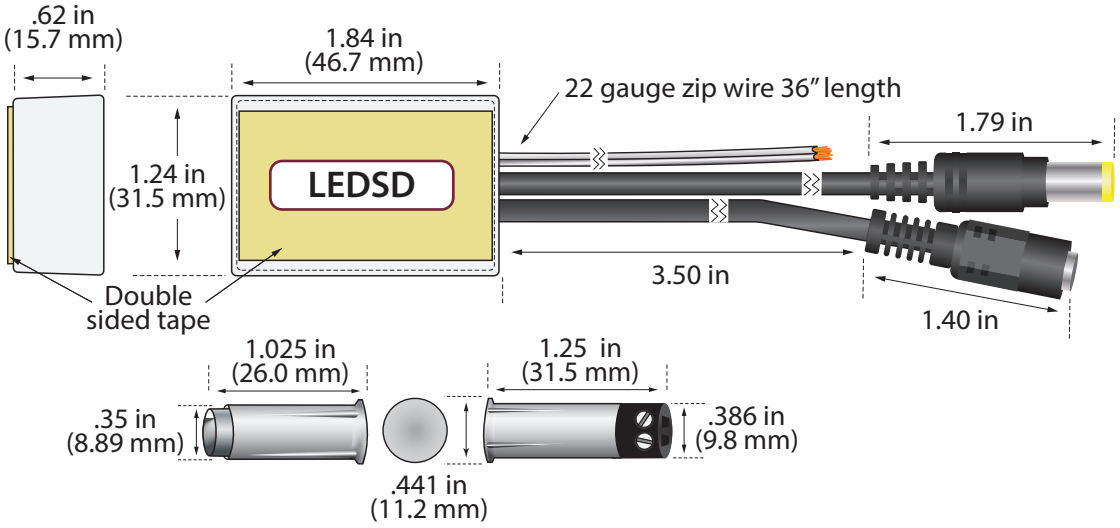
Low Voltage Switching Device

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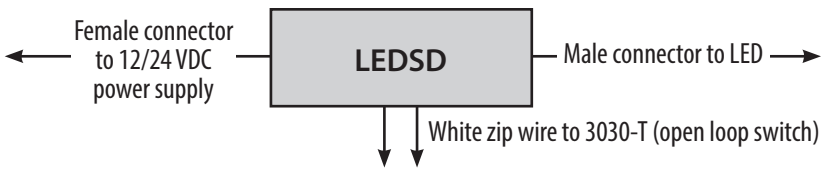


WIRING DIAGRAM





WIRING DIAGRAM



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

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Power Supplies and Regulators

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8065R



The GRI 8065R 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. **For use with the PAA GRI Pool Access Alarm Series.**

6973



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.

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

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Power Transfer Device

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PTD-1

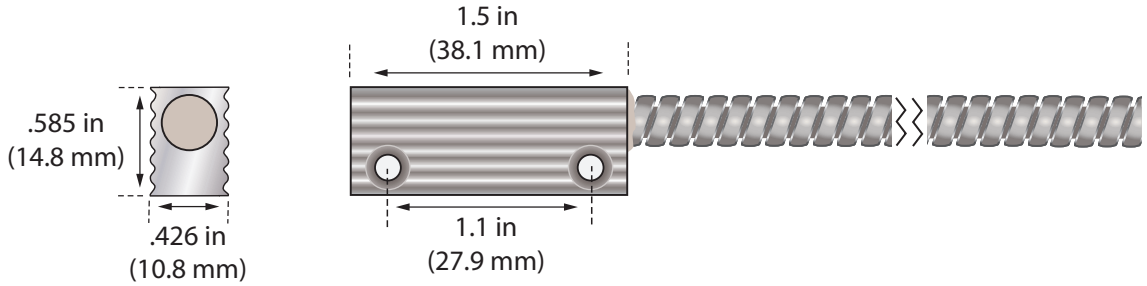
- 18" armored cable
- 180° door opening
- Metal end caps and ferrules
- Holds wire up to .180" diameter
- PTD-1-36 available with 36” cable



The GRI 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, GRI includes metal end caps and ferrules along with all mounting hardware.

The armored cable allows for up to .180” wire diameter.



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

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Junction Box

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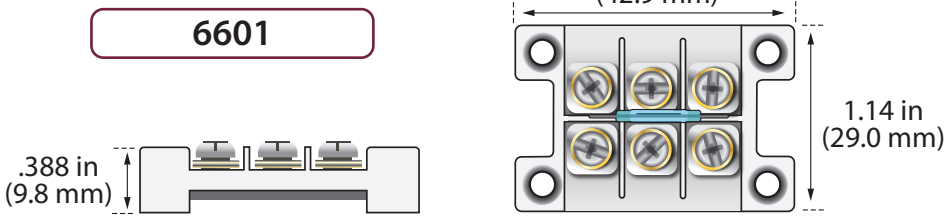
6600 / 6601

- Wire capture terminals
- Reed tamper
- Barrier wall design to prevent shorting
- Provides for wire concealment
- Expert appearing installation
- Private labeling available



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" L x 1 1/4" W x 5/8" H Includes 4 - #4 x 1 flathead screws



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

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GRI

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Pool Access Alarms

ETL Listed Pool Access Alarm PAA

Pool Access Alarm Remote for PAA

Plug In Power Supplies

Closed Loop Pool Access Alarm DPARM

Gate Mount Pool Access Alarm GT10

GRI

ETL Listed Pool Access Alarm

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PAA

- ETL tested to be in compliance with standard 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
- Options set by jumpers include closed or open loop, instant on or 7 second delay alarm, and 15 or 7 second adult shunt
- Child resistant button guard built in
- Surface or flush mount models
- **Capable of 2 year life with Ultralife 9 Volt Lithium Battery U9VLJPFP**
- **May be hard wired to remote 12 Volt 500 mA regulated power source (GRI 8065R). Applied voltage must not exceed 15 VDC**



PAA



PAA-S

The new GRI Pool Access Alarm was designed as an aid in the prevention of unattended access to a pool/spa area by a small child. Monitoring all doors or windows with closed loop or open loop magnetic reed switches, the Pool Access Alarm will sound an alarm should anyone too small to manage the adult pass through feature attempt access to the pool/spa area. For maximum protection all movable openings should be protected in such a manner by the GRI Pool Access Alarm.

The PAA can be operated with an on-board 9 volt lithium battery or 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 8.3 Volts, a low battery mode will be initiated and the unit will beep approximately every 50 seconds. 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 the PAA.

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

Part Numbers

PAA	Recessed Pool Access Alarm
PAA-S	Surface Mount Pool Access Alarm

WARNING: THIS IS NOT A LIFE SAVING DEVICE.

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

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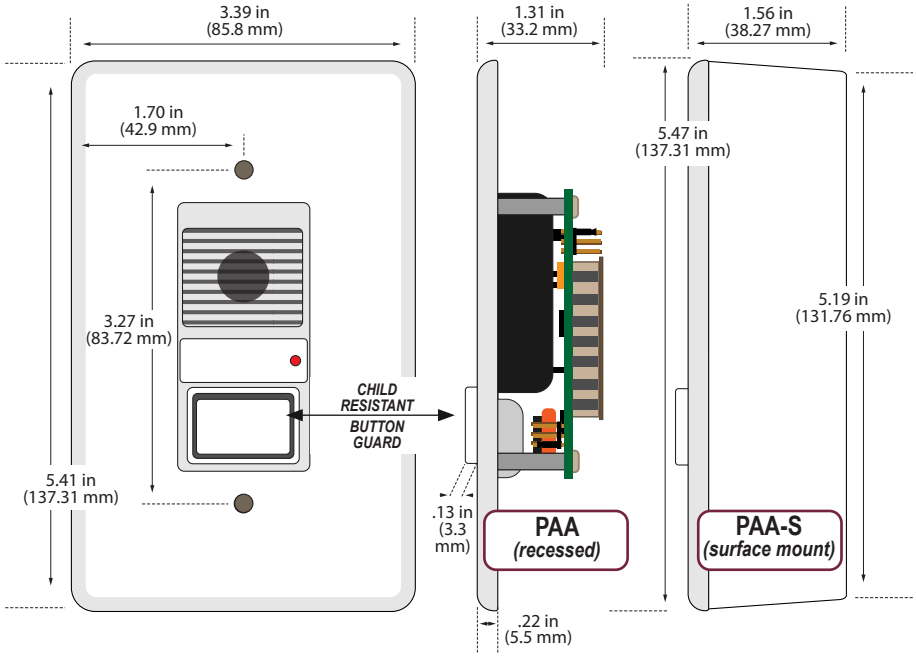
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ETL Listed
Pool Access Alarm

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INSTALLATION:

The GRI Pool Access Alarm mounts easily to the wall by any door which allows access to the pool/spa area. Using a 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 with two timed options.***



All versions incorporate a built-in pass through feature and deactivation button to allow adult access without alarm sounding. Although the Pool Access 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 the 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 magnetic reed switch should be mounted on it and both switches wired in parallel or series depending upon the magnetic reed switches. 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 Pool Access Alarm can monitor all by installing closed loop switches which are wired in series or open loop switches in parallel. In this way, any opening will be detected by the GRI Pool Access Alarm. A single deactivation button can also be wired at each opening to utilize the pass through feature. A maximum of eight remote sounders can be wired to one PAA/PAAS for extra sound coverage. Please contact your local GRI Distributer for information on remote options. Part numbers and wiring diagrams are available from the factory.

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

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Pool Access Alarm Remote

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REMOTE SOUNDER:

A remote sounder, Model PAAR-RS or PAAR-SS can be added to all GRI Pool Access Alarms to increase the area that the alarm can be heard. Tested to 2017 Audibility Standards as per ITS, Report #J20041913-001.



PAAR-RS

REMOTE SHUNT BUTTON:

If two doors are to be monitored by a GRI Pool Access Alarm/Door Alert, a remote shunt button, Model PAAR-RB or PAAR-SB can be added. The Pool Access 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.



PAAR -RB

REMOTE SOUNDER AND SHUNT BUTTON:

A remote sounder and shunt button combination unit, Model PAAR-RSB or PAAR-SSB can be added to additional exits. This will not only extend sounder coverage, but also provide the adult pass through feature and alarm shunt control functions to each remote location chosen.

Note: A maximum of eight remote sounders can be wired to one PAA/PAAS for extra sound coverage.

WARNING: THIS IS NOT A LIFE SAVING DEVICE.



PAAR -SSB

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
PAAR-RB	Recessed button only
PAAR-RS	Recessed sounder only
PAAR-RSB	Recessed sounder and button
PAAR-SB	Surface mount button only
PAAR-SS	Surface mount sounder only
PAAR-SSB	Surface mount sounder and button

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

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POOL ACCESS REMOTE OPTIONS

EXTERNAL SOUNDER
An external sounder, Model PAAR-RS or PAAR-SS, can be added to this unit to increase the area that the alarm can be heard. See Installing Options #1.

EXTERNAL SHUNT BUTTON
If two doors are to be monitored by this pool access alarm, an external shunt button, Model PAAR-RB or PAAR-SB, can be added. In this configuration, the Pool Access Alarm can be by one door and the external button by the other door and either button will cause the Door Alert to go into its shunt mode. See Installing Options #2.

EXTERNAL SOUNDER AND SHUNT BUTTON
An External Sounder and Shunt Button Combination Remote Unit, Model PAAR-RSB or PAA-SSB can also 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. See Installing Options #3.

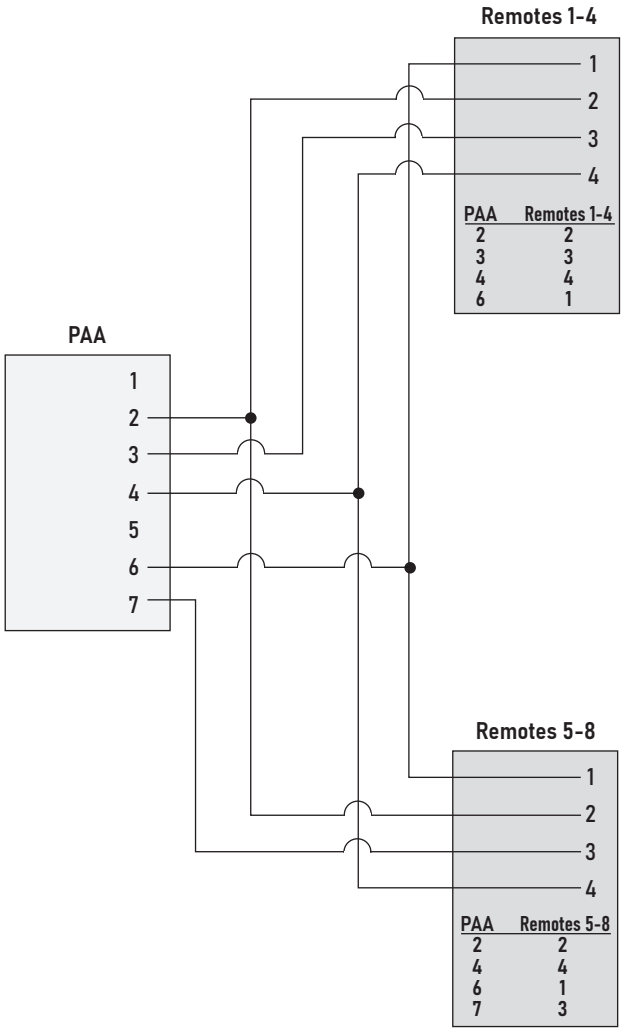
INSTALL OPTIONS

1. EXTERNAL SOUNDER OPTION:
This option is provided so that an external sounder can be attached to the Pool Access Alarm and the alarm will be heard over a greater area. Mount the Remote Sounder in a position selected following the same basic instruction given for mounting the main Pool Access Alarm. Run a three (3) conductor cable from the sounder to the Pool Access Alarm. The power for this unit is coming from the main unit so no periodic checks must be made of this unit. The main unit will warn of low battery or power for the entire system. Up to four remotes can be added to Pin 3 and an additional four remotes on Pin 7 of the Pool Access Alarm.

2. EXTERNAL SHUNT BUTTON:
This option is provided so that an external shunt button will preform the same function as shunt button on the Pool Alarm. Mount the unit in a position selected following the same basic instructions given for mounting the Pool Access Alarm. Run a pair of wires to the Pool Alarm. Attach the wires to the Pool Access Alarm Pin 2 and Pin4. It does not matter which wire goes in which location.

3. EXTERNAL SOUNDER AND SHUNT BUTTON:
This option combines the Remote Sounder and Shunt Button into one remote unit. Mount the unit in a position selected following the same basic instructions given for mounting the main Pool Alarm. The power for this unit is coming from the main unit so no periodic checks must be made of this unit. The main unit will warn of low battery or power for the entire system. Up to four remotes can be added to Pin 3 and an additional four remotes on Pin 7 of the Pool Access Alarm.

WIRING SPECIFICATIONS:
For connection of optional remote equipment and door contact switches a Belden CAT5 CL2 or equivalent cable is recommended. For the connection of the 12-volt power supply to the alarm unit a Belden 18-2 CL2-CMR 300v 60° or equivalent wire is recommended. In all cases installer should reference current local N.E.C. code, and or code requirements set forth by local housing authority or code enforcement jurisdiction.



WARRANTY: One year against workmanship, material and factory defects. Proof of Purchase required with return.

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DISCLAIMER
The GRI PAA 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 or spa areas.

Plug In Power Supplies

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8065R

The GRI 8065R 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. **For use with the PAA GRI Pool Access Alarm Series.**



6973

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.



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

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GRI

Closed Loop Pool Access Alarm

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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
- SPDT relay output available
- Remote sounders and buttons available

APPLICATION:

The GRI Pool Access 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 Access 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 movable openings should be protected in such a manner by the GRI Pool Access 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 Access 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 Access 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.

WARNING: THIS IS NOT A LIFE SAVING DEVICE.

Part Numbers

DPARM	Pool Access Alarm - Instant On - Closed Loop
DPARMD	Pool Access Alarm - 7 Second Delay - Closed Loop

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

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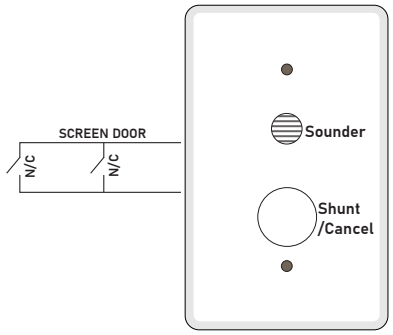
Closed Loop Pool Access Alarm

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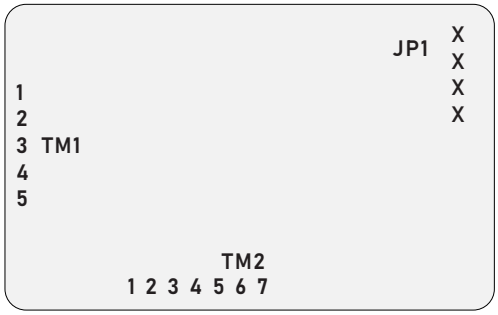
INSTALLATION WIRING DIAGRAM

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.



TERMINAL CONNECTIONS AND JUMPERS



TERMINAL BLOCK TM1

1	External Power (+)
2	Ground
3	Remote Reset/Delay Switch
4	Not Used
5	Door Contact

TERMINAL BLOCK 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

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

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	12 DC 500 mA Output Applied Voltage must not exceed15 Volts DC
Low Battery Mode	6.5V DC
Mounting Height	Ref. Local Code
Sounder Rated	85 dB at 10 ft. (3.5 M)
Switch	Closed Loop

Relay Contacts

Nominal Switching Capacity	2A 30 VDC
Max Switching Power	60 Watts
Max Switching Current	2 Amps

DISCLAIMER

The GRI 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 spa area.

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

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Gate Mount Pool Alarm

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GT10



- ♦ Closed Loop
- ♦ Microprocessor controlled
- ♦ Weather resistant for outdoor use
- ♦ Instant on or 7 sec. delay models available
- ♦ Low Battery Indicator
- ♦ Closed Loop 410P switch set with 5 ft. 2 conductor cable

The 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 through feature attempt access to the pool/spa area. For maximum protection all movable 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 cuase of the power failure determined and restored.

NOTE: Unit will function at a 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 15VDC.

WARNING: Environmental conditions, such as wind, may affect the sound level.

WARNING: THIS IS NOT A LIFE SAVING DEVICE.

Part Numbers

GT10-2	Gate Mount Pool Alarm - 7 Second Delay - Closed Loop
GT10-4	Gate Mount Pool Alarm - Instant On - Closed Loop

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

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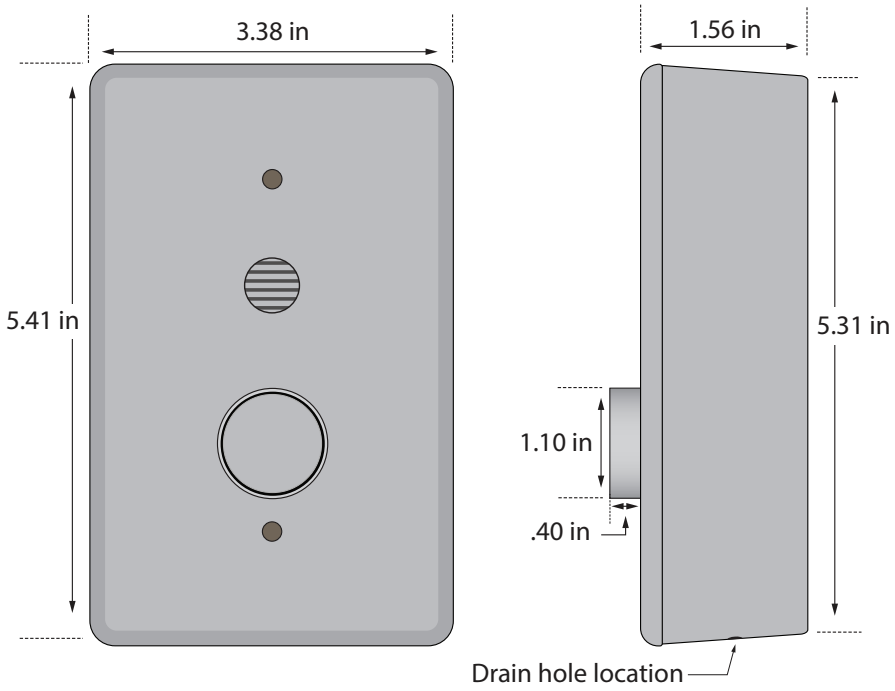
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Gate Mount Pool Access Alarm

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INSTALLATION INSTRUCTIONS:

The GRI Gate Mount Pool Access 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 7 second delay mode prior to sounding upon gate opening, or an instant alarm sounding upon activation. Both versions incorporate a built-in pass through feature shunt button to allow adult access without alarm sounding. Although the Gate Mount Pool Access Alarm cannot be turned off, this feature will simply deactivate the alarm function for a maximum of 15 seconds. During this time span the adult must exit and close the gate before the alarm sounds. Once the alarm is sounding it cannot 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 limited warranty against workmanship, material and factory defects.

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Channel Magnets
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E-Z Duct Raceway Quarter Round
Spacers and Covers
Empty Cases
Dummy Plugs
Recessed Adapters
Pre-Wire Plugs
Accessories

GRI

Bulk Stainless Steel Armored Cable

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GRI offers three different stainless steel 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 GRI Distributor or call factory for more information and quotes.





8868 / 8979



Steel Cable Clamp
CL8949 - .25 dia.
CL8950 - .312 dia.



Nylon Cable Clamp
CL8681 - 1/4" dia.
CL7412 - 5/16" dia.
CL7548 -7/16" dia.

SquareLok (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.

Bulk Stainless Steel Armored Cable Part Numbers

Part Number	Size	Inside Diameter	Outside Diameter	Coiling Diameter	Weight	Breaking Load
5702	3/16"	0.188	0.266"	1.750"	0.036 lb/ft	185 lbs
	5mm	4.76mm	6.76mm	44.45mm	0.054 kg/m	84 kgs
8296	7/32"	0.218"	0.303"	1.750"	0.042 lb/ft	210 lbs
	5.5mm	5.55mm	7.7mm	44.45mm	0.63 kg/m	96 kgs
8449	5/16"	0.313"	0.410	2.000"	0.065 lb/ft	220 lbs
	8mm	7.94mm	10.91mm	50.80mm	0.095 kg/m	100 kgs

Dimensional tolerance is +/- 0/0008 inches (.2mm). Breaking load may vary 10%. Other sizes available upon request.

Armored Cable Accessories Part Numbers

Part #	Description
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
CL8949	Steel cable clamp - .25 diameter
CL8950	Steel cable clamp - .312 diameter
CL8681	Nylon cable clamp - 1/4" diameter
CL7412	Nylon cable clamp - 5/16" diameter
CL7548	Nylon cable clamp - 7/16" diameter

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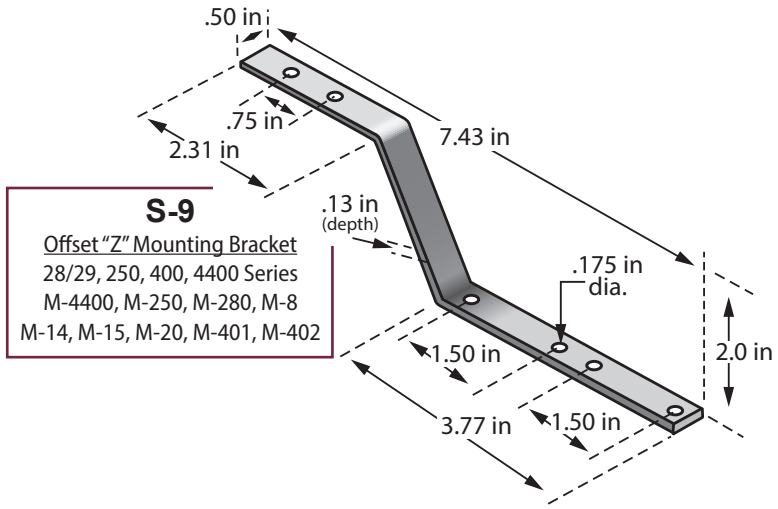
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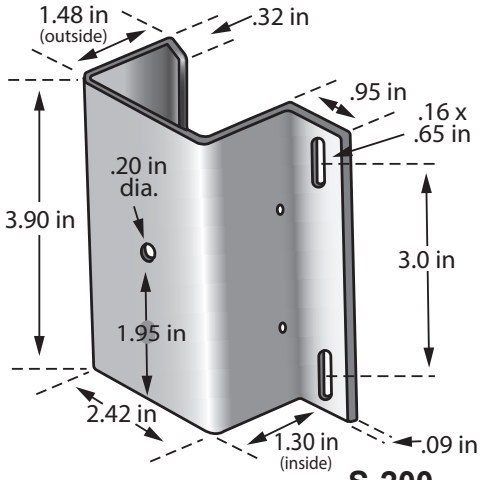
GRI

Brackets

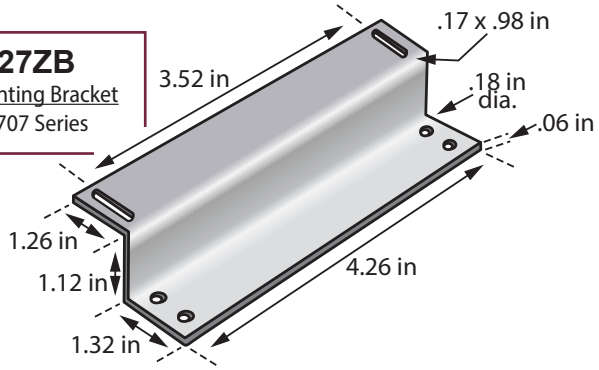
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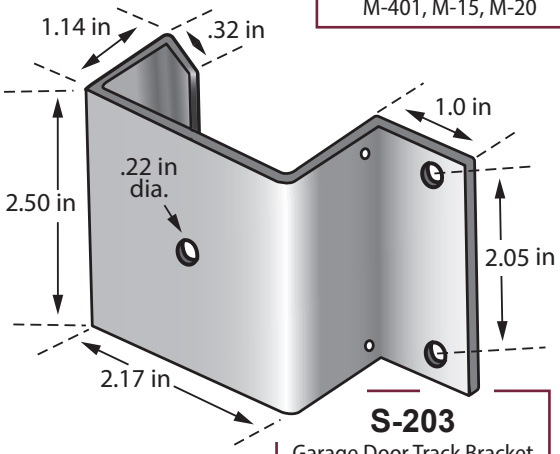
S-9
Offset "Z" Mounting Bracket
28/29, 250, 400, 4400 Series
M-4400, M-250, M-280, M-8
M-14, M-15, M-20, M-401, M-402



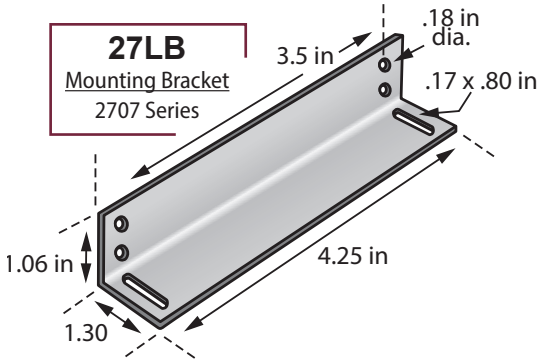
S-200
Garage Door Track Bracket
400 Series
M-401, M-15, M-20



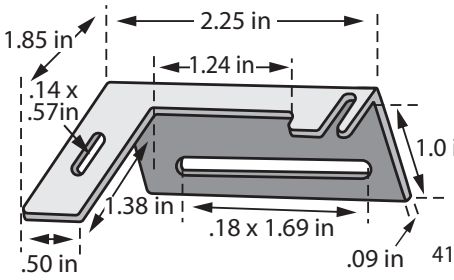
27ZB
Mounting Bracket
2707 Series



S-203
Garage Door Track Bracket
250, 4400 Series, M-4400,
M-250, M-280, M-8, M-14



27LB
Mounting Bracket
2707 Series



S-41
Mounting Bracket
4110, 4110A, 4112, 4112A

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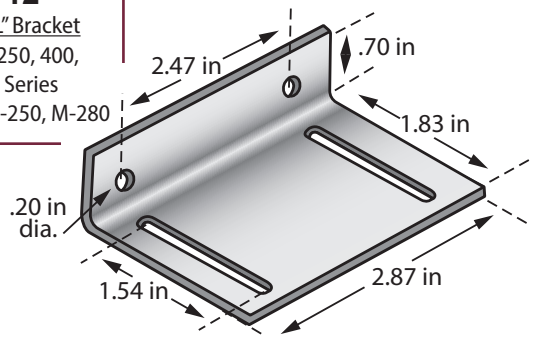
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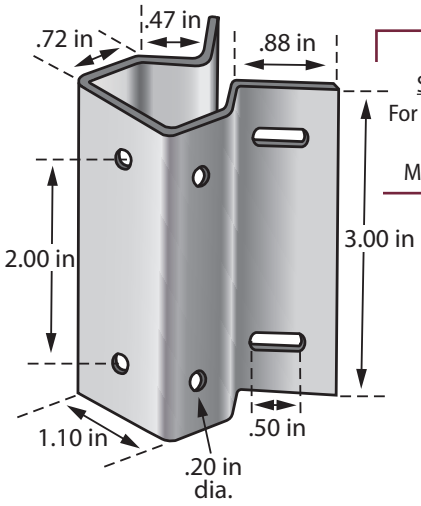
Brackets

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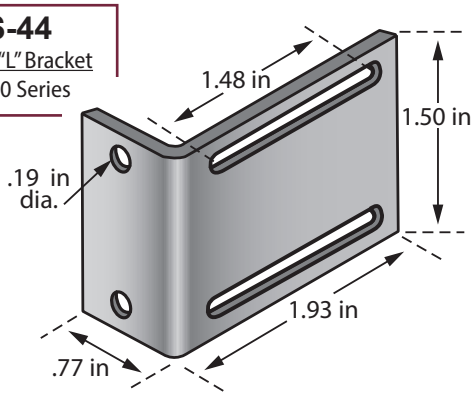
S-12
Short "L" Bracket
28/29, 250, 400,
4400 Series
M-4400, M-250, M-280



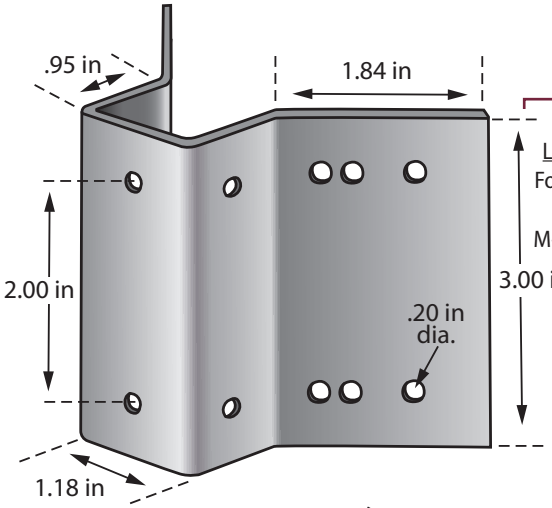
S-202
Small Fence Bracket
For 1 3/8" - 2 1/2" dia. post
250, 4400 Series
M-4400, M-250, M-280



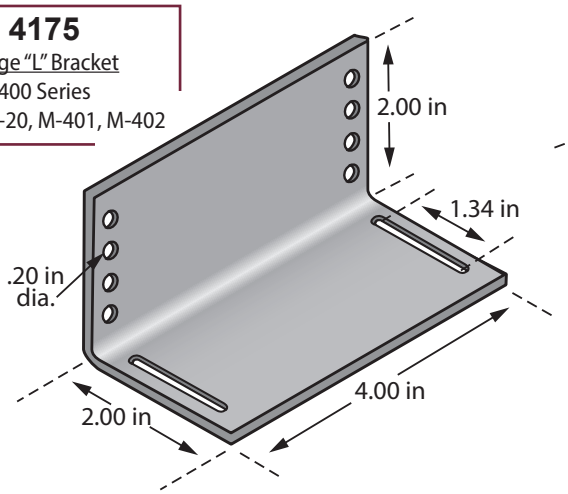
S-44
Small "L" Bracket
4460 Series



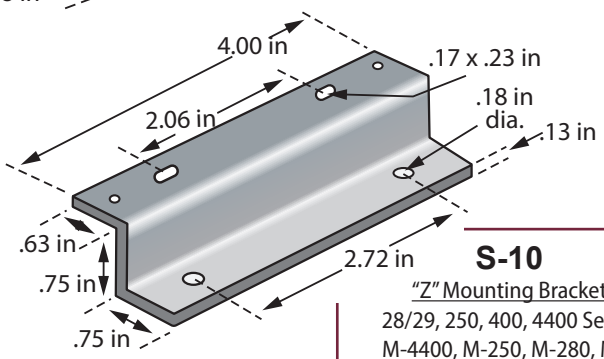
S-201
Large Fence Bracket
For 2 1/2" - 4" dia post
250, 4400 Series
M-4400, M-250, M280



4175
Large "L" Bracket
400 Series
M-15, M-20, M-401, M-402



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



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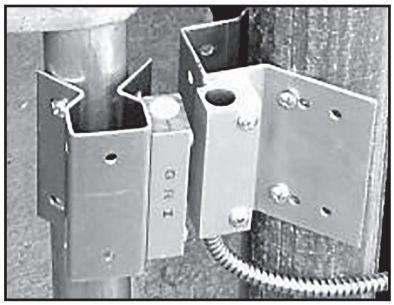
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Track and Gate Mounting Kits

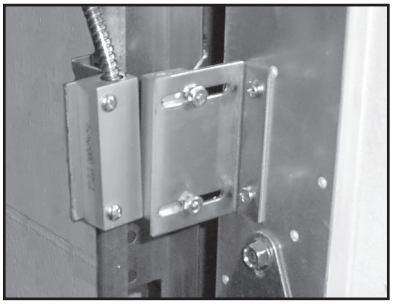
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8450-3 Combination Post Mount

Part No. 8450-3 consists of:

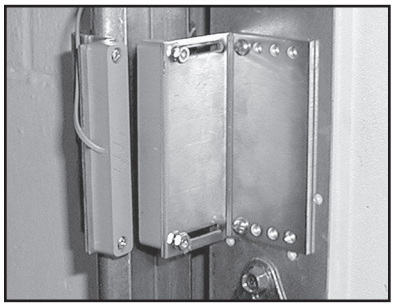
1 - S4402A
1 - M-4400
1 - S-202 1/3" - 2 1/2" dia. fence gate post bracket
1 - S-201 2 1/4" - 4" dia. fence gate post bracket
4 - #699 nut, 6-32 x 5/16 Hex - Zinc
4 - #4186 washer, #6 external lock - zinc fed. Screw 1322
4 - 4209 screw, 6-32 x 3/4 PH PHIL (200L) machine screw - zinc
8 - #735 screw, 8 x 1 self tap combo pan head type A steel/zinc plate



8297 Industrial Track Mount

Part No. 8297 consists of:

1 - 4402-A switch set which includes S-12 small "L" bracket
1 - S-203 Garage door track 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, 8 x 1 self tap combo pan head type A steel/zinc plate
2 - 6 x 1/2 pan head screws



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 pan head (for 1100) 40/B

8450-1 Fits 1 ¼" - 4" Fence Gate Posts

Part No. 8450-1 consists of:

1 - S4402A
1 - M-4400
1 - S-201 2 1/4" - 4" dia. 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

8450-2 Fits 1 ⅜" - 2 ½" Fence Gate Posts

Part No. 8450-2 consists of:

1 - S4402A
1 - M-4400
1 - S-202 1/3" - 2 1/2" dia. 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

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KIMBALL, NE 69145

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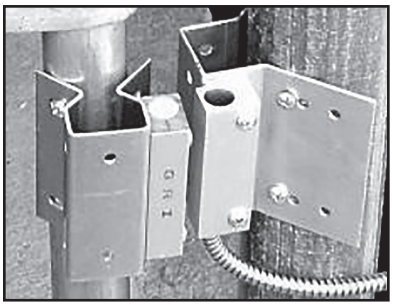
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Track and Gate Bracket Kits

WWW.GRISK.COM

Switches Not Included



8450-3-Kit Combination Post Mount

Part No. 8450-3-Kit consists of:

1 - S-202 1/3" - 2 1/2" dia. fence gate post bracket
1 - S-201 2 1/4" - 4" dia. 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



8297-Kit Industrial Track Mount

Part No. 8297-Kit consists of:

1 - S-12 small "L" bracket
1 - S-203 Garage door track 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, 8 x 1 self tap combo pan head type A steel/zinc plate
2 - 6 x 1/2 pan head screws



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, #6-32 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 pan head (for 1100) 40/B

8450-1-Kit Fits 1 ¼" - 4" Fence Gate Posts

Part No. 8450-1-Kit consists of:

1 - S-201 2 1/4" - 4" dia. 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

8450-2-Kit Fits 1 ⅜" - 2 ½" Fence Gate Posts

Part No. 8450-2-Kit consists of:

1 - S-202 1/3" - 2 1/2" dia. 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

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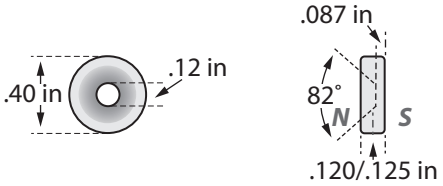
Mighty Mag

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Rare Earth Magnets

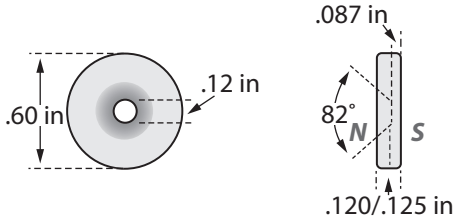


MM-400
3/8" Dia. x 1/8"



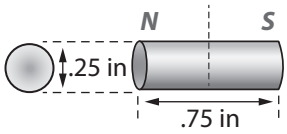


MM-600
5/8" Dia. x 1/8"



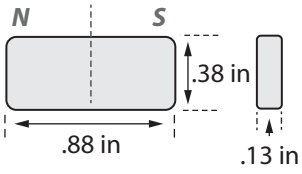


MM-10
1/4" Dia. x 3/4"



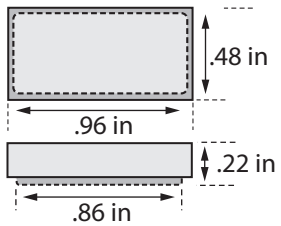


MMF-875
1/8" x 3/8" x 7/8"





CMMF-875
In case
.22" x .46" x .96"



GRI does not guarantee exact measurements.

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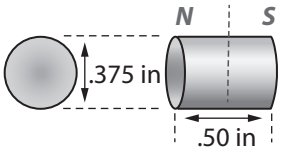
Mighty Mag

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Rare Earth Magnets

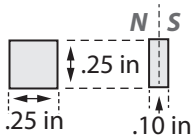


MM-375
3/8" Dia. x 1/2"



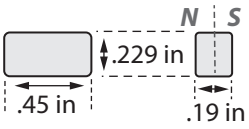


MM-25
1/4" x 1/4" x .100"



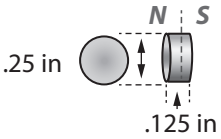


MM-45
.19" x .45" x .23"





MMR-25
1/4" Dia. x 1/8"



Also Available:

MM-9
1/4" x 1/2"

MM-12
1/4" x 1"

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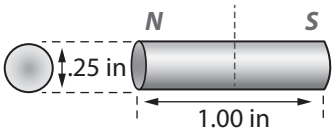
Alnico V Bare Magnets

WWW.GRISK.COM

- 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

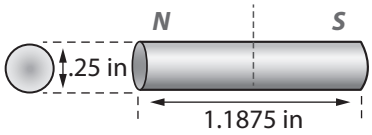


M-12
1/4" Dia. x 1"



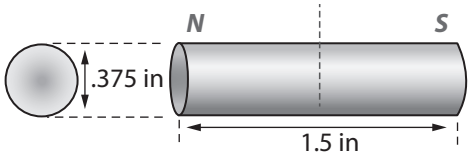


M-13
1/4" Dia. x 1 3/16"



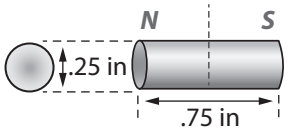


M-16
3/8" Dia. x 1 1/2"



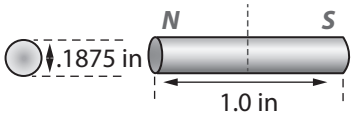


M-10
1/4" Dia. x 3/4"





M-19
3/16" Dia. x 1"



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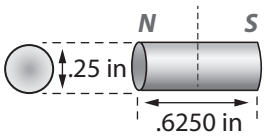
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Alnico V Bare Magnets

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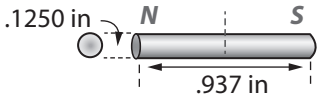


M-17
1/4" Dia. x 5/8"



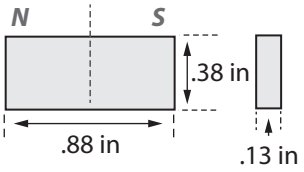


M-5278
1/8" Dia. x .937"



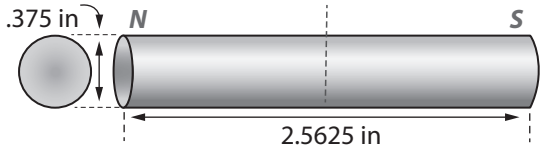


MF-875
1/8" x 3/8" x 7/8"





M-3938
3/8" Dia. x 2 9/16"



Also Available:

M-2759 3/8" x 5/8"	**M-3226** 3/8" x 3/8"	**M-4718** 3/8" x 1"
M-4742 3/8" x 3/4"	**M-7547** .450" x 2.500"	**M-8540** 1/2" x 3"

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Magnets in Cases

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- Dimensions given apply to the case size
- Magnets available in bags of 100
- White, brown or gray

M-5RS
3/8" x 5/8"
stubby, recessed



MM-9RS
3/8" x 5/8"
stubby, recessed



M-5
3/8" Dia.
press fit, recessed



M-5F
3/8" Dia.
flanged, recessed



M-6RF
1/4" press-fit, recessed



M-180
3/4" Dia.
Steel door, recessed



M-180WG
3/4" Dia.
Steel door, recessed



M-184
1" Dia.
Steel door,
recessed



M-184WG
1" Dia.
Steel door,
recessed



M-500
1/4" x 1/4" x 7/8"
macro surface mount



M-505
3/16" x 1/4" x 1"
super mini, surface mount



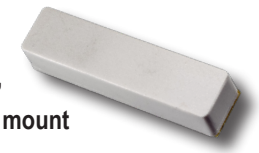
M-7
1/4"Sq. x 1"
adhesive back,
surface mount



M-7F
1/4" x 1/4" x 1"
surface mount, adhesive
back w/breakaway flange



**M-110,
MM-910**
1/4"x 3/8 x 1 1/2"
mini adhesive, surface mount



**M-100,
MM-900**
1/4" x 3/8" x 2"
mini screw mount



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Magnets in Cases

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CMF-875
.22 x .46" x .96"



M-1100
3/8" x 3/8" x 2"
screw mount, surface mount



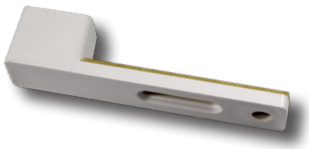
M-8, M-14
1/2" x 1/2" x 2 1/2"
screw mount, surface mount



M-15, M-20, M-401, M-402
1/2" x 1/2" x 4"
screw mount, surface mount



M-SASH
Base: 2.56"L x .450"W x .125"D
Case: .510"L x .450"W x .595"D



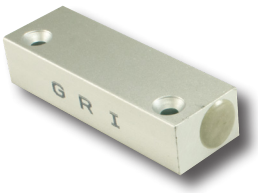
M-250 M-280
3 2/4" x 1 1/8" 3 2/4" x 1 1/8"
extruded case, wall mount



M4532
3.10" x 2.14
industrial aluminum
housing



M-4400
2 1/2" x 7/8" x 1/2"
industrial rugged
aluminum case



Also Available: M-150 | MM-150RS | M-129 | M-4460 | M-4612 | M-4704

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Channel Magnets

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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; point arrow toward switch



MC-25

NEW

GR1840

UL pending

- The GR1840 oval metal door neodymium channel magnet is designed to be mounted in the top channel of a metal entry/exit door
- The magnet can be rotated to fit either wide or narrow top channels



GR1840

MC-180

UL LISTED

- The MC-180 is designed to be mounted in the top channel of a metal door
- Legs of the magnet case can be clipped to accommodate a more shallow channel



MC-180

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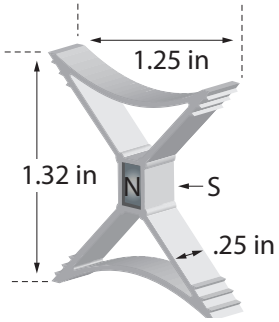
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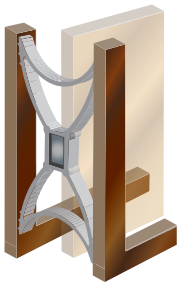
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Channel Magnets

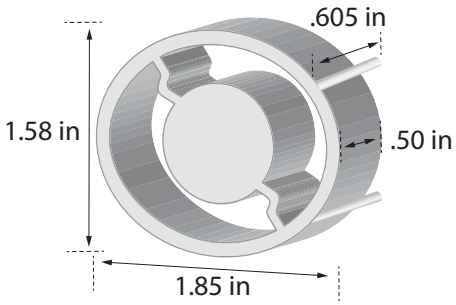
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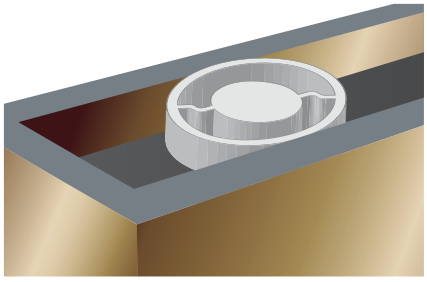
MC-25



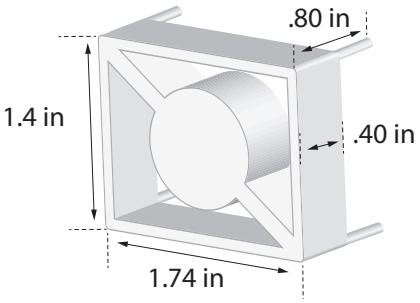


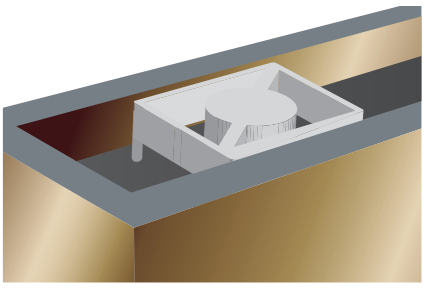
GR1840





MC-180





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E-Z Duct Raceway

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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 ¼" Raceway
- Adhesive backing
- Mounting screw holes
- White (W) or brown (B)
- 6 ft. lengths
- UV stabilizer
- Flame retardant PVC & ABS UL 94-V-0



3/8" x 3/8"

5/8" x 1/2"

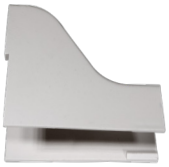
5/8" x 1 1/4"



E-Z RA



E-Z OC



E-Z DC (5/8th only)



E-Z IC



E-Z TEE



E-Z EC



E-Z SP



E-Z SB



E-Z 58 SG



E-Z 75 DG

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

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E-Z Duct Raceway

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E-Z Duct is GRI's product line of wire and cabling raceway and connectors for low voltage applications. Manufactured by GRI, this line of high quality, two piece surface raceway features 5/8" x 1/2" or 5/8" x 1 ¼", six foot lengths of PVC 94V-O, 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. GRI 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 Numbers

Part #	Quantity	Description	Length	Color
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" Raceways	six foot lengths	
E-Z 58 6	Bag of 6	5/8" x 1/2" Raceway	six foot lengths	
E-Z 58 DUO	Bag of 6	6 E-Z 58 sticks to fit into 3 E-Z 75 covers	six foot 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	Bag 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: W - 5.50" diameter (fits both E-Z 58 and E-Z 75)		
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

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1-800-523-1227
(308) 235-4645
FAX (308) 235-3561
E-MAIL: sales@grisk.com

E-Z Duct Raceway Quarter Round

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Quarter Round Wire & Cabling Raceway & Connectors for Low Voltage Applications

- 1” Quarter round
- One piece extrusion; hinged and interlocking
- Ideal for hiding wire along floorboards and corner
- White only
- 6 ft. lengths
- UV stabilizer
- Splice has knock outs for E-Z 38, E-Z 58 & E-Z 75
- 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



E-Z QR 6-W Closed



E-Z QR 6-W Open



E-Z QR SP-W



E-Z QR OC-W



E-Z QR IC-W

Part Numbers

Part #	Quantity	Description	Length	Color
E-Z QR 6-W	Bag of 6	1” Quarter round, not taped or drilled	six foot lengths	white only
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 OC-W	Bag of 6	Outside corner quarter round		
E-Z SP-W	Bag of 6	Splice/ coupling quarter round		
E-Z QR COM-W	Combo Pack	2 each: inside corner, outside corner, splice/coupling		

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

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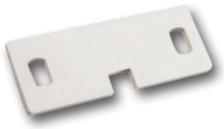
GRI

Spacers & Covers

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Spacers

S-129
Spacer for 129



5226
Spacer for 4400 series



S-28
Spacer for 29 & 28 Series, standard screw surface mount



S-40
Spacer for 4460 series



S-23
Spacer for roller ball, dome switch & flanged push button switch



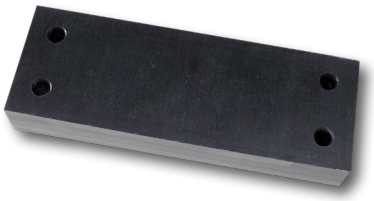
S-27T
Thin spacer for 2707 Series



S-11
Spacer for 1100, 100 series



S-27C
Case size spacer for 2707 Series



S-15
Spacer for 400 & 410 Series, industrial surface mount



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Covers

S-222
Cover for 29 series



5229
International cover
for 29 series



C-129
Cover for 129
series



C-11
Cover for 1100
series



S-111
Cover for 100-TC
series



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Empty Cases

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- Available in white, brown or gray
- Empty cases available in bags of any amount up to 100

C-5
3/8" press fit



C-5F
3/8" flanged recessed



C-6RF
1/4" flanged recessed



C-7
1/4" x 1"
mini surface mount
adhesive backing



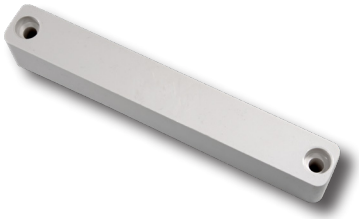
C-7F
1/4" x 3/16"
mini surface mount
flange & adhesive backing



C-8
1/2" x 1/2" x 2.5"
surface mount



C-15
1/2" x 1/2" x 4"
industrial surface type



C-1100
3/8" x 3/8" x 2"
surface mount



C-4460
1.5" x 5/8"
surface mount



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Dummy Plugs

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- Reusable
- White or black (unless otherwise noted)
- Available in bags of 100



DP-1.25



DP-750



DP-562



DP-500



DP-20RS

Part Numbers

DP-20RS	3/8’ diameter, white or brown
DP-50RF	1/4” diameter, round flanged, white or brown
DP-250	1/4” diameter, white or black
DP-375	3/8” diameter, self locking
DP-500	1/2” diameter, self locking
DP-562	9/16” diameter, self locking
DP-625	5/8” diameter, self locking
DP-750	3/4” diameter, self locking
DP-875	7/8” diameter, self locking
DP-1.0	1” diameter, self locking
DP-1.25	1 1/4” diameter, self locking
6726	1.093” diameter, for electrical box knockouts, gray only

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Recessed Adaptors

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- 3/8” machined holes
- Self-locking
- Reusable - great for testing
- Snap-in - Snap out
- White or black (unless otherwise noted)
- Available in bags of 100



A-1.25



A-1.0



A-625



A-562

Part Numbers

A-562	9/16” diameter with 3/8” hole
A-625	5/8” diameter with 3/8” hole
PA-75	3/4” diameter with 3/8” hole, available in white, brown and gray
A-87	7/8” diameter with 3/8” hole
A-1.0	1” diameter with 3/8” hole
A-1.25	1 1/4” diameter with 3/8 hole

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Pre-Wire Plugs

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- ♦ Reusable
- ♦ Perfect for pre-wiring
- ♦ Cost effective
- ♦ White or black (unless otherwise noted)
- ♦ Available in bags of 100



PW-1.0



PW-75



PW-625



PW-500



PW-50RF



PW-375

Part Numbers

PW-20	3/8” diameter x 1 3/4” L, white or brown
PW-20RS	3/8” diameter x 1” L, white or brown
PW-50RF	1/4” diameter x 2” L, round flanged, white or brown
PW-375	3/8” diameter x 9/16” L, self locking, white, brown or black
PW-500	1/2” diameter x 1” L, self locking
PW-625	5/8” diameter x 1 1/16” L, self locking
PW-75	3/4” diameter x 1 1/2” L, self locking
PW-875	7/8” diameter x 1” L, self locking
PW-1.0	1” diameter x 1 1/16” L, self locking
PW-1.25	1 1/4” diameter x 1 1/16” L, self locking
PW-150	1/2” diameter x 1 1/2” L, white or brown
PW-SM	1 1/4” L x 1/4” W, white, surface mount
PW-1.OH	1” diameter, white or black, hooked for sheetrock for home theater or home automation

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Accessories

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Bushing



5358

Part Numbers	
7175	3/4”
7174	7/8”
7128	1”
8515	1.375”
5358	1 3/4”
5228	2”
7666	2 1/2”

Available in black only.

Plug



6726

Part Numbers	
5227	2”
6726	1”

Available in gray only.

Wire Run Plug



7834

Part Numbers	
CB-75	3/4” diameter
CB-875	7/8” diameter
CB-1.0	1” diameter
7834	1 3/32” diameter

Available in black only.

Double Sided Tape

Part Numbers	
T-1	1” wide, black only
T-1/2	1/2” wide, white or black
T-3/8	3/8” wide, white or black
T-1/4	1/4” wide, white or black

Available in 1 yard, 5 yard and 10 yard rolls.

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GRI

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
500				AMS-59		
501						
502				AMS-7D		TANE MICROTANE
503						
4405						
4461						
4473		VIP48A 942C	944TSP			
4473		PFC40-1A 94-2C	944TSP			
4613	2304A					TANE-98Bi LG-36
4714						
5088			MPS99WG			
8297		1000-65SG				
8299		1000-37SZ				
100-12	1038		PR-20445 / 949			
100-12WG	1038					
100-T	1138T	VIP100	945T		DC-2531	TANE-60
100-TC	1138T		PAL-T			TANE-50
100-TCWG	1138T					
100-TWG						
101-12						
101-12WG						
101-T						TANE-61
101-TC						
101-TWG						
102-12						
102-12WG						
102B-12						
1100A-12		LMS28		AMS-51CV		TANE-55
1100A-12WG						
1100B-12		LMS27				TANE-56B
1100B-12WG						
1100C-12		LMS29				TANE-57C
1100C-12WG						
110-12	1035	VIP88 /LMS88	945		PS-1541	
110-12WG	1035W					

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
110-T		VIP100-1	MPS80			
110-TWG						
111-12		LMS87				
111-12WG						
111-T						
111-TWG						
112-12		LMS89				
112-12WG						
112B-12						
120RST-12		VIP48A 94-2C	MPS73WG			
120T-12		VIP48A 94-2C	MPS73WG			
120T-12WG		VIP48-1A 942C	MPS73WG			
120T-12XWG			MPS73WG			
129A			940			GP-23
129AWG						
129B						GP-24
129BWG						
130T-12						
130T-12WG						
130T-12XWG						
140T-12						
140T-12WG						
140T-12XWG						
150-12						TANE-06
150-12WG						
150MF-12						
150MF-12WG						
150RS-12						
150RS-T						
150-T						
150-TWG						
160-12						
160-12WG						
160MF-12						
160MF-12WG						

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
170-12						
170-12WG						
170MF-12						
170MF-12WG						
175-12						
180-12	1078C	VIP48-1 / PFC48-1	MPS70WG	AMS-25A		SD-70AL
180-12WG	1078CW		MPS70WG	AMS-26A		
180MC-12	1078C1		MPS70WG			
180RS-12		VIP48 / PFC48	MPS70WG			SD-70
184-12	1078	MSS100-6	947			SD-80AL
184-12WG	1078W		947			
184MC-12	R1078		947			
184RS-12		MSS100-6	947			SD-80
185-12		PFC41-1				SD-71BAL
185-12WG						
185MC-12						
189-12		MSS100-1				SD-81AL
189-12WG						
189MC-12						
190-12	1076C	PFC42-1		AMS-25B		SD-72CAL
190-12WG	1076CW			AMS-26B		
190MC-12						
194-12	1076	MSS100-4				SD-82CAL
194-12WG	1076W					
194MC-12						
195-12		PFC42Y				SD-74CAL
195-12WG						
195-MC-12						
199-12	1076D					SD-84CAL
199-12WG						
199-MC-12						
200-36		1000-75				
200-36HD						
200-36WG		1000-38Z		ODC-59A-HG		
200L-36						

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
2020-12	1075	VIP94-2 / RMS94Y	951WG	AMS-21	DC-1621	STB-10
2020-12WG	1075W				PS-1624	
2020-60			944			
2020-60WG			944W			
2020-T	1025T	VIP94-2T	944T	AMS-T21	DC-2611	STB-3/8TC
2020-TWG	1075TW					
2020-TXWG	1065TW					
20F-12	1072	RMS56K		AMS-22	PS-1631	
20F-12WG	1072W					
20RS-12	1125	VIP94-1 / RMS94-2	951WG / MPS9WG	AMS-17	DC-1651	Mini-10 /
STB-10						
20RS-12XWG	1125W		MPS95WG			STB-10 WG
20RS-60WG			951			
20RS-T	1125T	VIP94-2T	944T	AMS-T17	DC-2611	STB-3/8TC
20RS-TWG	1125TW					STB - 3/8 TCWG
210-36						
2120-12	1275					
2120-12WG	1275W					
2130-12	1276					
2130-12WG	1276W					
2140-12	1277					
2140-12WG	1277W					
220-36						
230-36						
250-36						
250-36HD						
250-36WG				ODC-59A-HG		
260-36						
270-36						
270-36HD						
280-36						
28A		1020-24		AMS-59		
28AWG						
28AXWG						
28B		1020-22				

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
28BWG						
28BXWG						
28C		1020-34				
28CWG						
28CXWG						
29A	1085T	VIP39 / 1000-24		AMS-39 / AMS-39CVS		SM-35
29AWG	1085TW		7939WG			
29AXWG	1082TW					
29B	1086T	1000-22				SM-35 B
29BWG						
29BXWG						
29C	1087T	1000-34	7939-2	AMS-39B		SM-35 C
29CWG	1087TW					
29CXWG	1084TW					
29PA	1082	1000-24S				
29PAWG	1085					
29PAXWG	1082					
29PB	1086	1000-22S				
29PBWG	1086					
29PBXWG						
29PC	1084	1000-34S				
29PCWG	1087					
29PCXWG	1084					
29PD	1084	1000-24SY				
29PDWG	1084					
3030-12	1071	RMS93-2				
3030-12WG	1071W					
3030-12XWG	1066W					
30F-12	1073	RMS60K				
30F-12WG	1073W					
30F-12XWG	1073W					
30RS-12		RMS93-2				STB-11
400	1045T	VIP1000-37 / 1020-37	950			
400P						
400WG	1042TW					

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
401		1020-58				
401WG						
402	1047T	1020-47				
402WG	1044TW					
4040-12	1070	RMS95-2 / RMS95Y			PS-1622	
4040-12WG	1070W					
4040-12XWG	1067W					
4040-60			944-2GY			
40F-12	1074	RMS70K			PS-1632	
40F-12XWG	1074W					
40FB-12	1074H					
40FB-12						
40FB-12	1074H					
40RS-12		RMS95-2				
410	1045T	VIP1000-37 / 1000-37		AMS-T10C		
410P	1045	VIP1000-37S/1000-37S	7945	AMS-37L		SM-20 WG
410PWG	1045W					SM-20 WG
410WG	1042TW					
411		1000-58				
4110		1900-98				
4110A		1900-98				
4110A-KIT						
4110-KIT						
4112		1900-96				
4112A		1900-96				
411P		1000-58S				SM-21 WG
411PWG						SM-21 WG
411WG						
412	1047T	1000-47		AMS-37B		
412P		1000-47S	7945-2			
412PWG						
412WG	1044TW					
413P						
413PWG						
4400						MET-200

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
4400-A	2505A-L	1000-65				MET-200AR 36
4400AB						
4402	2507-L20					MET-201
4402-A	2507A-L	1000-64Y				MET-201AR
4402AB	2507AH-L					
4405-A	2507AD-L	1000-65Y				
4460						
4460A						
4460A-36						
4461A						
4462						
4462A						
4463A						
4473RS		VIP48A 942C	944TSP			
4510A						
4510AU						
4532	2202A-L & 2202AU	VIP1000-98Z/1000-98Z	957	ODC-56A		
4532-36	2205A-L & 2205AU-L					
4532B		1000-96Z				
4532C	2204A-L & 2204AU	1000-96Z		ODC-56B		
4532CL	2204A-L & 2204AU	1000-96L		ODC-59B	PS-2022	MET-46-18
4532D-36	2207AD-L					
4532DL-36	2207AD-L					
4532L	2202A-L & 2202AU-L	VIP1000-98L / 1000-98L	958 / MPS51C / MPS52	ODC-59A / ODC-59A-MINI	PS-2023	MET-44-18
4532L-36	2205A-L & 2205AU-L			ODC-59A-36		MET-44-36
4532LB		1000-96L				MET-45-18
4612	2302A					TANE-96Bi-36
4700-A	2315A	1000-50SG				TANE-66
4700-AXL	2325A					
4701-A	2317A	1000-73SG				TANE-68
4701-AXL	2327A					
4704	2105					
4704-A	2105A	PA1000-81			DC-4511	
4714-A						
4714-JC						

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
50-12		LMS13-1		AMS-10S		SS-40
50-12WG						
505		LMS11		AMS-59 / AMS-9		SS-40
505WG						
506				AMS-7D		
506WG						
5088RS		VIP94-1A MN123787	MPS99WG			
5088RS-T						
5088RS-TWG						
5088RSWG			MPS99WG			
5088-T						
5088-TWG						
5088WG			MPS99WG			
50F-12-BA		VIP130-1 / LMS13-1			DC-1561	FM-102
50F-12WG-BA		VIP130-1	943WG			
50R-12	1055	VIP68 / RMS68-2	PR-20421	AMS-20	TAP-15	PB-53TC
50R-12WG	1055W					
50R-60			941			
50RF-12	1015		PR-20421			RFM-25
50RS-12	1058	RMS68-1			DC-1631	Mini-15
50RS-12WG	1058			AMS-10C		Mini-15 w/
Bare 1/4" v .79						
50RS-12XWG	1058					
55F-12-BA		VIP130-2 / LMS13-2		AMS-10C		FM-106
55F-12WG-BA		VIP130-2				
60-12		LMS12				SS-41B
60-12WG						
60F-12-BA		LMS12-1				FM-103
60F-12WG-BA						
60R-12	1052	RMS71-2 / RMS71-2				TAP-16B
60R-12WG	1052W					
60RF-12	1016					RFM-26B
60RF-12WG	1016W					
65F-12-BA		LMS12-2				FM-107B
65F-12WG-BA						

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
700CL-12		VIP120-2				TANE PILL
700EL-12				AMS-59		TANE-PILL SL
700-T				AMS-T10C		TANE-PILL TC
70-12		LMS14				SS-42C
70-12WG						
701CL-12						TANE PILL OL
701EL-12				AMS-7D		TANE-PILL SL OL
70F-12-BA		LMS14-1				FM-104
70F-12WG-BA						
70FB-12						
70R-12	1053	RMS69-2 / RMS69-2			PS-1612	TAP-17C
70R-12WG	1053W					
70RB-12						
70RF-12	1017					RFM-27C
70RF-12WG	1017W					
75F-12-BA		LMS14-2				
75F-12WG-BA						
75FB-12	1034H					
8080RS-T		PFC40				
8080-T	1078CT	PFC40	947-75T			TANE - 3/4 TC
8080-TMC			947-75T			
8080-TWG	1078CTW	PFC40-1	947-75T			
8484RS-T						
8484-T						
8484-TMC						
8484-TWG						
8585-T						TANE - 3/4 BTC
8585-TMC						
8585-TWG						
8989-T						
8989-TMC						
8989-TWG						
B180-12	1076C					
B180-12						
B190-12						

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
B190-12	1076CH					
B190-12WG						
B194-12						
B194-12	1076H					
B200-36						
B200-36	2207AH					
B220-36						
B229						
B250-36						
B28A						
B29A						
B29C	1087TH					
B29C	1087TH					
B29PA						
B29PB						
B400						
B402	1047TH					
B402	1047TH					
B4040-12						
B412P	1047H					
B412P	1047H					
B4460A						
B4510-A						
B4510-AU						
B4532C	2207AH					
B70-12						
DS-01	3005	VIP99-1		AMS-20		TANE-22
DS-01T		VIP99-1T	956RPT			TANE-22TC
DS-03	3007			RSW-21B		
DS-03	3007			RSW-21B		
GB-550				GSC-20N		
HD-1			270R / 268	HUB-T		
MS150-12						
MS150-T		VIP70				
MS180-12		VIP70T / M-PFC33				

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
MS184-12						
MS2020-12		VIP52				
MS2020-T		VIP52T				
MS20F-12						
MS20-OF-12						
MS20RS-12		M-RMS93-2				
MS20RS-T		VIP76 / M-RMS33				
MS28A						
MS29A		M-1000-22				
MS29PA						
MS4400-A		M-1000-63				
MS4702						
MS4702A						
MS8080-T		M-PFC33				
MS8236-3						
MS8307-3						
N120T-12		VIP48N				
N120T-12WG						
N150-12						TANE-05DM
N150-12WG						
N150RS-12						
N150RS-12WG						
N150RS-T						
N150RS-TWG						
N150-T	50					
N150-TWG						
N2020-12		VIP94-2N				
N2020-12WG						
N2020-T		VIP94-2TN	944TRE			
N2020-TWG						
N20RS-12		VIP94-1N / RMS94-2N	PRO51BTM		DC-1671	STB-10 DM /MINI-10 DM
N20RS-12WG						STB - 10 WG /
MINI - 10 WG						
N20RS-T		VIP94-2TN			DC-2612	
N20RS-TWG						

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
N2120-12						
N2120-12WG						
N30RS-12		RMS93-2N				
N40RS-12		RMS95-2N				
N4473		PFC40-1N				
PB-100						
PB-100T						
PB-101						
PB-101T						
PB-102						
PB-2020		VIP70		PSW-21		Tane 3/8 ASH
PB-2020-T		VIP70T				
PB-3030						Tane 3/8 ASHO.C.
PBF-100		VIP52				PB-52
PBF-100T		VIP52T	955PST			PB-52TC
PBF-101						PB-53
PBF-101T						PB-53TC
PBF-102						
PBF-2020		VIP76		PSW-22		
PBF-2020-T						
PBF-3030						
QDC-20				QDC-2		
RB-01				AMS-20		RB-32
RB-02						RB-33
RB-03				RSW-21B		RB-34
TS-01 (w/o shunt)				TSW-2T		
TS-01S (w/shunt)						
TS-02						
TS-20						
TS-30						
TS-40						
TSC-20		VIP78				
TSC-30						
TSC-40						
TSW-01(w/o shunt)				PSW-1		

GRI Competitor Switch Comparison

GRI	GE/Sentrol	Flair	Honeywell	Amseco	Aleph	Tane
TSW-01S (w/shunt)						
TSW-02						
TSW-03				PSW-2		
TSW-03S						
VS-03						
VS-06						
VS-06T						
VS-08						
VS-08T						
VSB-06						
VSB-08						

GRI