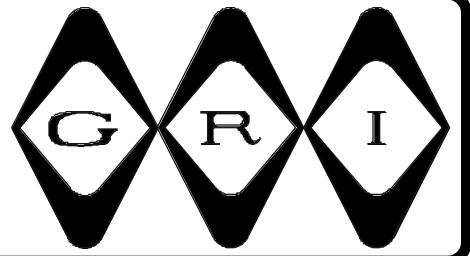


# MAGNASPHERE



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

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



**MS20RS-12**



**MS20RS-T**

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



TOLL-FREE 1-800-445-5218

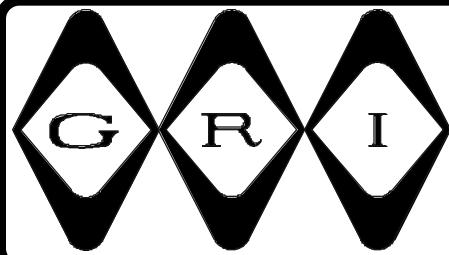
TOLL-FREE 1-800-523-1227

(308) 235-4645

FAX (308) 235-3561

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

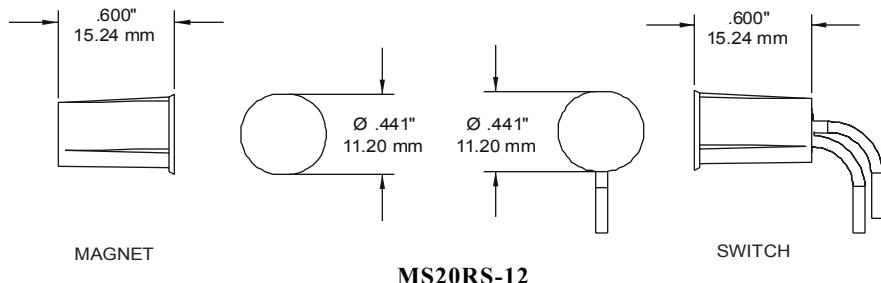
WEB SITE: [www.grisk.com](http://www.grisk.com)



# MAGNASPHERE

## INSTALLATION APPLICATIONS:

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



## CONSTRUCTION:

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

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

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

## OPERATION:

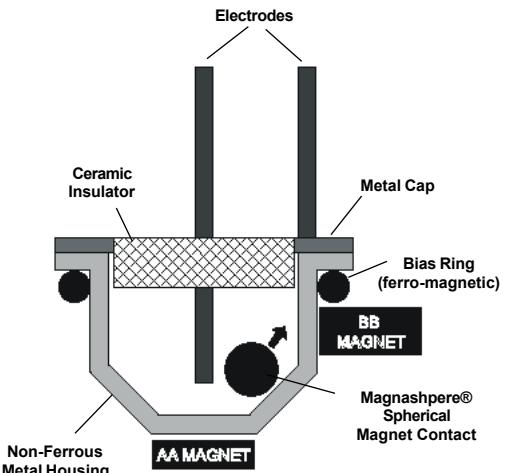
In the normally open position, the magnetic sphere is attracted to the ferromagnetic portion of the seal cap, away from the electrode. Because of this attraction the switch may be positioned in any orientation and will remain open.

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

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

## PRINCIPLES OF SPHERICAL MAGNETISM:

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



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

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

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

\*Higher Maximum Switching Current ratings available.

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

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

