

# **Security Contacts Product Catalog**

INVENTED and DESIGNED to address the undetected breaches of security that could occur when using easily exploitable and fragile reed switch sensors, MAGNASPHERE'S award-winning and patented technology is virtually unbeatable and unbreakable.

For more product information, visit magnasphere.com or call 262-347-0711

MAGNASPHERE represents the first significant improvement in magnetic switch and sensor technology in 70 years

### Contacts made with Magnasphere Technology are Superior to reed switch contacts

"Most people don't realize how easy it is for an intruder to defeat a reed switch security system contact and evade detection," said Rick Kirschman, President of MAGNASPHERE Corp. "Magnets are the kryptonite to the common reed switch. If a rogue magnet was placed within range of a reed switch contact, an intruder could enter almost any home undetected without triggering an alarm. How safe are you really if your home security system can be defeated with a simple magnet?"





The US Government demanded a more effective countermeasure to protect its highest classified areas. While these Magnasphere defeat resistant HSS devices are now commonly used to detect breaches in high security facilities, their higher cost and large size made them an impractical security solution for most residential applications. Resistant to external magnetic defeat tampering, virtually unbreakable, and contact-weld resistant, MAGNASPHERE's patented "reed switch free" technology provides the absolute highest level of intrusion detection available to any security system owner today. In fact, MAGNASPHERE's MSS series provides the same level of external magnetic defeat protection found in the Federal Government's most secure installations, but at a fraction of the cost and size.

## Reed vs.MAGNASPHERE®

### Security contacts are made with a decades-old technology called the Reed switch.

Reed switches have three inherent weaknesses when used in security contacts: (1) Easily defeated with magnets, (2)Prone to permanent contact weld failure (from lightning and power surges), and (3)fragile (made mostly of glass, they are subject to damage even when packaged as security contacts).



Reed contacts operate on magnetic fields. Most contacts are Closed in the secure position (Closed Loop) when the door is closed and the magnet is near the switch.

power surges such as lightning strikes, they

are prone to permanent contact welding.



Reed switch contacts are globally magnetic: they will respond to the strongest magnetic field anywhere around the contact — not solely to the door magnet. When compromised, reed contacts will still send secure signals.



Reed contacts operate by magnetic induction, so they are not attracted to the door magnet.

Introducing a defeat magnet OUTSIDE the door will keep

the reed contacts closed, allowing an intruder to enter

without alerting the security system. They FAIL SECURE.

## Reed vs. MAGNASPHERE®

## The patented, award-winning MAGNASPHERE switch technology was designed as a security device which over comes the deficiencies of reed contacts. The MAGNASPHERE

switch is (1) Resistant to magnetic defeat and tamper,(2) Resistant to permanent contact welding from lightning and power surges, and (3) Robust, all metal welded construction is virtually unbreakable.



MAGNASPHERE security sensors' magnet ball contact is open in the secure position (Open Loop) when the door is closed and the door magnet is near the switch.



MAGNASPHERE's contact is a spherical magnet and operates in a defined activation zone directed toward the door magnet.

A defeat magnet introduced OUTSIDE the door will have no effect on the ball contact. When the door is opened, the contact will close, and the SYSTEM WILL ALARM.



MAGNASPHERE Security Sensors are highly resistant to contact welding from power surges and lightning strikes.



Because the magnet ball contact will not weld, when the door is opened the contact will close and the SYSTEM WILL ALARM.

# MAGNASPHERE

### Underwriters Laboratories Testing Criteria UL-634 Connectors and Switches for Use with Burgular-Alarm Systems

There are 40 standards that must be met to achieve listing to UL-634, which covers basic contacts, including Balanced Magnetic Switches, defined by UL-634 Section 3, Glossary, as: 3.2 BALANCED MAGNETIC SWITCH (BMS) - A switch that is constructed in such a manner or that includes additional components that increase resistance to magnetic, electrical and mechanical tampering or defeat.

It should be noted that while devices made with BMS provide "higher security" than standard contacts, they are not considered HIGH SECURITY CONTACTS until criteria listed below is met.

In addition, there are 8 testing criteria that must be met to achieve UL-634 Level 1 HIGH SECURITY. They are included in these categories:

- Mechanical Protection Against Tampering
- Electrical Protection Against Tampering
- Compromise Test Mechanical and Mercury Switches
- Compromise Test Magnetic Switches
- Compromise Test Enclosures
- Detection Test Measures Activation Distances

Beyond the UL-634 Level 1 listing, there are 8 additional requirements that must be met to achieve UL-634 Level 2 HIGH SECURITY:

- Made with Balanced Magnetic Switches (BMS)
- Nuisance Alarm Test
- Cover or Enclosure Tamper Test (When Applicable)
- Magnet Assembly Cover Removal Alarm Test (When Applicable)
- Switch Assembly Removal Tamper Test (When Applicable)
- Foreign Magnetic Field Tamper Alarm Test
- Foreign Magnetic Field Compromise Tests
- Extended Endurance Test

SECURITY

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### Magnasphere MSS Contacts

MSS-09CL Recessed Contact Switch not to be used in steel <b>frames</b>	Specifications Max Current: <b>0.25A</b> Resistive Max Voltage: <b>30 VDC</b> Max Power: <b>.25 W</b> Resistive Configuration: <b>"Open Loop"</b> w/ Target Magnet in Place MAX Gap: <b>1/2" [12.7mm]</b> Conductor: <b>#22 AWG -</b> <b>12" [30.5cm]</b> Color(s): <b>Brown, and White</b>	SIZE 0.75" [19.1mm] L
MSS-10CL Recessed Contact	Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Closed Loop" w/ Target Magnet in Place MAX Gap: 3/8" [9.7mm] Conductor: #22 AWG - 12" [30.5cm] Color(s): Brown, and White	0.75" [19.1mm] L 0.38 [9.7] Dia.
MSS-09CT		0175
Recessed Contact	Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Open Loop" w/ Target Magnet in Place MAX Gap: 1/2" [12.7mm] Conductor: Screw Terminals Color(s): Brown, Grey and White	SIZE 1.1" [28mm] L



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MSS-19CL Recessed Contact	Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Open Loop" w/ Target Magnet in Place MAX Gap: 1/2" [12.7mm] Conductor: #22 AWG - 12" [30.5cm] Color(s): Brown, Grey and White	SIZE 0.88" [22.4mm] L
MSS-20CL Recessed Contact	Specifications Max Current: <b>0.25A</b> Resistive Max Voltage: <b>30 VDC</b> Max Power: <b>.25 W</b> Resistive Configuration: "Closed Loop" w/ Target Magnet in Place MAX Gap: <b>3/8" [9.7mm]</b> Conductor: <b>#22 AWG</b> - <b>12" [30.5cm]</b> Color(s): Brown, Grey and White	0.88" [22.4mm] L 0.75 [19.1mm] Dia.
MSS-19CT Recessed Contact	Specifications Max Current: <b>0.25A</b> Resistive Max Voltage: <b>30 VDC</b> Max Power: <b>.25 W</b> Resistive Configuration: " <b>Open Loop</b> " w/ Target Magnet in Place MAX Gap: <b>1/2" [12.7mm]</b> Conductor: <b>Screw</b> <b>Terminals</b> Color(s): <b>Brown, Grey and</b> <b>White</b>	SIZE 0.88" [22.4mm] L

	• •	MSS Contacts art Numbers	
MSS-19C Recessed Contact	SIZE 3/4" Dia. x .88" L [20mm Dia. x 21mm L]	MAX Gap 1/2" [12.7mm]	Magnasphere Electrical Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Open Loop" w/ Target Magnet in Place
	Dia.	Color(s) White	#22 AWG 12" [30.5cm] Leads
MSS-25C Recessed Contact	SIZE 1" Dia. x 1.2" L [25mm Dia. x 30mm L]	MAX Gap 1/2" [12.7mm]	Magnasphere Electrical Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Open Loop" w/ Target Magnet in Place
	L Dia.	Color(s) White	#22 AWG 12" [30.5cm] Leads
MSS-25CL Recessed Contact	Specifications Max Current: <b>0.25A</b> Resistive Max Voltage: <b>30 VDC</b> Max Power: <b>.25 W</b> Resistive Configuration: " <b>Open Loop</b> " w/ Target Magnet in Place MAX Gap: <b>1/2"</b> [ <b>12.7mm</b> ] Conductor: <b>#22 AWG -</b> <b>12"</b> [ <b>30.5cm</b> ] Color(s): <b>Brown, Grey and</b> <b>White</b>	SIZE	E 0.88" [22.4mm] L
MSS-26CL Recessed Contact	Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Closed Loop" w/ Target Magnet in Place MAX Gap: 3/8" [9.7mm] Conductor: #22 AWG - 12" [30.5cm] Color(s): Brown, Grey and White		0.88" [22.4mm] L [25.4mm] Dia.

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Magnasphere	MSS	Contacts
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MSS-K22 Surface Mount Contact	Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Open Loop" w/ Target Magnet in Place MAX Gap: 1/2" [12.7mm] Conductor: Screw Terminals Color(s): Brown, Grey and White	SIZE
MSS-K24 Surface Mount Contact	Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Closed Loop" w/ Target Magnet in Place MAX Gap: 3/8" [9.7mm] Conductor: Screw Terminals Color(s): Brown, Grey and White	0.5" [12.7mm] H 2.5" [63.5mm] L
MSS-K22S Surface Mount Contact	Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Open Loop" w/ Target Magnet in Place MAX Gap: 1/2" [12.7mm] Conductor: #22 AWG - 12" [30.5cm] Leads Color(s): Brown, Grey and White	SIZE
MSS-K24S Surface Mount Contact	Specifications Max Current: <b>0.25A</b> Resistive Max Voltage: <b>30 VDC</b> Max Power: <b>.25 W</b> Resistive Configuration: "Closed Loop" w/ Target Magnet in Place MAX Gap: <b>3/8" [9.7mm]</b> Conductor: <b>#22 AWG</b> -	0.5" [12.7mm] H 2.5" [63.5mm] L

### Magnasphere MSS Contacts

MSS-53SL Surface Mount Contact	Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Open Loop" w/ Target Magnet in Place MAX Gap: 1/2" [12.7mm] Conductor: 12" Jacketed Leads Color(s): Brown, Grey and White	SIZE	
MSS-54SL Surface Mount Contact	Specifications Max Current: <b>0.25A</b> Resistive Max Voltage: <b>30 VDC</b> Max Power: <b>.25 W</b> Resistive Configuration: " <b>Closed</b> <b>Loop</b> " w/ Target Magnet in Place MAX Gap: <b>3/8" [9.7mm]</b> Conductor: <b>12" Jacketed</b> <b>Leads</b> Color(s): <b>Brown, Grey and</b> <b>White</b>		
MSS-63S Surface Mount Contact	SIZE 2.5"L x .55"W x .55"H [64mm L x 14mm W x 14mm H]	MAX Gap 1/2" [12.7mm]	Magnasphere Electrical Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Open Loop" w/
		Color(s) Brown and White	Target Magnet in Place #22 AWG 12" [30.5cm] Leads

Magnasphere MSS Contacts

Available Part Numbers

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4" Overhead Door Con Available in Jacketed and Armore	SIZE	
OPEN LOOP MSS-105S (60" Jacketed Leads) MSS-105S-C18-L2 (18" Armored Cable) MSS-105S-C36-L3.5 (36" Armored Cable)	Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Open Loop" w/ Target Magnet in Place MAX Gap: 1/2" [12.7mm] Conductor: 22 AWG Color(s): Grey	Switch Module 4" [100mm]
CLOSED LOOP MSS-106S (60" Jacketed Leads) MSS-106S-C18-L2 (18" Armored Cable) MSS-106S-C36-L3.5 (36" Armored Cable)	Specifications Max Current: 0.25A Resistive Max Voltage: 30 VDC Max Power: .25 W Resistive Configuration: "Closed Loop" w/ Target Magnet in Place MAX Gap: 3/8" [9.7mm] Conductor: 22 AWG Color(s): Grey	Magnet Module 4" [100mm] 1.9" to 2.5" [48mm to 64mm]
Jacketed Leads Model Ar	mored Cable Model	4.5" [114mm]





### Magnasphere MSS-RFS Series Wireless Surface Mount Contact



MSS-RFS-300 = 2 GIG \*UTC, Interlogix and ITI are registered trademarks of United Technologies Corporation, Elk is a registered trademark of Elk Products, Inc.,

Honeywell is a registered trademark of Honeywell International, Inc., 2 GIG is a registered trademark of Nortek, Inc.



Accessories Available Part Numbers
MSS Series
P/N : 1605 DESCRIPTION: Channel Magnet for Aluminum Doors QTY: 1
P/N : 1595 DESCRIPTION: 1/2" Thick, Spacer for MSS-300S QTY: 1
P/N : 1643 DESCRIPTION: MSS300S 1"x1.5"L Bracket (.093" thk) w/ Threaded Holes QTY: 1
P/N : 1694 DESCRIPTION: MSS-300C Extended Reach / Gap Magnet Module Increases the switch operation gap to 5/8" (.63") QTY: 1
Note : Images are <b>NOT</b> to scale.



Accessories Available Part Numbers			
HSL-	1.5		
P/N : 1250 KIT: Removal Tamper Magnet QTY: 3pcs	P/N : 1251 KIT: Removal Tamper Cap QTY: 5pcs		
P/N : 1270 KIT: 1/16" Spacers for HSL-1.5 QTY: 4pcs	P/N : 1524 KIT: 1/8" Out-Swing Spacer for HS-L1.5 (For use with narrow door stops.) QTY: 1pc		
P/N : 1618 KIT: L1.5 L-Bracket QTY: 1	P/N : 1612 KIT: Z Bracket QTY: 1		
P/N : 1615 KIT: 1" x 1" Aluminum Spacer QTY: 1	P/N : 1616 KIT: L1.5 Extended L-Bracket Kit QTY: 1		
P/N : 1600 KIT: Bracket for HSL1.5 Direct Replacment to 2700 Series QTY: 1			
Note : Images are <b>NOT</b> to scale.			

INSTALLER COMPONENTS FOR HSL-1.5 SERIES
REPLACEMENT KIT P/N: 1542

### Description (Note: Images are **NOT** to scale)

19

Pry-tamper Plugs (Plastic) / Qty: 2

Pry-tamper Magnet ( Dia. 3/8" x 1/2" Length) / Qty: 1

Plastic Spacers (1/16" Thk.) / Qty: 2

Poly Bag / Qty:1

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Magnet/Pry Tamper

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BLU



BLU

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### Magnasphere UL 634 Level 2 High Security Contacts (Surface Mount)

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#### NOTE: CONTACT STATE SHOWN WITH TARGET MAGNET IN PLACE Available Part Numbers



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### Magnasphere HSS-L2D (Dual Alarm Contacts) Continued UL 634 Level 2 High Security Contacts (Surface Mount)

### NOTE: CONTACT STATE SHOWN WITH TARGET MAGNET IN PLACE





### Magnasphere UL 634 Level 2 High Security Contacts (Surface Mount w/ Conduit Fitting )

24



RED

BLK

GRN

YEL

BLU

O Common

• Supervised Common

Magnet Tamper

Magnet/Pry Tamper

MT = Magnet Tamper PT = Pry Tamper ##K = Resistor

36" [91cm] Leads (Std.)

RED O Common

BLK

GRN

0 BLU

Supervised
Common

Magnet

Tamper YEL

Magnet/Pry Tamper

TAMPER

МТ

Ы

CIRCUIT

CIRCUIT

TAM PER CIRCUIT

МТ



### Magnasphere L2S-800 (Single Alarm Contact) Continued UL 634 Level 2 High Security Contacts (Surface Mount)

### NOTE: CONTACT STATE SHOWN WITH TARGET MAGNET IN PLACE



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### Magnasphere L2S-800 (Single Alarm Contact) Continued UL 634 Level 2 High Security Contacts (Surface Mount)

### NOTE: CONTACT STATE SHOWN WITH TARGET MAGNET IN PLACE



36" [91cm] armored cable (Std.), (See Page 41 for Custom Cable Length)





### Magnasphere L2D-800 (Dual Alarm Contacts) UL 634 Level 2 High Security Contacts (Surface Mount)

### NOTE: CONTACT STATE SHOWN WITH TARGET MAGNET IN PLACE



### Magnasphere L2D-800 (Dual Alarm Contacts) Continued UL 634 Level 2 High Security Contacts (Surface Mount)

### NOTE: CONTACT STATE SHOWN WITH TARGET MAGNET IN PLACE



#### Available Part Numbers





Legend / Notes

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SC = Secure Contact MT = Magnet Tamper PT = Pry Tamper ##K = Resistor

36" [91cm] Leads (Std.)



INSTALLER COMPONENTS FOR HSS L2X-0XX SERIES	
REPLACEMENT KIT P/N: 1528	
Description (Note: Images are <b>NOT</b> to scale)	
#10 x 2" Length / Screws / Type F / <b>Qty: 7</b>	
#6 x 1" Length / Screws / Type F / <b>Qty: 2</b>	
#8-32 x 7/16" Length / SS Set Screw / <b>Qty: 1</b>	
Calibration Magnet Spacer (Metal) / <b>Qty: 1</b>	$\bigcirc$
Pry-tamper Plugs (Plastic) / <b>Qty: 2</b>	
Pry-tamper Magnet ( Dia. 3/8" x 1/2" Length) / <b>Qty: 1</b>	
Plastic Spacers (1/16" Thk.) / <b>Qty: 2</b>	
Poly Bag / <b>Qty:1</b>	

INSTALLER COMPONENTS FOR HSS L2X-8XX SERIES	
REPLACEMENT KIT P/N: HSS-1543	
Description (Note: Images are <b>NOT</b> to scale)	
#10 x 2" Length / Screws / Type F / <b>Qty: 7</b>	
#6 x 1" Length / Screws / Type F / <b>Qty: 2</b>	
Pry-tamper Plugs (Plastic) / <b>Qty: 2</b>	
Pry-tamper Magnet ( Dia. 3/8" x 1/2" Length) / <b>Qty: 1</b>	
Plastic Spacers (1/16" Thk.) / <b>Qty: 2</b>	0 0 0 0
1/2" NPT Plug / <b>Qty: 1</b>	
Poly Bag / <b>Qty:1</b>	





### Magnasphere UL 634 Level 2 High Security Contacts (Recessed/Concealed)



### NOTE: CONTACT STATE SHOWN WITH TARGET MAGNET IN PLACE





Magnasphere UL 634 Level 2 (Recessed/Concealed: Fits to an ANSI style cutout)

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NOTE: CONTACT STATE SHOWN WITH TARGET MAGNET IN PLACE





Accessories Available Part Numbers		
L2C-XXX & L2C-ANSI		
P/N : 1222 KIT: 1/32" Spacers for L2C-XXX Magnet Module QTY: 10pcs	P/N : 1367 KIT: L2C ANSI 1/32" spacer QTY: 10pcs	
P/N : 1384 KIT: L2C Series Pry Tamper Test Magnet QTY: 1 Magnetic South Pole at Face	P/N : 1640 KIT: Mounting Tab Kit for one L2C-A Switch Module - For Retrofit ANSI Cutout QTY: 2pcs	
P/N : 1710 KIT: L2C-XXX Removal tamper magnet caps QTY: 3pcs		
Note : Images are <b>NOT</b> to scale.		



INSTALLER COMPONENTS FOR HSS L2C	
REPLACEMENT KIT P/N: HSS-1544	
Description (Note: Images are <b>NOT</b> to scale)	
Tamper Bracket (Plastic) / Qty: 1	
Plastic Spacer(1/32" Thk.) / Qty: 3	$\left[ \circ \bigcirc \circ \right]$
#10 x 1" Length / Phillips Undercut Flathead Screw / Qty: 2	S MMMMM
Poly Bag / <b>Qty:1</b>	









### Magnasphere T3-B-LS Omnidirectional Tilt / Disturbance Switch



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Note: Same ordering convention applies to HSS, HSL1.5 and MSS-3XXS contacts.



Links to Product Fact Sheets, Install instructions / Accessories and A&E Specifications



http://magnasphere.com/documents/