


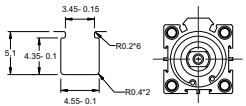

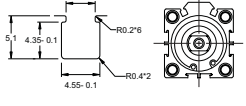

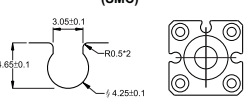

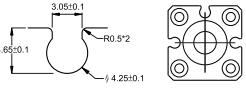

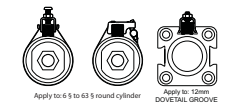

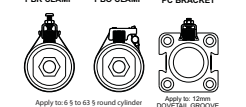

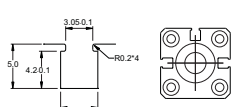

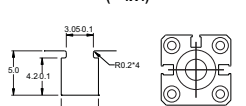

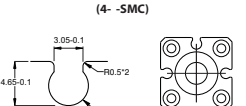

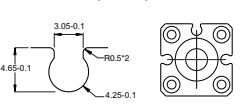
# Magnetic Switches



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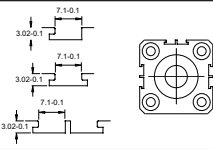

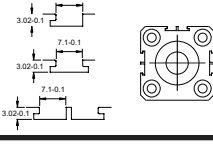

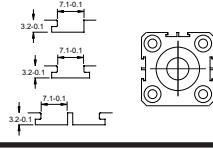

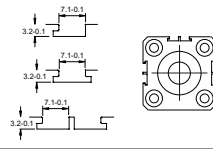

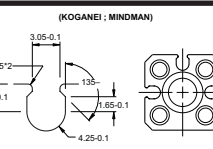

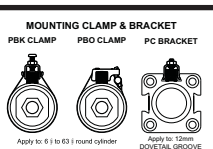

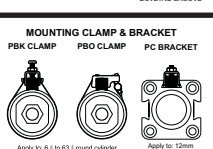

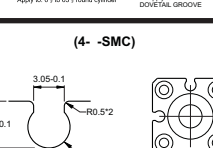

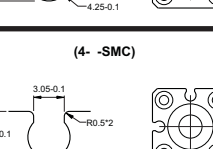

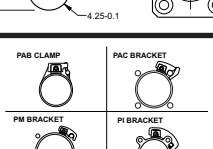
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MODEL	FIGURES	SENSOR TYPE	VOLTAGE	RATING	CYLINDER TYPE	
LS MG01R		Reed Switch / N.O.	5~240V DC/AC	10W / 100mA max.		
LS MG01N		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.		
LS MG01P		Solid State PNP / N.O.				
LS MG01RD		Reed Switch NPN/PNP / N.O.	5~30V DC	10W max. 500mA max.		
LS MG01RN		Reed Switch NPN / N.O.				
LS MG01RP		Reed Switch PNP / N.O.				
LS MG02R		Reed Switch / N.O.	5~120V DC/AC	10W / 100mA max.		
LS MG02N		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.		
LS MG02P		Solid State PNP / N.O.				
LS MG02RD		Reed Switch NPN/PNP / N.O.	5~30V DC	10W max. 500mA max.		
LS MG02RN		Reed Switch NPN / N.O.				
LS MG02RP		Reed Switch PNP / N.O.				
LS MG03R		Reed Switch / N.O.	5~240V DC/AC	10W / 100mA max.		
LS MG03N		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.		
LS MG03P		Solid State PNP / N.O.				
LS MG03RD		Reed Switch NPN/PNP / N.O.	5~30V DC	10W max. 500mA max.		
LS MG03RN		Reed Switch NPN / N.O.				
LS MG03RP		Reed Switch PNP / N.O.				
LS MG06R		Reed Switch / N.O.	5~120V DC/AC	10W / 100mA max.		
LS MG06N		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.		
LS MG06P		Solid State PNP / N.O.				
LS MG06RD		Reed Switch NPN/PNP / N.O.	5~30V DC	10W max. 500mA max.		
LS MG06RN		Reed Switch NPN / N.O.				
LS MG06RP		Reed Switch PNP / N.O.				
LS MG07R		Reed Switch / N.O.	5~120V DC/AC	10W / 100mA max.		
LS MG07N		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.		
LS MG07P		Solid State PNP / N.O.				
LS MG07RD		Reed Switch NPN/PNP / N.O.	5~30V DC	10W max. 500mA max.		
LS MG07RN		Reed Switch NPN / N.O.				
LS MG07RP		Reed Switch PNP / N.O.				

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MODEL	FIGURES	SENSOR TYPE	VOLTAGE	RATING	CYLINDER TYPE
LS MG10R		Reed Switch / N.O.	5~240V DC/AC	10W / 100mA max.	
LS MG10N		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.	
LS MG10P		Solid State PNP / N.O.			
LS MG10RD		Reed Switch NPN/PNP / N.O.	5~28V DC	10W max. 500mA max.	
LS MG10RN		Reed Switch NPN / N.O.			
LS MG10RP		Reed Switch PNP / N.O.			
LS MG11R		Reed Switch / N.O.	5~240V DC/AC	10W / 100mA max.	
LS MG11N		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.	
LS MG11P		Solid State PNP / N.O.			
LS MG11RD		Reed Switch NPN/PNP / N.O.	5~28V DC	10W max. 500mA max.	
LS MG11RN		Reed Switch NPN / N.O.			
LS MG11RP		Reed Switch PNP / N.O.			
LS MG12R		Reed Switch / N.O.	5~240V DC/AC	10W / 100mA max.	
LS MG12N		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.	
LS MG12P		Solid State PNP / N.O.			
LS MG15R		Reed Switch / N.O.	5~240V DC/AC	10W / 100mA max.	
LS MG15N		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.	
LS MG15P		Solid State PNP / N.O.			
LS MG15RD		Reed Switch NPN/PNP / N.O.	5~28V DC	10W max. 500mA max.	
LS MG15RN		Reed Switch NPN / N.O.			
LS MG15RP		Reed Switch PNP / N.O.			
LS MG16R		Reed Switch / N.O.	5~120V DC/AC	10W / 100mA max.	
LS MG16N		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.	
LS MG16P		Solid State PNP / N.O.			
LS MG16RD		Reed Switch NPN/PNP / N.O.	5~28V DC	10W / 100mA max.	
LS MG16RN		Reed Switch NPN / N.O.			
LS MG16RP		Reed Switch PNP / N.O.			
LS MG20R		Reed Switch / N.O.	5~28V DC	10W / 100mA max.	
LS MG20N		Solid State NPN / N.O.		6W max. 200mA max.	
LS MG20P		Solid State PNP / N.O.			

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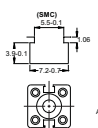


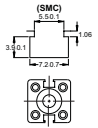
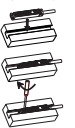

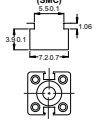
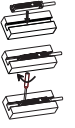

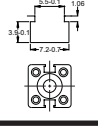


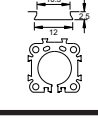


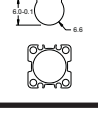
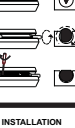

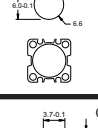


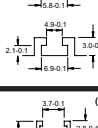




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MODEL	FIGURES	SENSOR TYPE	VOLTAGE	RATING	CYLINDER TYPE
LS MG20RD		Reed Switch / N.O.	5~240V DC/AC	10W / 100mA max.	
LS MG20RN		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.	
LS MG20RP		Solid State PNP / N.O.			
LS MG21R		Reed Switch NPN/PNP / N.O.	5~30V DC	10W max. 500mA max.	
LS MG21N		Reed Switch NPN / N.O.			
LS MG21P		Reed Switch PNP / N.O.			
LS MG21RD		Reed Switch / N.O.	5~120V DC/AC	10W / 100mA max.	
LS MG21RN		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.	
LS MG21RP		Solid State PNP / N.O.			
LS MG30R		Reed Switch NPN/PNP / N.O.	5~30V DC	10W max. 500mA max.	
LS MG30N		Reed Switch NPN / N.O.			
LS MG30P		Reed Switch PNP / N.O.			
LS MG30RD		Reed Switch / N.O.	5~240V DC/AC	10W / 100mA max.	
LS MG30RN		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.	
LS MG30RP		Solid State PNP / N.O.			
LS MG31R		Reed Switch NPN/PNP / N.O.	5~30V DC	10W max. 500mA max.	
LS MG31N		Reed Switch NPN / N.O.			
LS MG31P		Reed Switch PNP / N.O.			
LS MG31RD		Reed Switch / N.O.	5~120V DC/AC	10W / 100mA max.	
LS MG31RN		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.	
LS MG31RP		Solid State PNP / N.O.			
LS MG32R		Reed Switch NPN/PNP / N.O.	5~30V DC	10W max. 500mA max.	
LS MG32N		Reed Switch NPN / N.O.			
LS MG32P		Reed Switch PNP / N.O.			
LS MG32RD		Reed Switch / N.O.	5~120V DC/AC	10W / 100mA max.	
LS MG32RN		Solid State NPN / N.O.	5~28V DC	6W max. 200mA max.	
LS MG32RP		Solid State PNP / N.O.			
LS MG33R		Reed Switch NPN/PNP / N.O.	5~30V DC	10W max. 500mA max.	
LS MG33N		Reed Switch NPN / N.O.			
LS MG33P		Reed Switch PNP / N.O.			

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LS MG33RD		Reed Switch NPN/PNP / N.O.	5~28V DC	10W / 100mA max.	  Apply to 63 to 68 Round Cylinder
LS MG33RN		Reed Switch NPN / N.O.		6W max.	
LS MG33RP		Reed Switch PNP / N.O.		200mA max.	
LS MG34R		Reed Switch / N.O.	5~240V DC/AC	10W max. 500mA max.	 
LS MG34N		Solid State NPN / N.O.	5~28V DC		
LS MG34P		Solid State PNP / N.O.			
LS MG34RD		Reed Switch NPN/PNP / N.O.	5~28V DC	10W / 100mA max.	 
LS MG34RN		Reed Switch NPN / N.O.		6W max.	
LS MG34RP		Reed Switch PNP / N.O.		200mA max.	
LS MG35R		Reed Switch / N.O.	5~240V DC/AC	10W max. 500mA max.	 
LS MG35N		Solid State NPN / N.O.	5~28V DC		
LS MG35P		Solid State PNP / N.O.			
LS MG40R		Reed Switch / N.O.	5~240V DC/AC	10W / 100mA max.	 
LS MG40N		Solid State NPN / N.O.	5~28V DC	6W max.	
LS MG40P		Solid State PNP / N.O.		200mA max.	
LS MG50R		Reed Switch / N.O.	5~240V DC/AC	10W / 100mA max.	 
LS MG50N		Solid State NPN / N.O.	5~28V DC	6W max.	
LS MG50P		Solid State PNP / N.O.		200mA max.	
LS MG50RD		Reed Switch NPN/PNP / N.O.	5~28V DC	10W max. 500mA max.	 
LS MG50RN		Reed Switch NPN / N.O.			
LS MG50RP		Reed Switch PNP / N.O.			
LS MG72R		Reed Switch / N.O.	5~120V DC/AC	10W / 100mA max.	 
LS MG72N		Solid State NPN / N.O.	5~28V DC	6W max.	
LS MG72P		Solid State PNP / N.O.		200mA max.	
LS MG72RD		Reed Switch NPN/PNP / N.O.	5~28V DC	10W / 100mA max.	 
LS MG72RN		Reed Switch NPN / N.O.		6W max.	
LS MG72RP		Reed Switch PNP / N.O.		200mA max.	

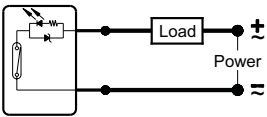
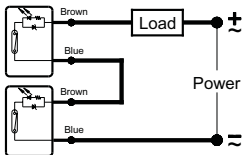
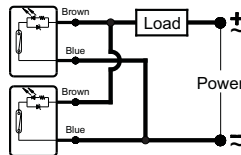
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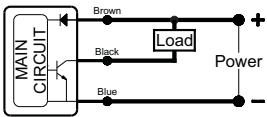
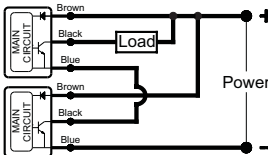
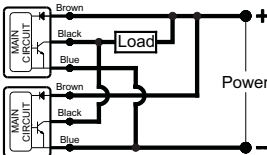
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## CONNECTION METHOD

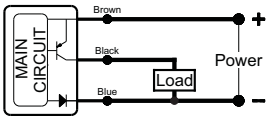
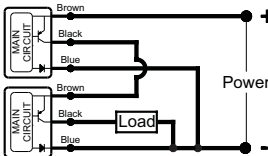
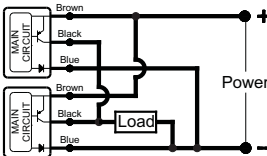
### ⇒ 2 wire reed switch type connection ⇐⇒

General connection	Series connection (And)	Parallel connection (OR)
		
<ol style="list-style-type: none"> <li>1. When connecting 2 wire switches, load must be connected in series with the sensor to prevent damage.</li> <li>2. Connect the brown wire in series load with positive(+) and the blue wire to negative(-) of DC power source, otherwise the LED will not light.</li> </ol>	<ol style="list-style-type: none"> <li>1. When 2 wire switches in series(AND) use. The voltage drop will be added up. (Typical Vdrop about 2.5V per switch)</li> <li>2. When series too many switches, excessive voltage drop will cause non-operation of the load.</li> <li>3. The quantity of switches in series due to the voltage of power source.</li> </ol>	<ol style="list-style-type: none"> <li>1. When 2 wire switches in parallel(OR) use. The current flow to the switch will be shared when switches all in active.</li> <li>2. When connect too many switches in parallel use, possible concurrent operation will cause dim or off LED due to lower current distribution.</li> <li>3. The quantity of switches in parallel due to the current of load.</li> </ol>

### ⇒ 3 wire solid state NPN type connection ⇐⇒

General connection	Series connection (And)	Parallel connection (OR)
		
<ol style="list-style-type: none"> <li>1. 3 wire switches connection must be connected to a DC power source. Pay attention to the wiring of black wire. Wrong connection will damage the switch.</li> <li>2. Connect brown wire to the positive(+) and the blue to the negative(-). The black wire must series load and to positive(+) only.</li> </ol>	<ol style="list-style-type: none"> <li>1. When 3 wire solid state switches are in series (AND) use, Voltage drop will be cumulative(Typical Vdrop is 1.5V per switch)</li> <li>2. When series uses too many switches, excessive voltage drop will cause non-operation of the load.</li> <li>3. The quantity of switches in series due to the voltage of power source.</li> </ol>	<ol style="list-style-type: none"> <li>1. When 3-wire solid state switches in parallel(OR) use leakage current will be cumulative.</li> <li>2. When too many switches are in parallel use, a lower load current may cause a wrong operation.</li> <li>3. The quantity of switches in parallel due to the current of load.</li> </ol>

### ⇒ 3 wire solid state PNP type connection ⇐⇒

General connection	Series connection (And)	Parallel connection (OR)
		
<ol style="list-style-type: none"> <li>1. 3 wire switches connection must be connected to a DC power source. Pay attention to the wiring of black wire. Wrong connectio will damage the switch.</li> <li>2. Connect brown wire to the positive(+) and the blue to the negative(-). The black wire must series load and to negative(-) only.</li> </ol>	<ol style="list-style-type: none"> <li>1. When 3 wire solid state switches in series (AND) use. Voltage drop will be cumulative. (Typical Vdrop about 1.5V per switch)</li> <li>2. When series uses too many switches, excessive voltage drop will cause non-operation of the load.</li> <li>3. The quantity of switches in series due to the voltage of power source.</li> </ol>	<ol style="list-style-type: none"> <li>1. When 3-wire solid state switches in parallel(OR) use leakage current will be cumulative .</li> <li>2. When too many switches are in parallel use, a lower load current may cause a wrong operation</li> <li>3. The quantity of switches in parallel due to the current of load.</li> </ol>

## SENSOR SELECTION

	Cylinder(groove)Form	Applicable sensor series	Applicable mounting bracket
AIRTAC GROOVE		LS MG10 Series LS MG11 Series	GROOVE TYPE, NO BRACKET
AIRTAC GROOVE		LS MG01 Series	GROOVE TYPE, NO BRACKET
ORIGA GROOVE		LS MG03 Series LS MG15 Series LS MG40 Series	PC BRACKET GROOVE TYPE, NO BRACKET
TAIYO GROOVE		LS MG32 Series	GROOVE TYPE, NO BRACKET
ISO PROFILE		LS MG20 Series LS MG21 Series	PI BRACKET
KOGANEI GROOVE MINDMAN GROOVE		LS MG12 Series	GROOVE TYPE, NO BRACKET
ROUND CYLINDER		LS MG03, 15 Series LS MG20, 21 Series LS MG30 Series LS MG33 Series	PBK & PBO CLAMP PAB CLAMP PBT CLAMP PBS CLAMP
4*4 QUADRATE GROOVE		LS MG06 Series	GROOVE TYPE, NO BRACKET
FESTO GROOVE		LS MG30 Series LS MG31 Series LS MG37 Series	GROOVE TYPE, NO BRACKET GROOVE TYPE, NO BRACKET GROOVE TYPE, NO BRACKET
NORGREN GROOVE		LS MG50 Series	GROOVE TYPE, NO BRACKET
SMC GROOVE		LS MG34 Series LS MG35 Series	GROOVE TYPE, NO BRACKET GROOVE TYPE, NO BRACKET
SMC GROOVE		LS MG72 Series	GROOVE TYPE, NO BRACKET
SMC GROOVE		LS MG72 Series	GROOVE TYPE, NO BRACKET
ROD CYLINDER		LS MG20 Series LS MG21 Series	PAC CLAMP PM CLAMP PAB CLAMP
CKD GROOVE		LS MG32 Series	GROOVE TYPE, NO BRACKET
SMC GROOVE BIMBA GROOVE		LS MG07 Series LS MG16 Series	GROOVE TYPE, NO BRACKET GROOVE TYPE, NO BRACKET

## ORDERING INFORMATION

LS MG - 20	R	H	FL02	Cable Length	Options Explanations
Model				FL02	Length of Cable is 2M
01				FL03	Length of Cable is 3M (Standard Type)
02				FL05	Length of Cable is 5M
03				FL10	Length of Cable is 10M
06				QC08	M8*3 male quick connector (pigtail)
07				QC12	M12*4 male quick connector (pigtail)
10					
11					
12					
15					
16					
20					
21					
30					
31					
32					
33					
34					
35					
40					
50					
72					

Special Mark	Options Explanations
None	Standard type
A	300mA current output
B	Normally closed type (N.C)
F	Solid state type, FET large current output
H	High sensitivity
L	Low sensitivity
X	No indicator (Large current output)

Sensor Type	Options Explanations
R	Reed switch 2 wire type
N	Solid state type, current sinking
P	Solid state type, current sourcing
RD	Reed switch 3 wire type (current sinking & sourcing)

## GENERAL TECHNICAL INFORMATION

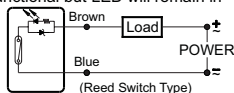


Particular attention must be paid not to exceed the limits list in the specification. Otherwise, permanent damage to sensor may occur.

- For reed switch type sensors, they must be series connected to use a LOAD, or it will damage the sensor.
- Connect the brown wire in series with LOAD to positive(+) and the blue wire to negative(-) of power source.

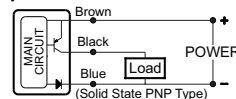
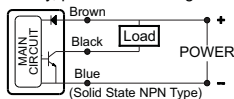
If the polarity is inverted, reed switches remains functional but LED will remain in "OFF" state. Just exchange the brown and blue wires.

### 2 wire standard connection



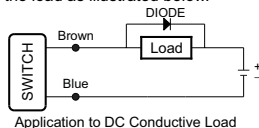
- For solid-state type sensors, it must be used with DC power source.
- Connect brown wire to positive(+) and the blue wire to negative(-) of DC power source. The black wire must be connected to the LOAD only.
- If the black wire is connected to the power source directly, permanent damage to the sensor may occur.

### 3 wire standard connection

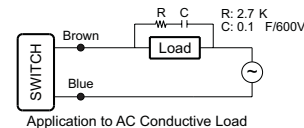


- The external protect element is required. If the sensor is used to switch conductive load, such as relay or solenoid valve.
- For DC conductive load, attach an external diode parallel to the load as illustrated below.
- For AC conductive load, use R-C circuit to parallel the load as illustrated below.

### Inductive load protection



Application to DC Conductive Load

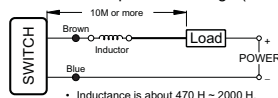


Application to AC Conductive Load

If the sensor is used to switch capacitive load or the cable length exceed 10M.

Please series a inductor(470 H ~ 2000 H) as close to the sensor to prevent damage (sticking effect).

### Capacitive load protection



\* Inductance is about 470 H ~ 2000 H.

5. Keep sensor out of the strong magnetic field to get rid of interference.

**Other models available, please contact us for more information.**

We reserve the right to discontinue models, or change specifications without notice or incurring obligation.

**SAFETY CAUTION:** The devices in this catalog must not be used in applications where the safety of people is dependent on their functioning.

**Canada**

1799 Argentia Road,  
Mississauga, ON L5N 3A2  
[www.lynch.ca](http://www.lynch.ca)

**U.S.A. and Canada**

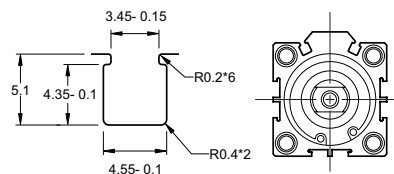
Toll Free Phone: 1-888-626-4365  
Toll Free Fax: 1-800-263-5807

**International**

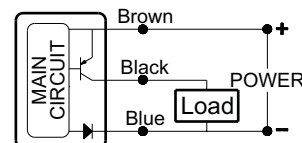
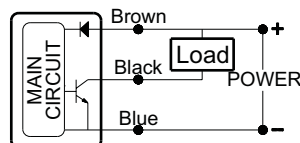
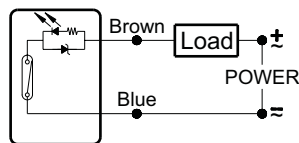
Phone: 1-905-363-2400 Fax: 1-905-363-1191

**U.S.A.**

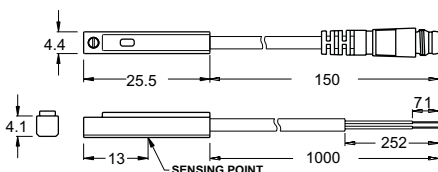
3940 Olympic Boulevard, Suite 400  
Erlanger, KY 41018  
[www.lynch-usa.com](http://www.lynch-usa.com)



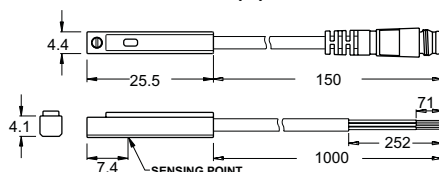
Wiring  
Diagram



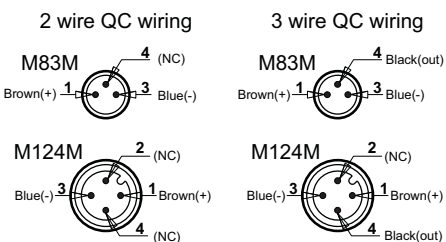
**LS MG01R**  
**LS MG01R-QC8**  
**LS MG01R-QC12**



**LS MG01N(P)**  
**LS MG01N(P)-QC8**  
**LS MG01N(P)-QC12**



**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)



Characteristic / TYPE	LS MG01R	LS MG01N	LS MG01P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 $\phi$ , 2C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	60 G	60 G	60 G
Max. Switching Frequency	1000 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression	Power Source Reverse Polarity; Surge Suppression

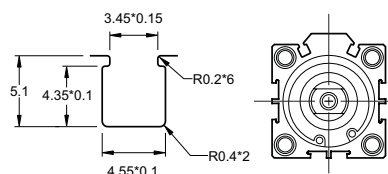
NOTE:

1. The max. Operating voltage of LS MG01R-QD8 is 60 V AC/DC (based on IEC61076-2-101).
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).
3. Sin Wave / X  $\pm$  Y  $\pm$  Z 3 Directions / 3 Times Each Direction / 11ms Each Time.
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X  $\pm$  Y  $\pm$  Z 3 Directions / 3 Times Each Time

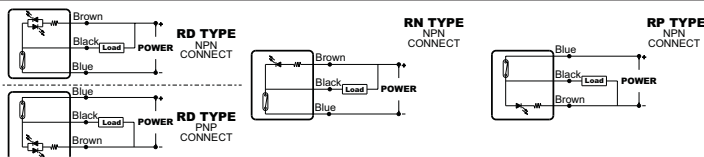




(AirTAC)



Wiring  
Diagram

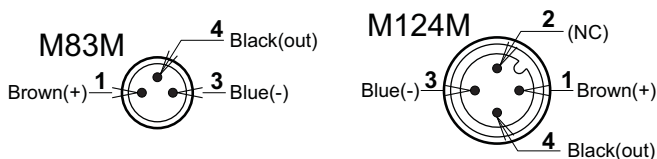
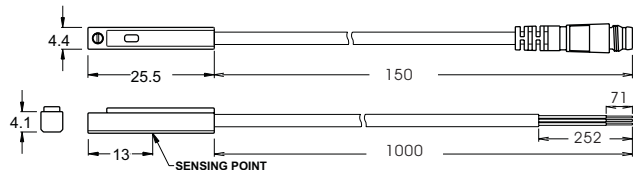


**LS MG01RD**  
**LS MG01RD-QD8**  
**LS MG01RD-QD12**

**LS MG01RN**  
**LS MG01RN-QD8**  
**LS MG01RN-QD12**

**LS MG01RP**  
**LS MG01RP-QD8**  
**LS MG01RP-QD12**

**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**  
**3 wire QD wiring**



Characteristic / TYPE	LS MG01RD	LS MG01RN	LS MG01RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 §, 3C, OIL RESISTANT PVC		
Sensitivity	60 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

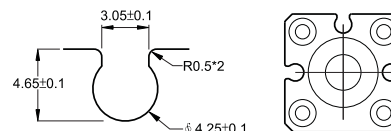
**Other models available, please contact us for more information.**

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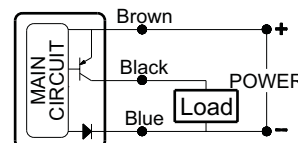
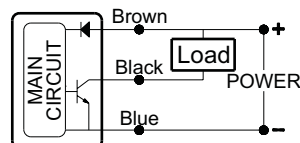
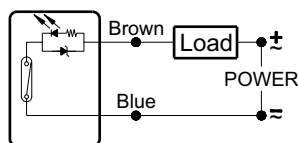




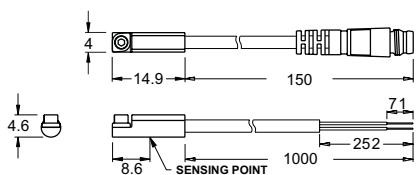
**GROOVE DIMENSION (SMC)**



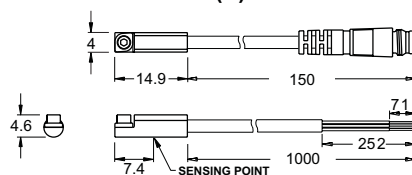
**Wiring Diagram**



**LS MG02R  
LS MG02-QD8  
LS MG02-QD12**

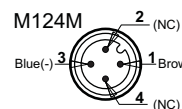
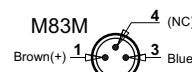


**LS MG02N(P)  
LS MG02N(P)-QD8  
LS MG02N(P)-QD12**

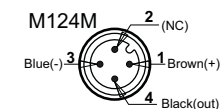


**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

**2 wire QD wiring**



**3 wire QD wiring**

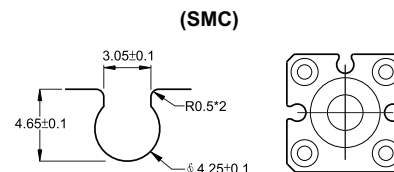


Characteristic / TYPE	LS MG02R	LS MG02N	LS MG02P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~120V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 40mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 $\phi$ , 2C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	60 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression	Power Source Reverse Polarity; Surge Suppression

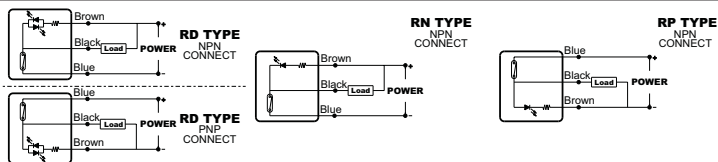
**NOTE:**

1. The max. Operating voltage of LS MG02R-QD8 is 60 V AC/DC (based on IEC61076-2-101).
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).
3. Sin Wave / X  $\pm Y \pm Z$  3 Directions / 3 Times Each Direction / 11ms Each Time.
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X  $\pm Y \pm Z$  3 Directions / 3 Times Each Time





Wiring  
Diagram

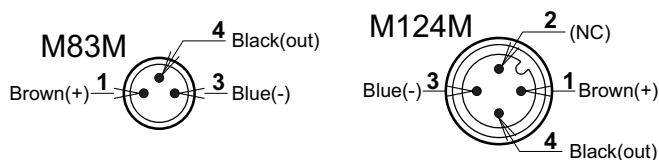
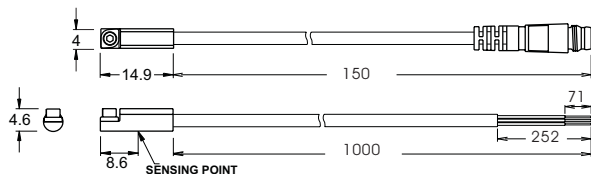


LS MG02RD  
LS MG02RD-QD8  
LS MG02RD-QD12

LS MG02RN  
LS MG02RN-QD8  
LS MG02RN-QD12

LS MG02RP  
LS MG02RP-QD8  
LS MG02RP-QD12

**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**  
**3 wire QD wiring**

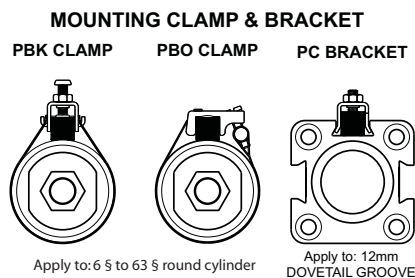


Characteristic / TYPE	LS MG02RD	LS MG02RN	LS MG02RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 $\phi$ , 3C, OIL RESISTANT PVC		
Sensitivity	60 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

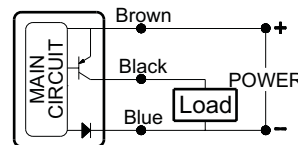
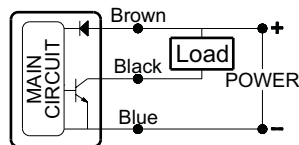
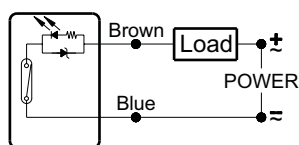
**Other models available, please contact us for more information.**

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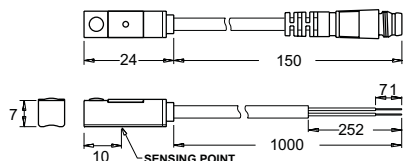




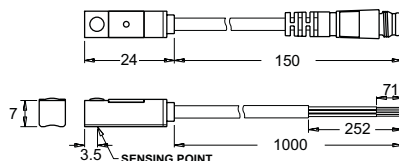
Wiring Diagram



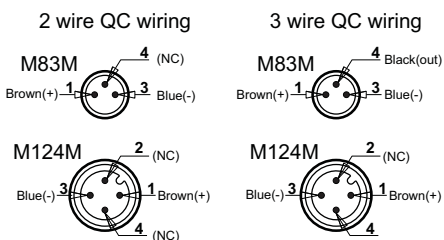
**LS MG03R**  
**LS MG03R-QC8**  
**LS MG03R-QC12**



**LS MG03N(P)**  
**LS MG03N(P)-QC8**  
**LS MG03N(P)-QC12**



**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)

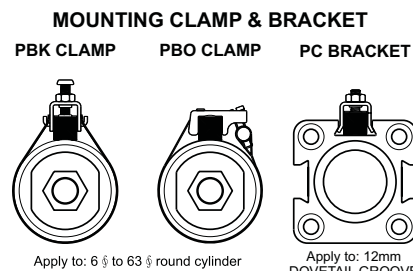


Characteristic / TYPE	LS MG03R	LS MG03N	LS MG03P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 40mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 $\phi$ , 2C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	60 G	60 G	60 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression	Power Source Reverse Polarity; Surge Suppression

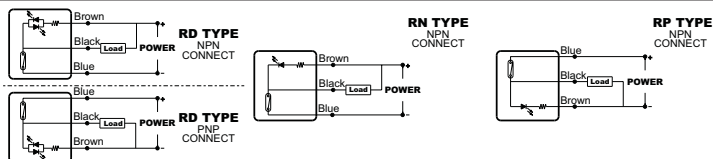
NOTE:

1. The max. Operating voltage of LS MG03R-QD8 is 60 V AC/DC (based on IEC61076-2-101).
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).
3. Sin Wave / X  $\pm$  Y  $\pm$  Z 3 Directions / 3 Times Each Direction / 11ms Each Time.
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X  $\pm$  Y  $\pm$  Z 3 Directions / 3 Times Each Time





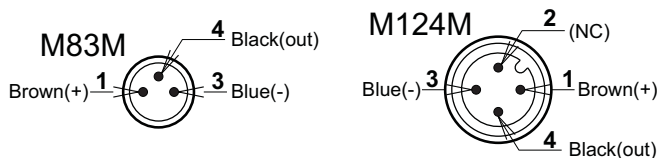
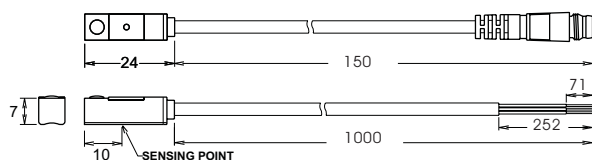
Wiring Diagram



**LS MG03RD**      **LS MG03RN**      **LS MG03RP**  
**LS MG03RD-QD8**      **LS MG03RN-QD8**      **LS MG03RP-QD8**  
**LS MG03RD-QD12**      **LS MG03RN-QD12**      **LS MG03RP-QD12**

**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

**3 wire QD wiring**



Characteristic / TYPE	LS MG03RD	LS MG03RN	LS MG03RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 $\phi$ , 3C, OIL RESISTANT PVC		
Sensitivity	60 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

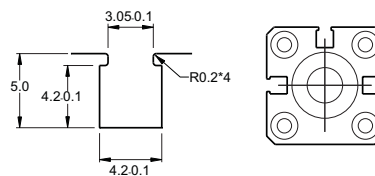
**Other models available, please contact us for more information.**

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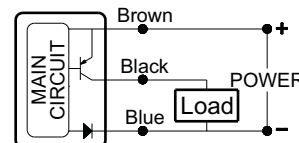
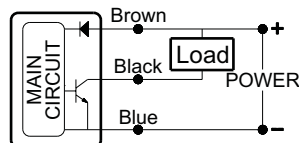
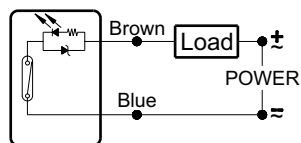




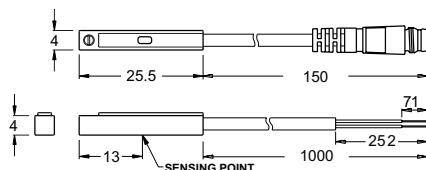
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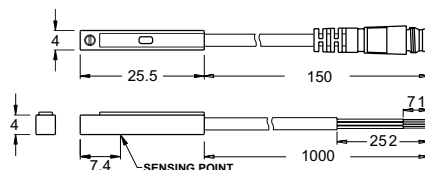
Wiring  
Diagram



**LS MG06R**  
**LS MG06R-QC8**  
**LS MG06R-QC12**

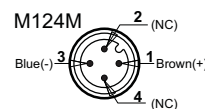
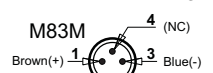


**LS MG06N(P)**  
**LS MG06N(P)-QC8**  
**LS MG06N(P)-QC12**

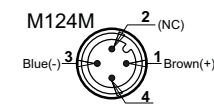
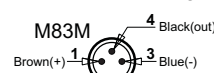


**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)

2 wire QC wiring



3 wire QC wiring



Characteristic / TYPE	LS MG06R	LS MG06N	LS MG06P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~120V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 40mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 $\phi$ , 2C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	60 G	40 G	40 G
Max. Switching Frequency	1000 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression	Power Source Reverse Polarity; Surge Suppression

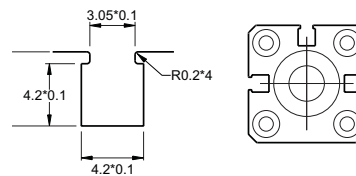
NOTE:

1. The max. Operating voltage of LS MG06R-QD8 is 60 V AC/DC (based on IEC61076-2-101).
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).
3. Sin Wave / X  $\pm Y \pm Z$  3 Directions / 3 Times Each Direction / 11ms Each Time.
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X  $\pm Y \pm Z$  3 Directions / 3 Times Each Time

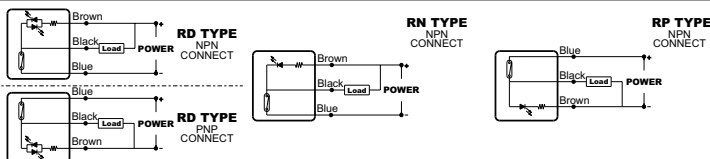




(4X4)



Wiring  
Diagram



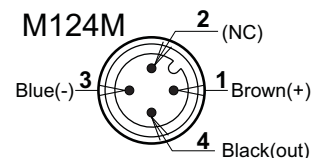
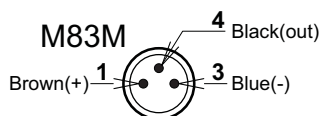
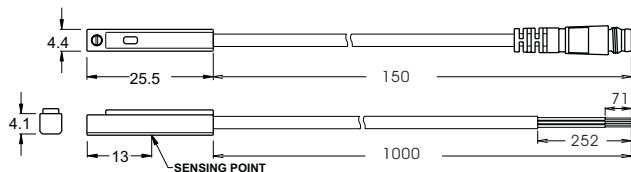
LS MG06RD  
LS MG06RD-QD8  
LS MG06RD-QD12

LS MG06RN  
LS MG06RN-QD8  
LS MG06RN-QD12

LS MG06RP  
LS MG06RP-QD8  
LS MG06RP-QD12

M8 & M12 QUICK CONNECTOR (IEC61076-2-101)

3 wire QD wiring



Characteristic / TYPE	LS MG03RD	LS MG03RN	LS MG03RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 \$, 3C, OIL RESISTANT PVC		
Sensitivity	60 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

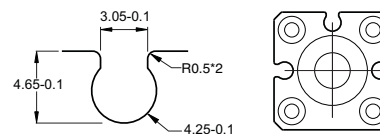
**Other models available, please contact us for more information.**

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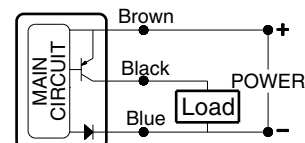
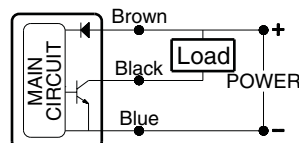
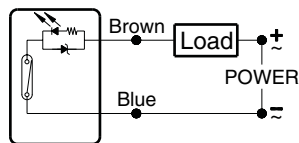




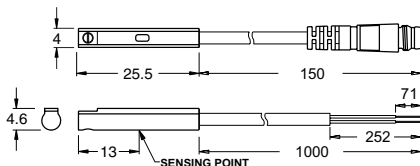
(4- -SMC)



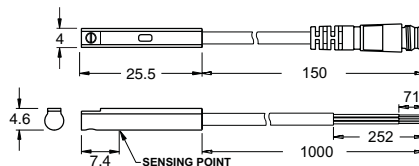
Wiring  
Diagram



**LS MG07R**  
**LS MG07R-QD8**  
**LS MG07R-QD12**

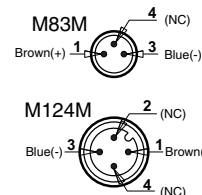


**LS MG07N(P)**  
**LS MG07N(P)-QD8**  
**LS MG07N(P)-QD12**

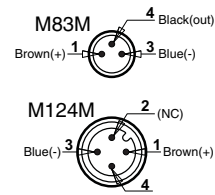


**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)

2 wire QD wiring



3 wire QD wiring



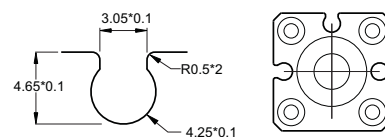
Characteristic / TYPE	LS MG07R	LS MG07N	LS MG07P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~120V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 §, 2C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	60 G	40 G	40 G
Max. Switching Frequency	1000 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression	Power Source Reverse Polarity; Surge Suppression

NOTE: 1. The max. Operating voltage of LS MG07R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5° 8° 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ± Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ± Z 3 Directions / 3 Times Each Time

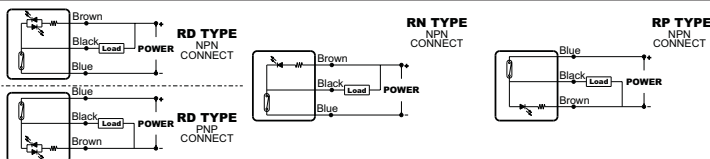




(4- -SMC)



Wiring  
Diagram

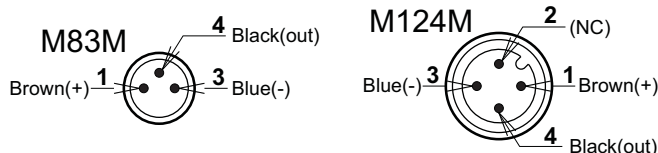
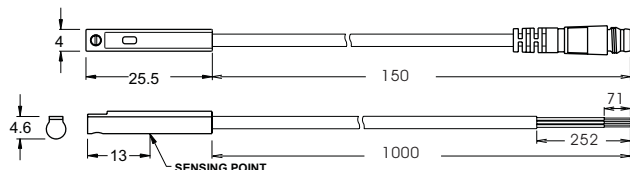


LS MG07RD  
LS MG07RD-QD8  
LS MG07RD-QD12

LS MG07RN  
LS MG07RN-QD8  
LS MG07RN-QD12

LS MG07RP  
LS MG07RP-QD8  
LS MG07RP-QD12

M8 & M12 QUICK CONNECTOR (IEC61076-2-101)  
3 wire QD wiring

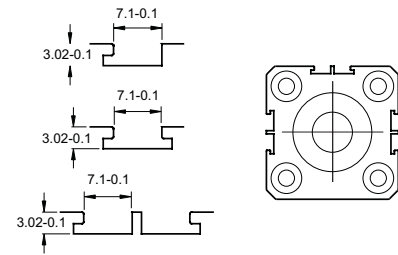


Characteristic / TYPE	LS MG07RD	LS MG07RN	LS MG07RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 $\phi$ , 3C, OIL RESISTANT PVC		
Sensitivity	60 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

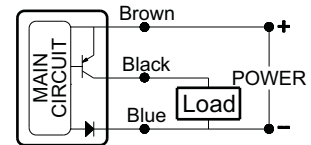
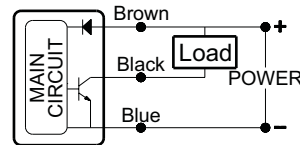
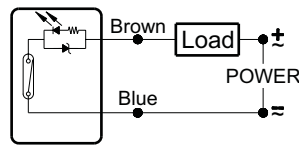
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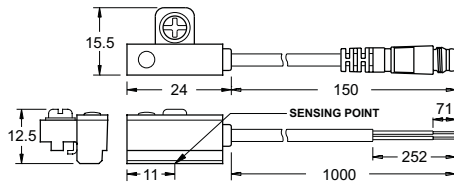




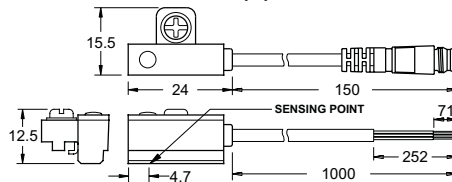
Wiring  
Diagram



**LS MG10R**  
**LS MG10R-QD8**  
**LS MG10R-QD12**



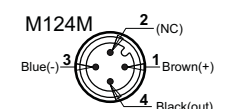
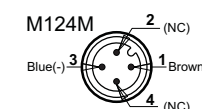
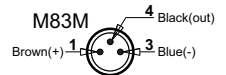
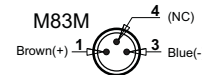
**LS MG10N(P)**  
**LS MG10N(P)-QD8**  
**LS MG10N(P)-QD12**



**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

2 wire QD wiring

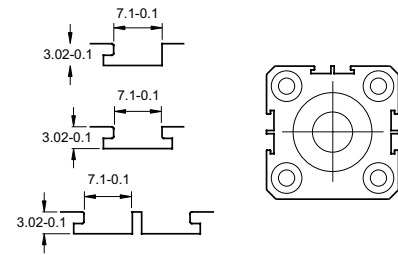
3 wire QD wiring



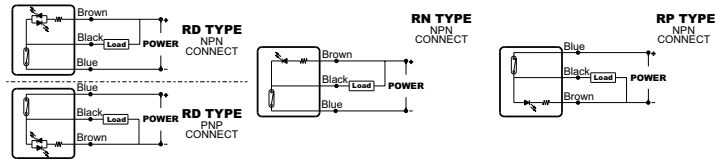
Characteristic / TYPE	LS MG10R	LS MG10N	LS MG10P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~120V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	3.3 §, 2C, OIL RESISTANT PVC	3.3 §, 3C, OIL RESISTANT PVC	3.3 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression	Power Source Reverse Polarity; Surge Suppression

NOTE: 1. The max. Operating voltage of LS MG10R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5\* 8° 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ± Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ± Z 3 Directions / 3 Times Each Time





Wiring  
Diagram

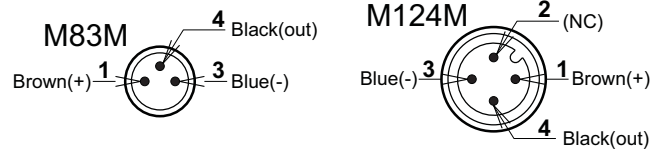
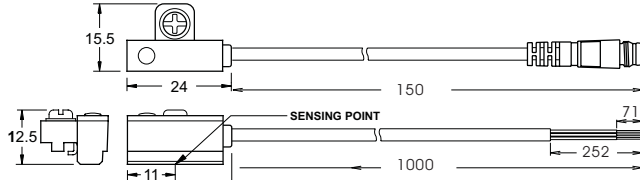


**LS MG10RD**  
**LS MG10RD-QD8**  
**LS MG10RD-QD12**

**LS MG10RN**  
**LS MG10RN-QD8**  
**LS MG10RN-QD12**

**LS MG10RP**  
**LS MG10RP-QD8**  
**LS MG10RP-QD12**

**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**  
**3 wire QD wiring**

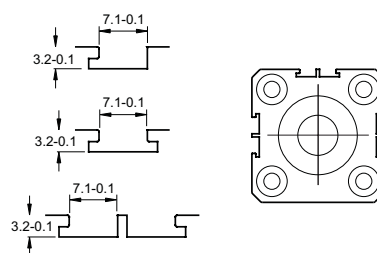


Characteristic / TYPE	LS MG07RD	LS MG07RN	LS MG07RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	3.3 §, 3C, OIL RESISTANT PVC		
Sensitivity	60 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

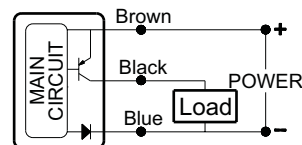
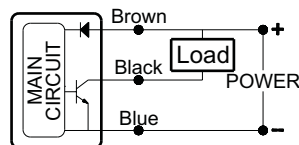
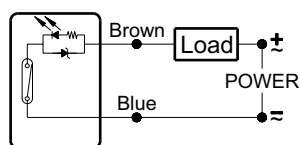
**Other models available, please contact us for more information.**

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Wiring Diagram



**LS MG11R**  
**LS MG11R-QD8**  
**LS MG11R-QD12**

**LS MG11R-EX**  
**LS MG11R-QD8-EX**  
**LS MG11R-QD12-EX**

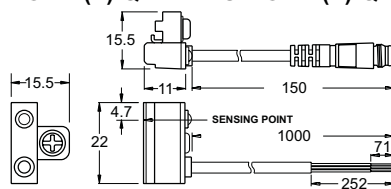
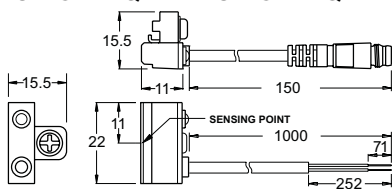
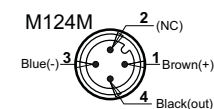
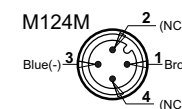
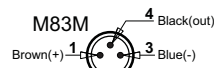
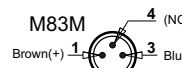
**LS MG11N(P)**  
**LS MG11N(P)-QD8**  
**LS MG11N(P)-QD12**

**LS MG11N(P)-EX**  
**LS MG11N(P)-QD8-EX**  
**LS MG11N(P)-QD12-EX**

**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)

2 wire QD wiring

3 wire QD wiring



Characteristic / TYPE	LS MG11R	LS MG11N	LS MG11P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	3.3 §, 2C, OIL RESISTANT PVC	3.3 §, 3C, OIL RESISTANT PVC	3.3 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression	Power Source Reverse Polarity; Surge Suppression

NOTE: 1. The max. Operating voltage of LS MG11R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5° 8° 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ± Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ± Z 3 Directions / 3 Times Each Time



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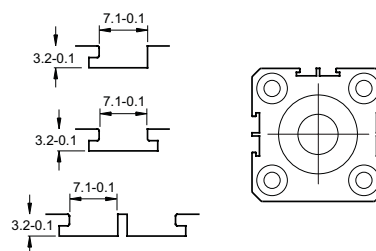
**U.S.A.**

3940 Olympic Boulevard, Suite 400

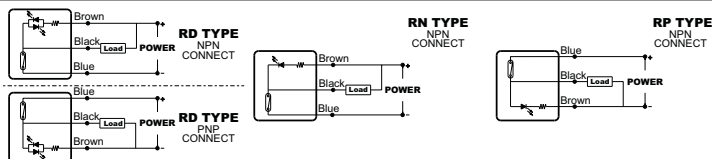
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Wiring  
Diagram

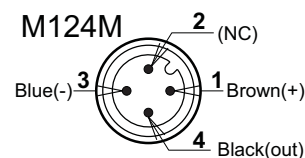
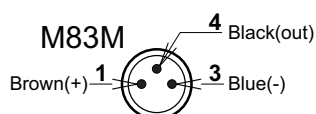
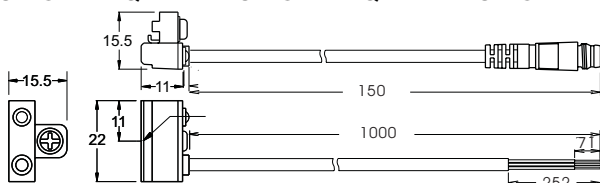


**LS MG11RD**  
**LS MG11RD-QD8**  
**LS MG11RD-QD12**

**LS MG11RN**  
**LS MG11RN-QD8**  
**LS MG11RN-QD12**

**LS MG11RP**  
**LS MG11RP-QD8**  
**LS MG11RP-QD12**

**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**  
**3 wire QD wiring**

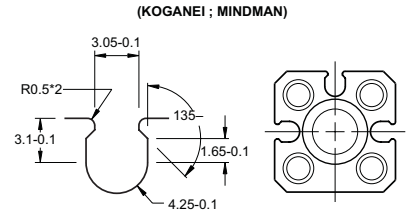


Characteristic / TYPE	LS MG11RD	LS MG11RN	LS MG11RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	3.3 §, 3C, OIL RESISTANT PVC		
Sensitivity	45 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

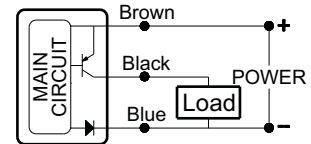
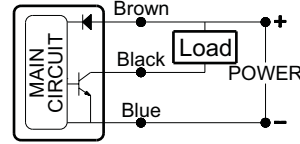
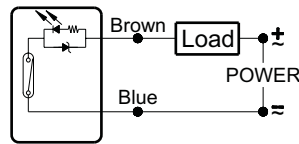
**Other models available, please contact us for more information.**

We reserve the right to discontinue models, or change specifications without notice or incurring obligation.

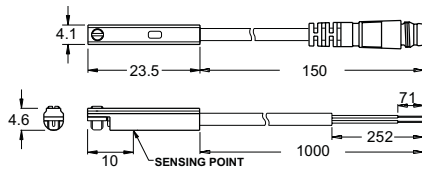




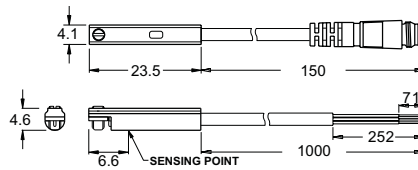
Wiring  
Diagram



**LS MG12R**  
**LS MG12R-QD8**  
**LS MG12R-QD12**

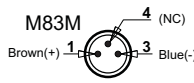


**LS MG12N(P)**  
**LS MG12N(P)-QD8**  
**LS MG12N(P)-QD12**

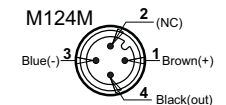
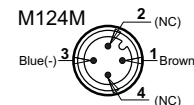
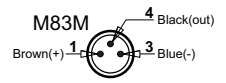


**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

2 wire QD wiring



3 wire QD wiring



Characteristic / TYPE	LS MG12R	LS MG12N	LS MG12P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~120V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 §, 2C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	1000 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression	Power Source Reverse Polarity; Surge Suppression

NOTE: 1. The max. Operating voltage of LS MG12R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5° 8° 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ± Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ± Z 3 Directions / 3 Times Each Time



## ORDERING INFORMATION

LS MG - 20	R	H	FL02	Cable Length	Options Explanations
Model				FL02	Length of Cable is 2M
01				FL03	Length of Cable is 3M (Standard Type)
02				FL05	Length of Cable is 5M
03				FL10	Length of Cable is 10M
06				QC08	M8*3 male quick connector (cable length is 0.15 M)
07				QC12	M12*4 male quick connector (cable length is 0.15 M)
10					
11					
12					
15					
16					
20					
21					
30					
31					
32					
33					
34					
35					
40					
50					
72					

Special Mark	Options Explanations
None	Standard type
A	300mA current output
B	Normally closed type (N.C)
F	Solid state type, FET large current output
H	High sensitivity
L	Low sensitivity
X	No indicator (Large current output)

Sensor Type	Options Explanations
R	Reed switch 2 wire type
N	Solid state type, current sinking
P	Solid state type, current sourcing
RD	Reed switch 3 wire type (current sinking & sourcing)

## GENERAL TECHNICAL INFORMATION

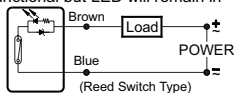


Particular attention must be paid not to exceed the limits list in the specification. Otherwise, permanent damage to sensor may occur.

- For reed switch type sensors, they must be series connected to use a LOAD, or it will damage the sensor.
- Connect the brown wire in series with LOAD to positive(+) and the blue wire to negative(-) of power source.

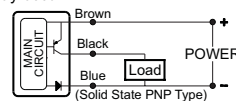
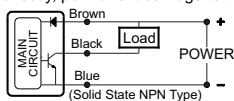
If the polarity is inverted, reed switches remains functional but LED will remain in -OFF- state. Just exchange the brown and blue wires.

### 2 wire standard connection



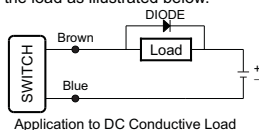
- For solid-state type sensors, it must be used with DC power source.
- Connect brown wire to positive(+) and the blue wire to negative(-) of DC power source. The black wire must be connected to the LOAD only.
- If the black wire is connected to the power source directly, permanent damage to the sensor may occur.

### 3 wire standard connection

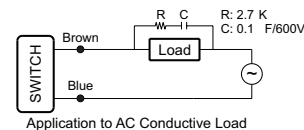


- The external protect element is required. If the sensor is used to switch conductive load, such as relay or solenoid valve.
- For DC conductive load, attach an external diode parallel to the load as illustrated below.
- For AC conductive load, use R-C circuit to parallel the load as illustrated below.

### Inductive load protection



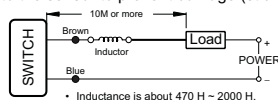
Application to DC Conductive Load



Application to AC Conductive Load

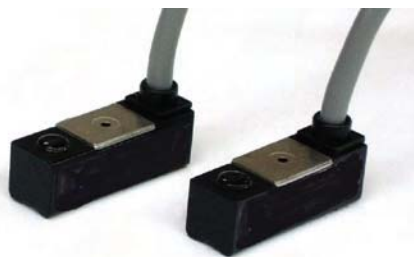
If the sensor is used to switch capacitive load or the cable length exceed 10M.  
Please series a inductor(470 H ~ 2000 H) as close to the sensor to prevent damage (sticking effect).

### Capacitive load protection



Inductance is about 470 H ~ 2000 H.

5. Keep sensor out of the strong magnetic field to get rid of interference.



**MOUNTING CLAMP & BRACKET**

**PBK CLAMP**

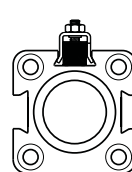


Apply to: 6 to 63 round cylinder

**PBO CLAMP**

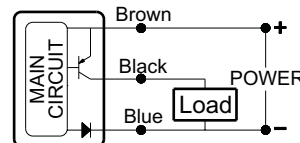
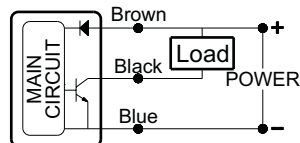
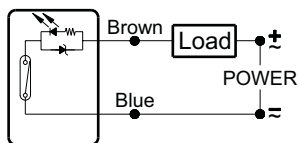


**PC BRACKET**

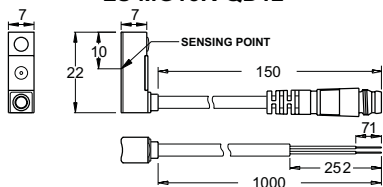


Apply to: 12mm DOVETAIL GROOVE

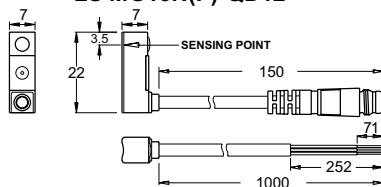
**Wiring Diagram**



**LS MG15R  
LS MG15R-QD8  
LS MG15R-QD12**

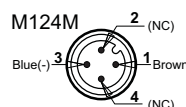


**LS MG15N(P)  
LS MG15N(P)-QD8  
LS MG15N(P)-QD12**

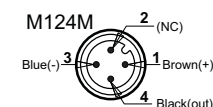
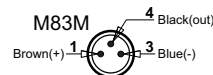


**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

**2 wire QD wiring**



**3 wire QD wiring**



Characteristic / TYPE	LS MG15R	LS MG15N	LS MG15P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 40mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 $\phi$ , 2C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	60 G	60 G	60 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression	Power Source Reverse Polarity; Surge Suppression

NOTE:  
1. The max. Operating voltage of LS MG15R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X  $\pm$  2 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X  $\pm$  2 3 Directions / 3 Times Each Time



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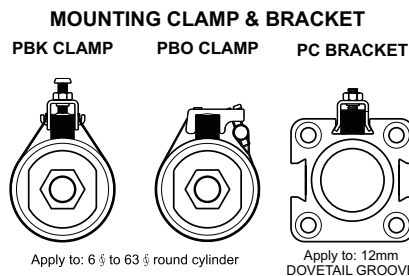
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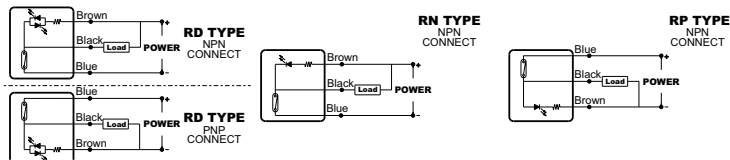
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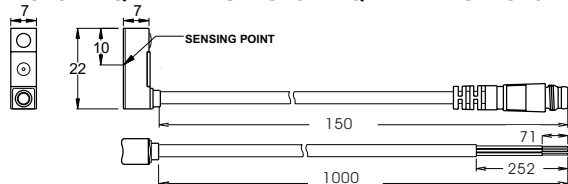
Wiring Diagram



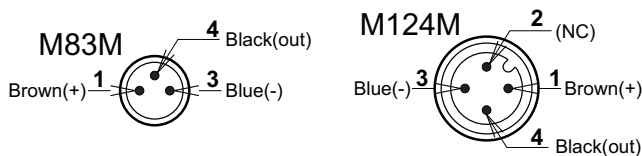
**LS MG15RD**  
**LS MG15RD-QD8**  
**LS MG15RD-QD12**

**LS MG15RN**  
**LS MG15RN-QD8**  
**LS MG15RN-QD12**

**LS MG15RP**  
**LS MG15RP-QD8**  
**LS MG15RP-QD12**



**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**  
**3 wire QD wiring**



Characteristic / TYPE	LS MG15RD	LS MG15RN	LS MG15RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 5/8, 3C, OIL RESISTANT PVC		
Sensitivity	60 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

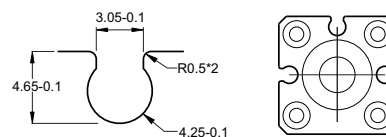
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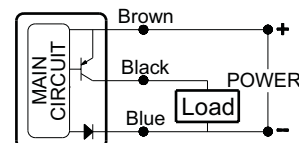
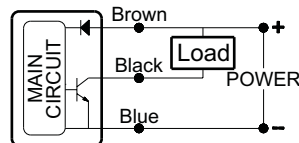
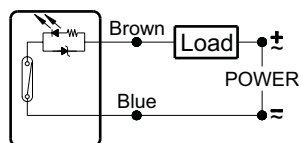




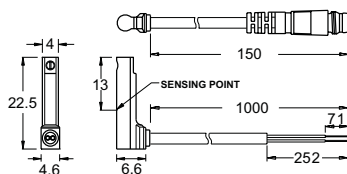
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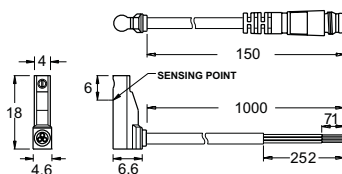
Wiring  
Diagram



**LS MG16R**  
**LS MG16R-QD8**  
**LS MG16R-QD12**

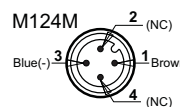
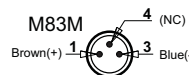


**LS MG16N(P)**  
**LS MG16N(P)-QD8**  
**LS MG16N(P)-QD12**

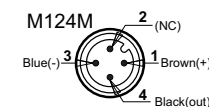
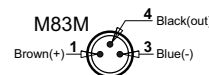


**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)

2 wire QD wiring



3 wire QD wiring



Characteristic / TYPE	LS MG16R	LS MG16N	LS MG16P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~120V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 40mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 §, 2C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	60 G	40 G	40 G
Max. Switching Frequency	1000 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression	Power Source Reverse Polarity; Surge Suppression

NOTE:  
1. The max. Operating voltage of LS MG16R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ± Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ± Z 3 Directions / 3 Times Each Time



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Toll Free Fax: 1-800-263-5807

**International**

Phone: 1-905-363-2400 Fax: 1-905-363-1191

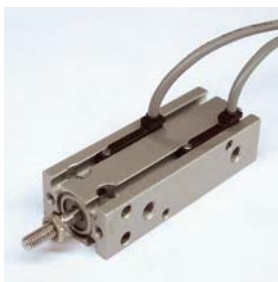
**U.S.A.**

3940 Olympic Boulevard, Suite 400

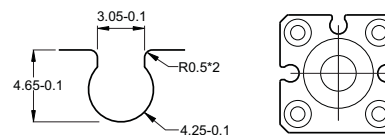
Erlanger, KY 41018

www.lynch-usa.com

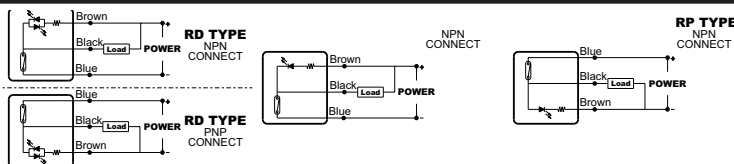
Printed In Canada



(4- -SMC)



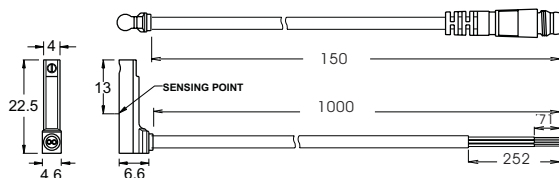
Wiring  
Diagram



**LS MG16RD**  
**LS MG16RD-QD8**  
**LS MG16RD-QD12**

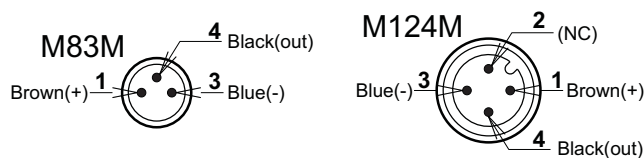
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**LS MG16RN-QD8**  
**LS MG16RN-QD12**

**LS MG16RP**  
**LS MG16RP-QD8**  
**LS MG16RP-QD12**



**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

**3 wire QD wiring**

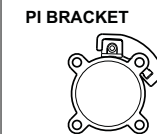
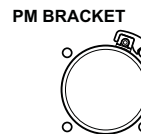
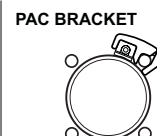
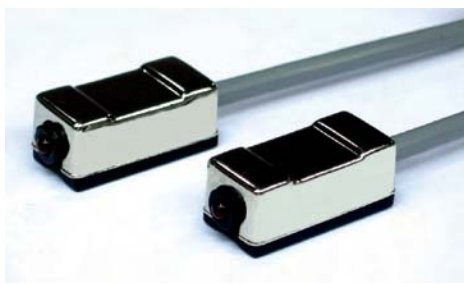


Characteristic / TYPE	LS MG16RD	LS MG16RN	LS MG16RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 \$, 3C, OIL RESISTANT PVC		
Sensitivity	60 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

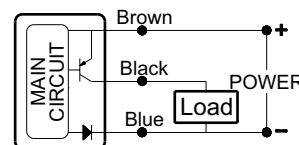
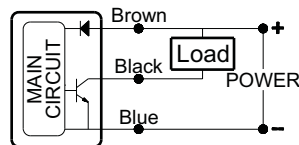
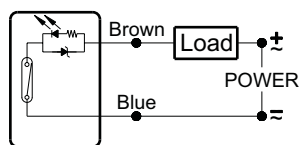
**Other models available, please contact us for more information.**

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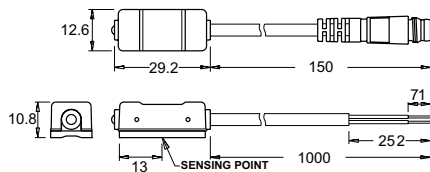




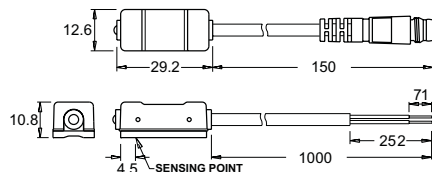
Wiring  
Diagram



**LS MG20R**  
**LS MG20R-QD8**  
**LS MG20R-QD12**



**LS MG20N(P)**  
**LS MG20N(P)-QD8**  
**LS MG20N(P)-QD12**

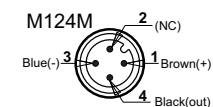
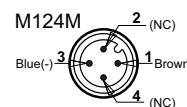
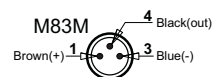


**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)

2 wire QD wiring



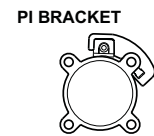
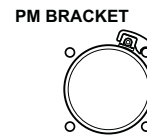
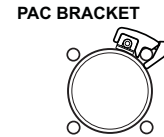
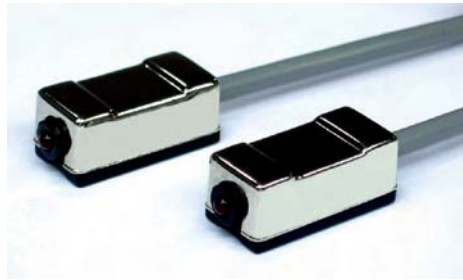
3 wire QD wiring



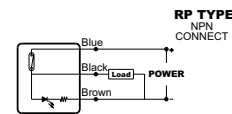
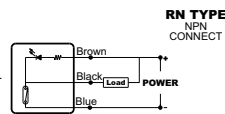
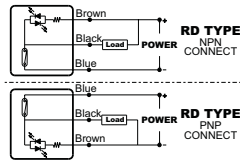
Characteristic / TYPE	LS MG20R	LS MG20N	LS MG20P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	15 mA max. @ 24V (Switch Active)	16 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	1.5 V max. @ 200 mA (Resistive Load)	1.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	4.0 §, 2C, OIL RESISTANT PVC	4.0 §, 3C, OIL RESISTANT PVC	4.0 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	60 G	60 G	60 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression; O/P Short Circuit Protect	

NOTE: 1. The max. Operating voltage of LS MG20R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5° 8° 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ±Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ±Z 3 Directions / 3 Times Each Time





Wiring  
Diagram



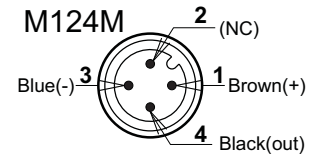
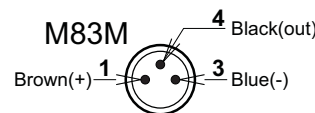
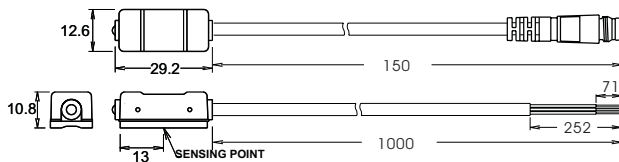
LS MG20RD  
LS MG20RD-QD8  
LS MG20RD-QD12

LS MG20RN  
LS MG20RN-QD8  
LS MG20RN-QD12

LS MG20RP  
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LS MG20RP-QD12

M8 & M12 QUICK CONNECTOR (IEC61076-2-101)

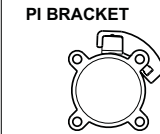
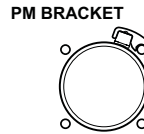
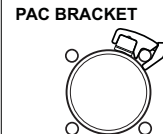
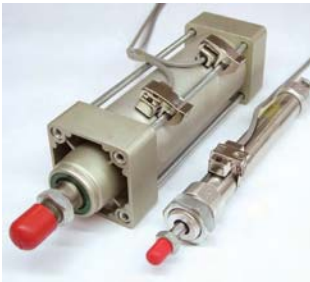
3 wire QD wiring



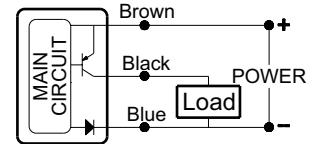
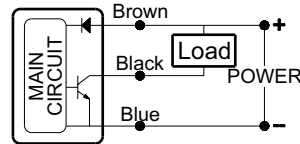
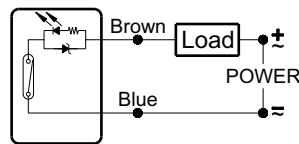
Characteristic / TYPE	LS MG20RD	LS MG20RN	LS MG20RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 $\phi$ , 3C, OIL RESISTANT PVC		
Sensitivity	65 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

NOTE:  
1. The max. Operating voltage of LS MG20R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5\* 8\* 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X  $\pm$ Y  $\pm$  Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X  $\pm$ Y  $\pm$  Z 3 Directions / 3 Times Each Time

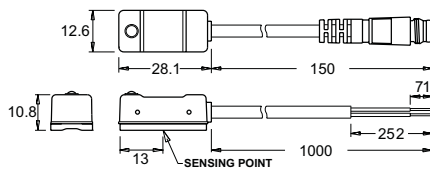




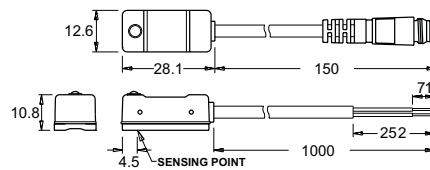
Wiring  
Diagram



**LS MG21R**  
**LS MG21R-QD8**  
**LS MG21R-QD12**



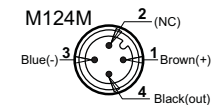
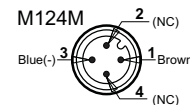
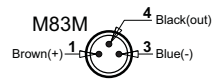
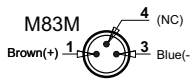
**LS MG21N(P)**  
**LS MG21N(P)-QD8**  
**LS MG21N(P)-QD12**



**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

2 wire QD wiring

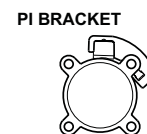
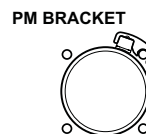
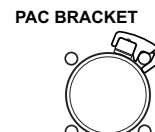
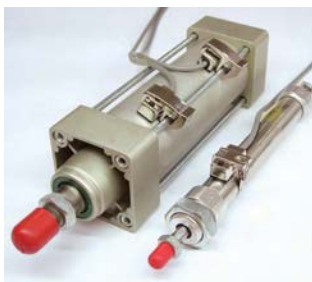
3 wire QD wiring



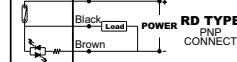
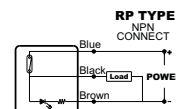
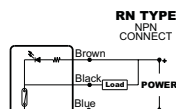
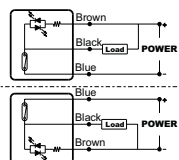
Characteristic / TYPE	LS MG21R	LS MG21N	LS MG21P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	15 mA max. @ 24V (Switch Active)	16 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	1.5 V max. @ 200 mA (Resistive Load)	1.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	4.0 §, 2C, OIL RESISTANT PVC	4.0 §, 3C, OIL RESISTANT PVC	4.0 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	60 G	60 G	60 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression; O/P Short Circuit Protect	

NOTE:  
1. The max. Operating voltage of LS MG21R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ± Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ± Z 3 Directions / 3 Times Each Time





Wiring  
Diagram



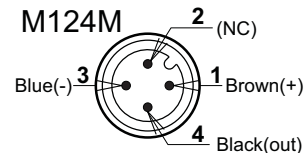
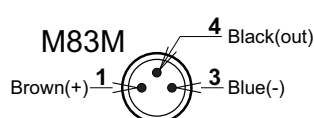
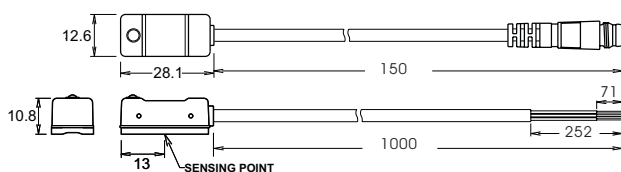
LS MG21RD  
LS MG21RD-QD8  
LS MG21RD-QD12

LS MG21RN  
LS MG21RN-QD8  
LS MG21RN-QD12

LS MG21RP  
LS MG21RP-QD8  
LS MG21RP-QD12

M8 & M12 QUICK CONNECTOR (IEC61076-2-101)

3 wire QD wiring

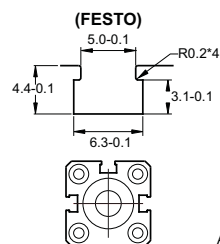


Characteristic / TYPE	LS MG21RD	LS MG21RN	LS MG21RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 $\phi$ , 3C, OIL RESISTANT PVC		
Sensitivity	60 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

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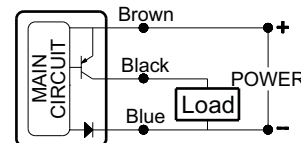
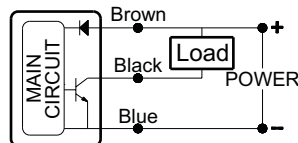
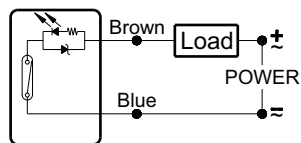


PBT CLAMP

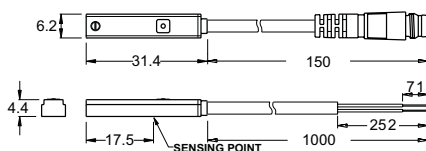


Apply to 6\$ to 63\$ Round Cylinder

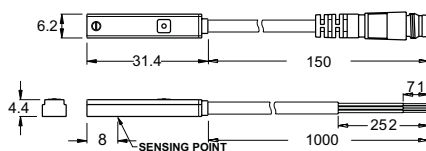
Wiring  
Diagram



**LS MG30R**  
**LS MG30R-QD8**  
**LS MG30R-QD12**

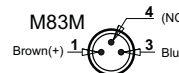


**LS MG30N(P)**  
**LS MG30N(P)-QD8**  
**LS MG30N(P)-QD12**

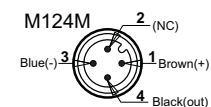
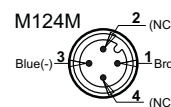
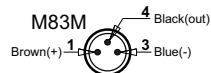


**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)

2 wire QD wiring



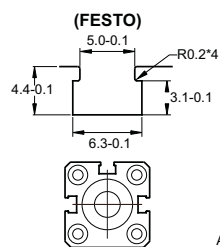
3 wire QD wiring



Characteristic / TYPE	LS MG30R	LS MG30N	LS MG30P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	19 mA max. @ 24V (Switch Active)	16 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	1.5 V max. @ 200 mA (Resistive Load)	1.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 \$, 2C, OIL RESISTANT PVC	2.8 \$, 3C, OIL RESISTANT PVC	2.8 \$, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression; O/P Short Circuit Protect	

NOTE: 1. The max. Operating voltage of LS MG30R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ± Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ± Z 3 Directions / 3 Times Each Time



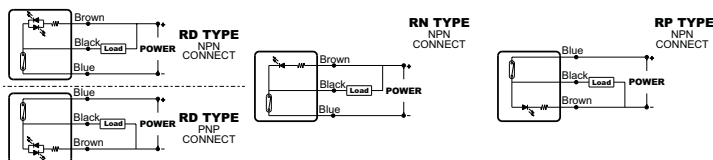


PBT CLAMP



Apply to 60 to 630 Round Cylinder

Wiring  
Diagram

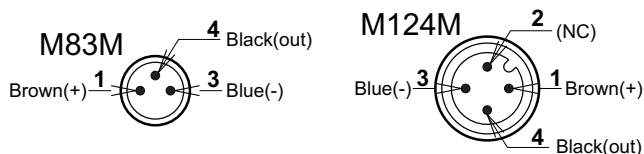
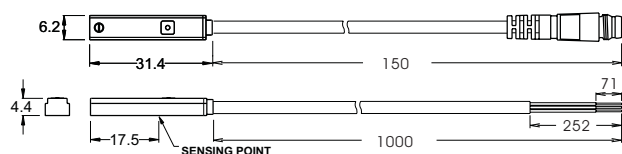


LS MG30RD  
LS MG30RD-QD8  
LS MG30RD-QD12

LS MG30RN  
LS MG30RN-QD8  
LS MG30RN-QD12

LS MG30RP  
LS MG30RP-QD8  
LS MG30RP-QD12

M8 & M12 QUICK CONNECTOR (IEC61076-2-101)  
3 wire QD wiring

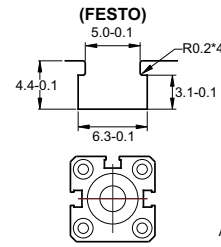


Characteristic / TYPE	LS MG30RD	LS MG30RN	LS MG30RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 5, 3C, OIL RESISTANT PVC		
Sensitivity	45 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

**Other models available, please contact us for more information.**

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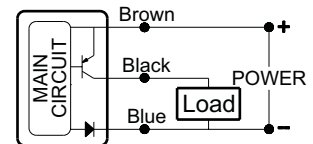
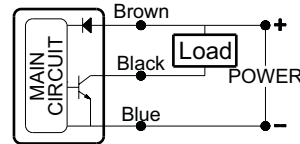
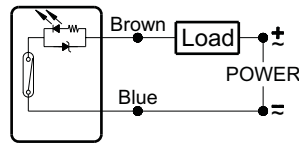




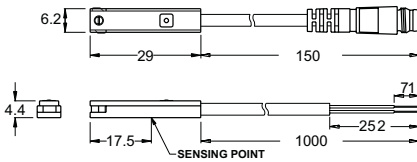
**PBT CLAMP**

Apply to 6\$ to 63\$ Round Cylinder

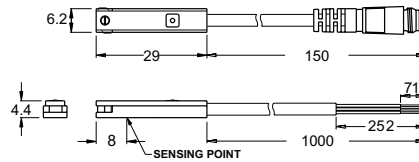
**Wiring Diagram**



**LS MG31R  
LS MG31R-QD8  
LS MG31R-QD12**

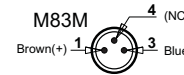


**LS MG31N(P)  
LS MG31N(P)-QD8  
LS MG31N(P)-QD12**

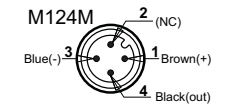
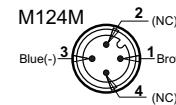
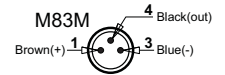


**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

**2 wire QD wiring**



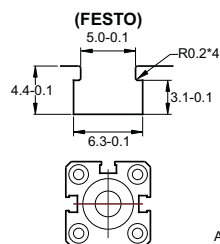
**3 wire QD wiring**



Characteristic / TYPE	LS MG31R	LS MG31N	LS MG31P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	19 mA max. @ 24V (Switch Active)	16 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	1.5 V max. @ 200 mA (Resistive Load)	1.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 \$, 2C, OIL RESISTANT PVC	2.8 \$, 3C, OIL RESISTANT PVC	2.8 \$, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression; O/P Short Circuit Protect	

NOTE:  
1. The max. Operating voltage of LS MG31R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ±Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ±Z 3 Directions / 3 Times Each Time



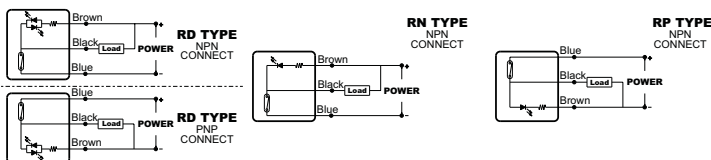


PBT CLAMP



Apply to 60 to 630 Round Cylinder

Wiring  
Diagram

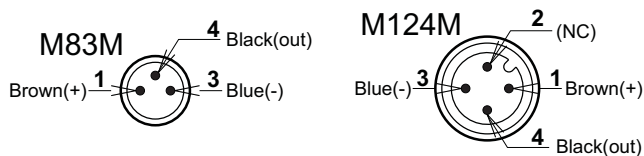
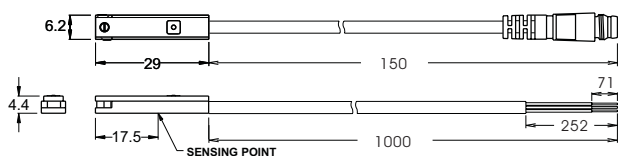


LS MG31RD  
LS MG31RD-QD8  
LS MG31RD-QD12

LS MG31RN  
LS MG31RN-QD8  
LS MG31RN-QD12

LS MG31RP  
LS MG31RP-QD8  
LS MG31RP-QD12

M8 & M12 QUICK CONNECTOR (IEC61076-2-101)  
3 wire QD wiring

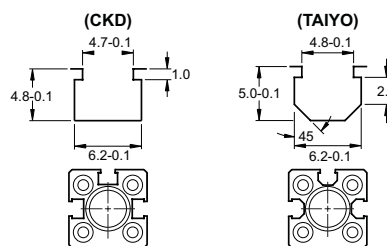


Characteristic / TYPE	LS MG31RD	LS MG31RN	LS MG31RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 5, 3C, OIL RESISTANT PVC		
Sensitivity	45 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

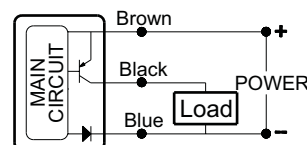
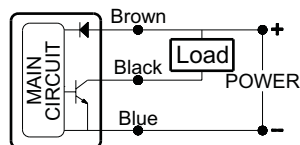
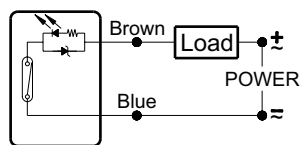
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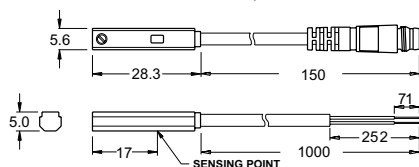




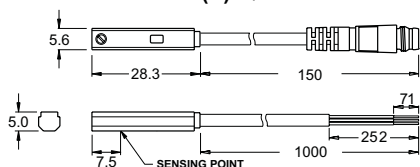
Wiring  
Diagram



**LS MG32R**  
**LS MGR-QD8**  
**LS MGR-QD12**

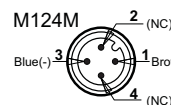
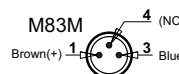


**LS MGN(P)**  
**LS MGN(P)-QD8**  
**LS MGN(P)-QD12**

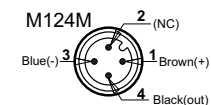
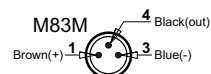


**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)

2 wire QD wiring



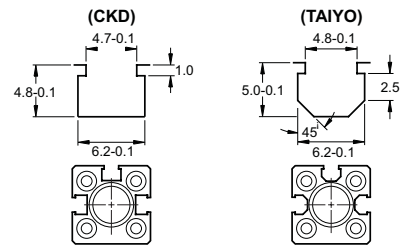
3 wire QD wiring



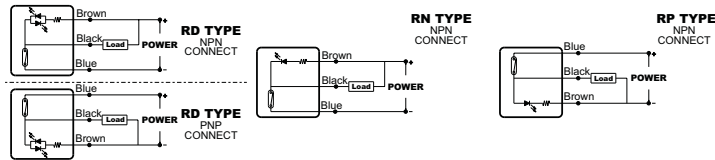
Characteristic / TYPE	LS MG32R	LS MG32N	LS MG32P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~120V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 §, 2C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression; O/P Short Circuit Protect	

NOTE:  
1. The max. Operating voltage of LS MG32R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5° 8° 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ± Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ± Z 3 Directions / 3 Times Each Time





Wiring  
Diagram



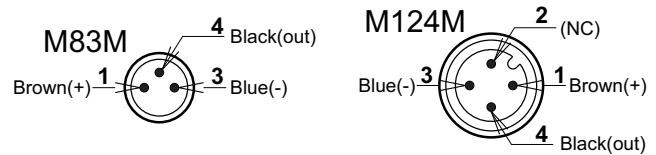
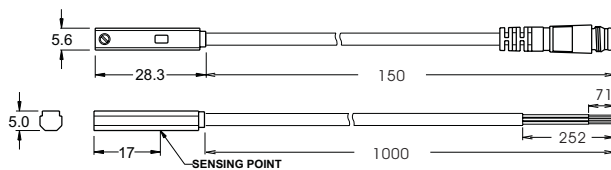
LS MG32RD  
LS MG32RD-QD8  
LS MG32RD-QD12

LS MG32RN  
LS MG32RN-QD8  
LS MG32RN-QD12

LS MG32RP  
LS MG32RP-QD8  
LS MG32RP-QD12

M8 & M12 QUICK CONNECTOR (IEC61076-2-101)

3 wire QD wiring

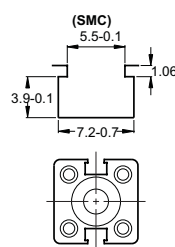


Characteristic / TYPE	LS MG32RD	LS MG32RN	LS MG32RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 $\phi$ , 3C, OIL RESISTANT PVC		
Sensitivity	45 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

**Other models available, please contact us for more information.**

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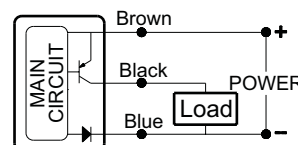
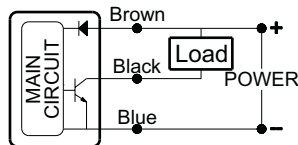
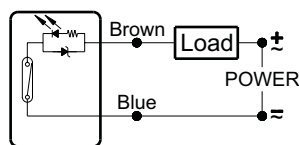


**PBS CLAMP**

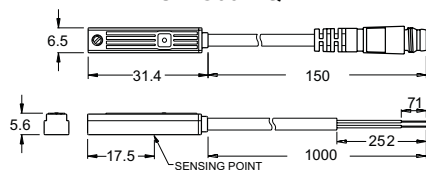


Apply to 6\$ to 63\$ Round Cylinder

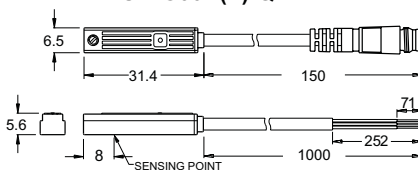
Wiring  
Diagram



**LS MG33R**  
**LS MG33R-QD8**  
**LS MG33R-QD12**

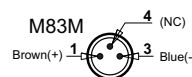


**LS MG33N(P)**  
**LS MG33N(P)-QD8**  
**LS MG33N(P)-QD12**

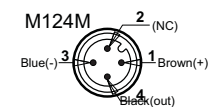
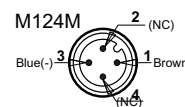
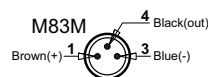


**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

2 wire QD wiring



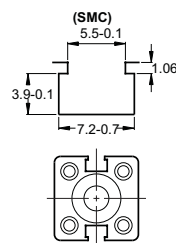
3 wire QD wiring



Characteristic / TYPE	LS MG33R	LS MG33N	LS MG33P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	19 mA max. @ 24V (Switch Active)	16 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	1.5 V max. @ 200 mA (Resistive Load)	1.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 \$, 2C, OIL RESISTANT PVC	2.8 \$, 3C, OIL RESISTANT PVC	2.8 \$, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression; O/P Short Circuit Protect	

NOTE:  
1. The max. Operating voltage of LS MG33R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ± Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ± Z 3 Directions / 3 Times Each Time



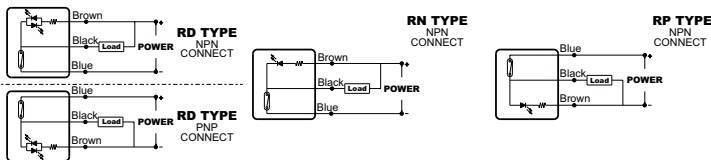


PBS CLAMP



Apply to 60 to 63Ø Round Cylinder

Wiring  
Diagram

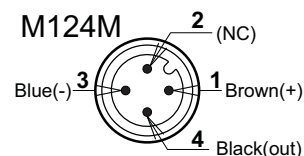
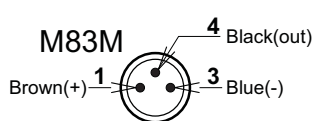
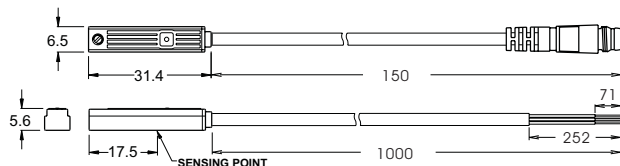


LS MG33RD  
LS MG33RD-QD8  
LS MG33RD-QD12

LS MG33RN  
LS MG33RN-QD8  
LS MG33RN-QD12

LS MG33RP  
LS MG33RP-QD8  
LS MG33RP-QD12

M8 & M12 QUICK CONNECTOR (IEC61076-2-101)  
3 wire QD wiring

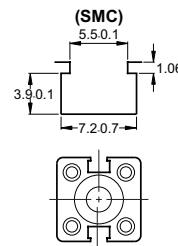
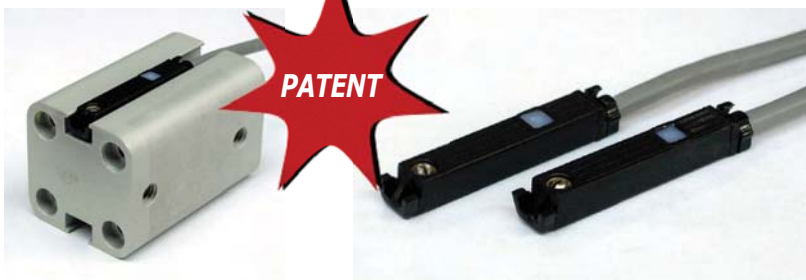


Characteristic / TYPE	LS MG33RD	LS MG33RN	LS MG33RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 5, 3C, OIL RESISTANT PVC		
Sensitivity	45 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

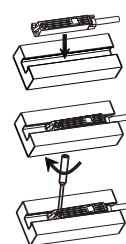
**Other models available, please contact us for more information.**

We reserve the right to discontinue models, or change specifications without notice or incurring obligation.

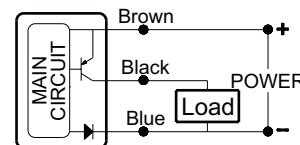
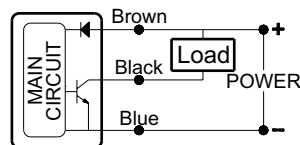
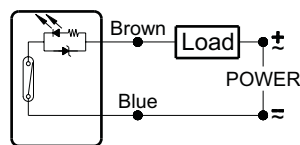




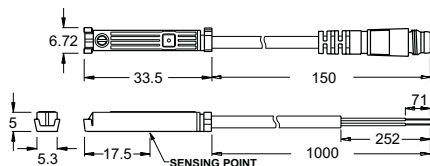
**INSTALLATION**



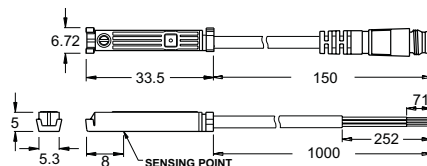
**Wiring Diagram**



**LS MG34R**  
**LS MG34R-QD8**  
**LS MG34R-QD12**

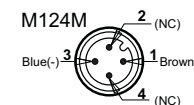
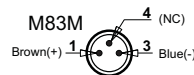


**LS MG34N(P)**  
**LS MG34N(P)-QD8**  
**LS MG34N(P)-QD12**

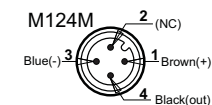
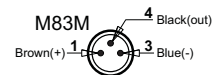


**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

**2 wire QD wiring**



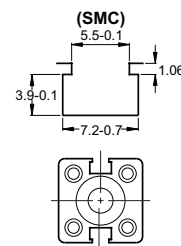
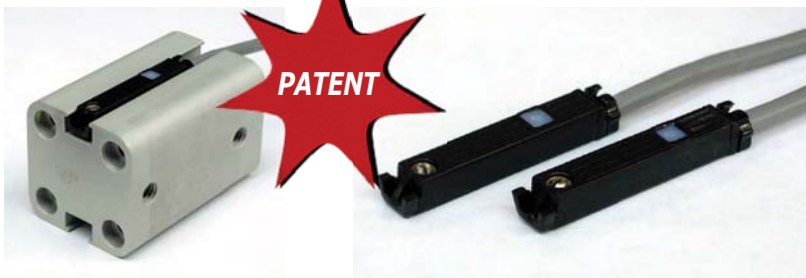
**3 wire QD wiring**



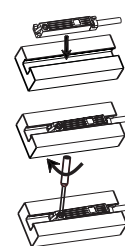
Characteristic / TYPE	LS MG34R	LS MG34N	LS MG34P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	19 mA max. @ 24V (Switch Active)	16 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	1.5 V max. @ 200 mA (Resistive Load)	1.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 §, 2C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression; O/P Short Circuit Protect	

NOTE:  
1. The max. Operating voltage of LS MG34R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5° 8° 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ±Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ±Z 3 Directions / 3 Times Each Time

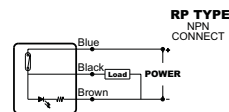
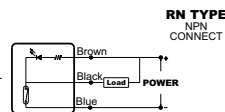
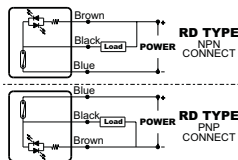




INSTALLATION



Wiring  
Diagram

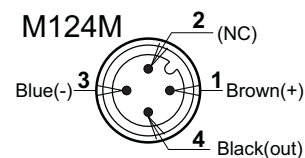
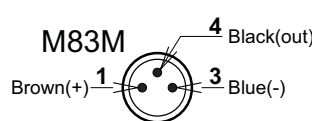
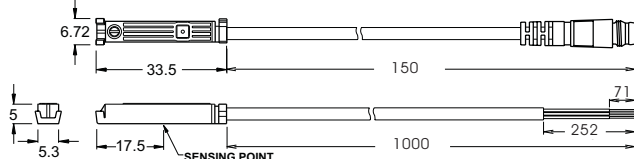


**LS MG34RD**  
**LS MG34RD-QD8**  
**LS MG34RD-QD12**

**LS MG34RN**  
**LS MG34RN-QD8**  
**LS MG34RN-QD12**

**LS MG34RP**  
**LS MG34RP-QD8**  
**LS MG34RP-QD12**

**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**  
**3 wire QD wiring**

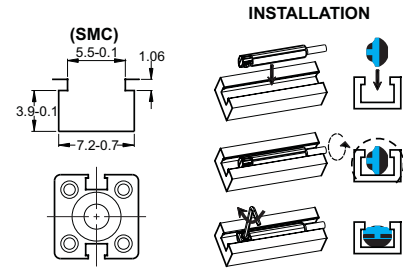


Characteristic / TYPE	LS MG34RD	LS MG34RN	LS MG34RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 $\phi$ , 3C, OIL RESISTANT PVC		
Sensitivity	45 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

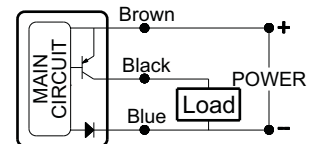
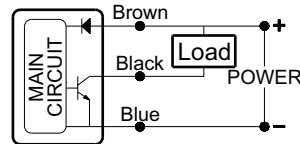
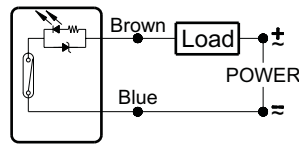
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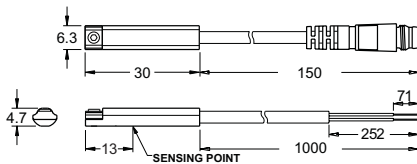




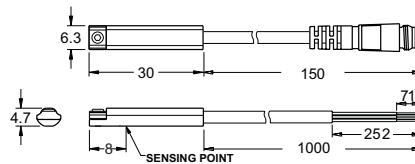
Wiring  
Diagram



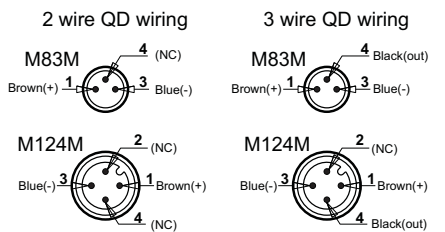
**LS MG35R**  
**LS MGR-QD8**  
**LS MGR-QD12**



**LS MG35N(P)**  
**LS MG35N(P)-QD8**  
**LS MG35N(P)-QD12**



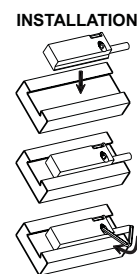
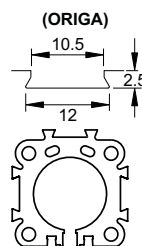
**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)



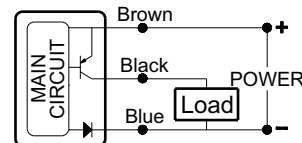
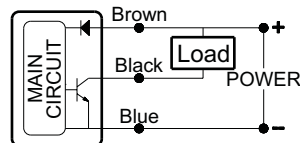
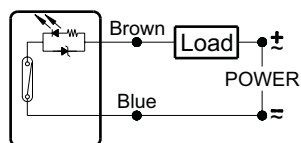
Characteristic / TYPE	LS MG35R	LS MG35N	LS MG35P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	19 mA max. @ 24V (Switch Active)	16 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	1.5 V max. @ 200 mA (Resistive Load)	1.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 §, 2C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression; O/P Short Circuit Protect	

NOTE: 1. The max. Operating voltage of LS MG35R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ±Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ±Z 3 Directions / 3 Times Each Time

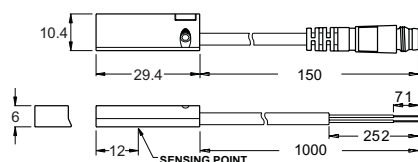




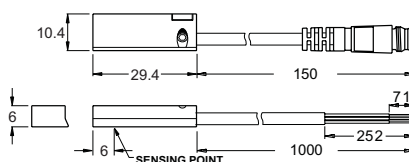
Wiring  
Diagram



**LS MG40R**  
**LS MG40R-QD8**  
**LS MG40R-QD12**

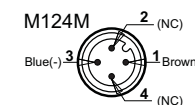


**LS MG40N(P)**  
**LS MG40N(P)-QD8**  
**LS MG40N(P)-QD12**

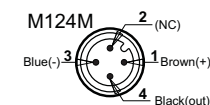


**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

2 wire QD wiring



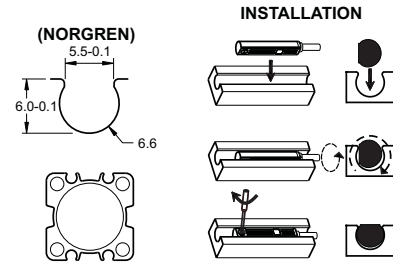
3 wire QD wiring



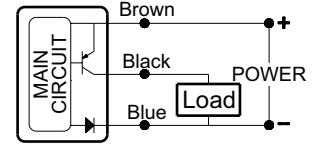
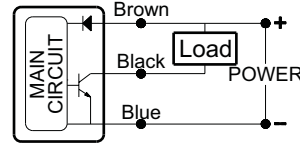
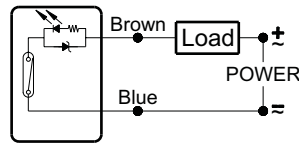
Characteristic / TYPE	LS MG40R	LS MG40N	LS MG40P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	19 mA max. @ 24V (Switch Active)	16 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	1.5 V max. @ 200 mA (Resistive Load)	1.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 $\phi$ , 2C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC	2.8 $\phi$ , 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression; O/P Short Circuit Protect	

NOTE:  
1. The max. Operating voltage of LS MG40R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5\* 8\* 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X  $\pm Y \pm Z$  3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X  $\pm Y \pm Z$  3 Directions / 3 Times Each Time

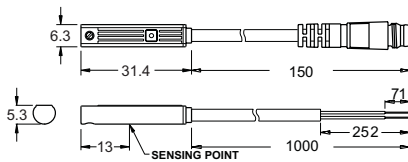




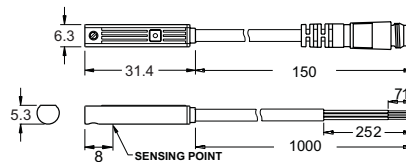
Wiring  
Diagram



**LS MG50R**  
**LS MG50R-QD8**  
**LS MG50R-QD12**

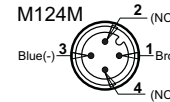
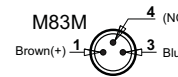


**LS MG50N(P)**  
**LS MG50N(P)-QD8**  
**LS MG50N(P)-QD12**

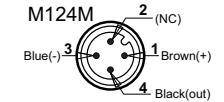
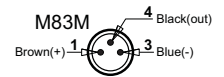


**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)

2 wire QD wiring



3 wire QD wiring

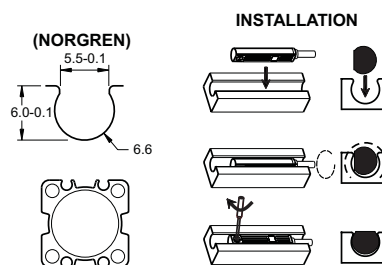


Characteristic / TYPE	LS MG50R	LS MG50N	LS MG50P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	19 mA max. @ 24V (Switch Active)	16 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	1.5 V max. @ 200 mA (Resistive Load)	1.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	2.8 §, 2C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC	2.8 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression; O/P Short Circuit Protect	

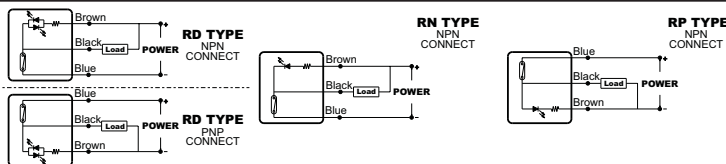
NOTE:

1. The max. Operating voltage of LS MG50R-QD8 is 60 V AC/DC (based on IEC61076-2-101).
2. Measuring standard target: 15.5° 8° 5t (Anisotropic Rubber Magnet).
3. Sin Wave / X ±Y ± Z 3 Directions / 3 Times Each Direction / 11ms Each Time.
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ± Z 3 Directions / 3 Times Each Time





Wiring  
Diagram



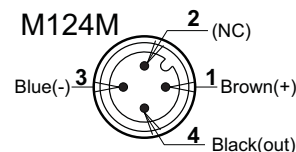
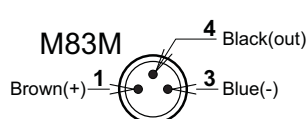
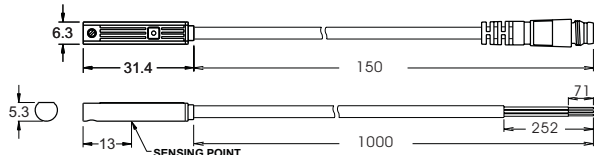
**LS MG50RD**  
**LS MG50RD-QD8**  
**LS MG50RD-QD12**

**LS MG50RN**  
**LS MG50RN-QD8**  
**LS MG50RN-QD12**

**LS MG50RP**  
**LS MG50RP-QD8**  
**LS MG50RP-QD12**

**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

**3 wire QD wiring**

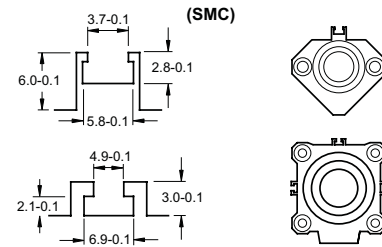


Characteristic / TYPE	LS MG50RD	LS MG50RN	LS MG50RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 $\phi$ , 3C, OIL RESISTANT PVC		
Sensitivity	60 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

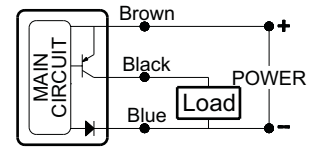
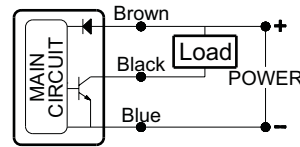
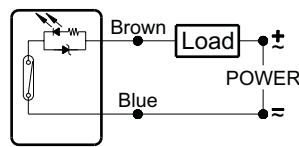
**Other models available, please contact us for more information.**

We reserve the right to discontinue models, or change specifications without notice or incurring obligation.

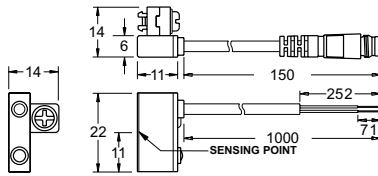




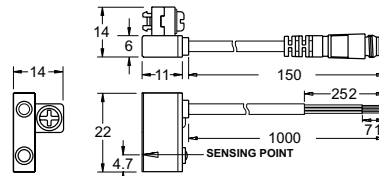
Wiring  
Diagram



**LS MG72R**  
**LS MG72R-QD8**  
**LS MG72R-QD12**

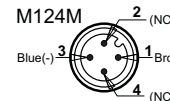
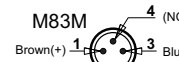


**LS MG72N(P)**  
**LS MG72N(P)-QD8**  
**LS MG72N(P)-QD12**

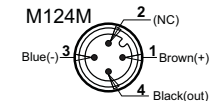


**M8 & M12 QUICK CONNECTOR** (IEC61076-2-101)

2 wire QD wiring



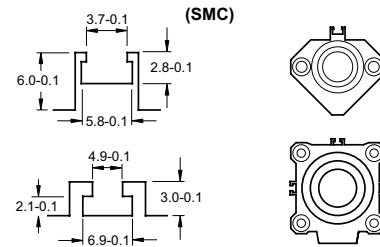
3 wire QD wiring



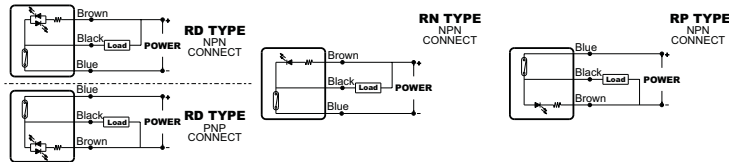
Characteristic / TYPE	LS MG72R	LS MG72N	LS MG72P
Switching Logic	SPST Normally Open	Solid State Output, Normally Open	Solid State Output, Normally Open
Sensor Type	Reed Switch	NPN Current Sinking	PNP Current Sourcing
Operating Voltage (Note 1.)	5~240V DC/AC	5~28V DC	5~28V DC
Switching Current	100 mA max.	200 mA max.	200 mA max.
Switching Rating	10 W max.	6 W max.	6 W max.
Current Consumption	-----	20 mA max. @ 24V (Switch Active)	18 mA max. @ 24V (Switch Active)
Voltage Drop	2.5 V max. @ 100mA DC	0.5 V max. @ 200 mA (Resistive Load)	0.5 V max. @ 200 mA (Resistive Load)
Leakage Current	-----	0.01 mA max.	0.01 mA max.
Indicator	Red LED	Red LED	Green LED
Cable	3.3 §, 2C, OIL RESISTANT PVC	3.3 §, 3C, OIL RESISTANT PVC	3.3 §, 3C, OIL RESISTANT PVC
Sensitivity (Note 2.)	40 G	40 G	40 G
Max. Switching Frequency	200 Hz	1000 Hz	1000 Hz
Temperature Range	-10° ~ 70°	-10° ~ 70°	-10° ~ 70°
Shock (Note 3.)	30 G	50 G	50 G
Vibration (Note 4.)	9 G	9 G	9 G
Enclosure Classification	IP 67 (NEMA 6)	IP 67 (NEMA 6)	IP 67 (NEMA 6)
Protection Circuit	-----	Power Source Reverse Polarity; Surge Suppression	Power Source Reverse Polarity; Surge Suppression

NOTE:  
1. The max. Operating voltage of LS MG72R-QD8 is 60 V AC/DC (based on IEC61076-2-101).  
2. Measuring standard target: 15.5" 8" 5t (Anisotropic Rubber Magnet).  
3. Sin Wave / X ±Y ±Z 3 Directions / 3 Times Each Direction / 11ms Each Time.  
4. Double Amplitude 1.5mm / 10 Hz (Sweep 1min) / X ±Y ±Z 3 Directions / 3 Times Each Time





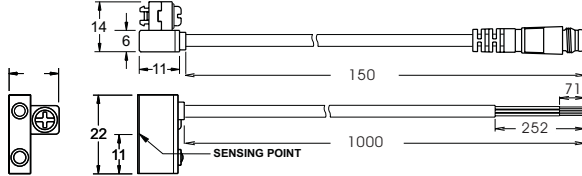
Wiring  
Diagram



**LS MG72RD**  
**LS MG72RD-QD8**  
**LS MG72RD-QD12**

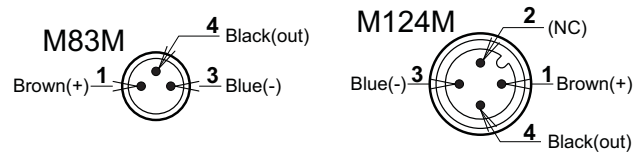
**LS MG72RN**  
**LS MG72RN-QD8**  
**LS MG72RN-QD12**

**LS MG72RP**  
**LS MG72RP-QD8**  
**LS MG72RP-QD12**



**M8 & M12 QUICK CONNECTOR (IEC61076-2-101)**

**3 wire QD wiring**



Characteristic / TYPE	LS MG72RD	LS MG72RN	LS MG72RP
Switching Logic	SPST Normally Open		
Sensor Type	Reed Switch NPN/PNP	Reed Switch NPN	Reed Switch PNP
Operating Voltage	5~30V DC		
Switching Current	500 mA max.		
Switching Rating	10 W max.		
Current Consumption	10 mA max @ 24V (Switch Active)		
Voltage Drop	0.5 V max @ 500mA (Resistive Load)		
Leakage Current	-----		
Indicator	Red LED (NPN) \ Green (PNP)	Red LED	Green LED
Cable	2.8 $\phi$ , 3C, OIL RESISTANT PVC		
Sensitivity	60 G		
Max. Switching Frequency	1000 Hz		
Temperature Range	-10° ~ 70°		
Shock	30 G		
Vibration	9 G		
Enclosure Classification	IP 67 (NEMA 6)		
Protection Circuit	-----		

**Other models available, please contact us for more information.**

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## PAB CLAMP

### Mounting LS MG20 & LS MG21 series on Round Cylinder



PAB	Step 1	Step 2	Step 3	Step 4
	<p><b>PAB-01</b> For 12 <math>\phi</math> ~ 63 <math>\phi</math> round cylinder use</p> <p><b>PAB-02</b> For 12 <math>\phi</math> ~ 125 <math>\phi</math> round cylinder use</p>	<p>1. Place the screw head into the clamp and wrap the band around the cylinder.</p> <p>2. Position the pin with the nearest hole on the band and mark the hole with a permanent marker.</p>	<p>1. Remove clamp assembly.</p> <p>2. Cut the band at next 2 adjacent hole from marked hole.</p>	<p>1. Insert cut end of the band into flat slot opposite from the clamp slot.</p> <p>2. Place the chosen hole over the pin and bend the band firmly down with thumb pressure.</p> <p>3. Wrap the band around cylinder barrel and re-insert screw Head into clamp.</p> <p>4. Position the switch and tighten.</p> <p><b>! ATTENTION!</b> Do not over tighten! Damage to the switch and/or cylinder may occur.</p>

## PBS CLAMP

### PBS Mounting LS MG33 series on Round Cylinder

## PBT CLAMP

### PBT Mounting LS MG30 & LS MG31 series on Round Cylinder

⇒ PBS clamp and PBT clamp are similar, and have the same instructions as below



PBS-01 PBT-01	Step 1	Step 2	Step 3	Step 4
	<p>For 6 <math>\phi</math> ~ 63 <math>\phi</math> round cylinder use</p> <p><b>PBS-02 PBT-02</b> For 6 <math>\phi</math> ~ 125 <math>\phi</math> round cylinder use</p>	<p>1. Place the screw head into the clamp and wrap the band around the cylinder.</p> <p>2. Position the pin with the nearest hole on the band and mark the hole with a permanent marker.</p>	<p>1. Remove clamp assembly.</p> <p>2. Cut the band at next 1 adjacent hole from marked hole.</p>	<p>1. Insert cut end of the band into flat slot opposite from the clamp slot.</p> <p>2. Place the chosen hole over the pin and bend the band firmly down with thumb pressure.</p> <p>3. Wrap the band around cylinder barrel and re-insert screw Head into clamp.</p> <p>4. Position the switch and tighten.</p> <p><b>! ATTENTION!</b> Do not over tighten! Damage to the switch and/or cylinder may occur.</p>

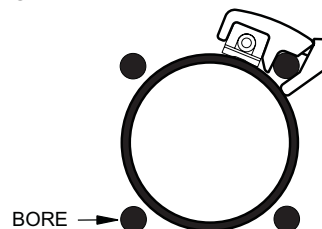
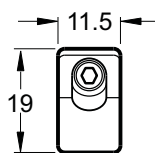
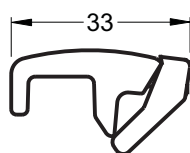
## PAC BRACKET

Mounting LS MG20 & LS MG21 series on Tie-Rod Cylinder



### PAC

MATERIAL: ZINC DIE-CAST



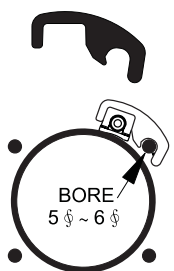
APPLY TO 32 \$ TO 125 \$ TIE-ROD CYLINDER ( BORE SIZE FROM 5 \$ TO 12 \$ )

## PM BRACKET

Mounting LS MG20 & LS MG21 series on Tie-Rod Cylinder



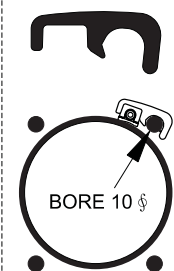
### PM - 6



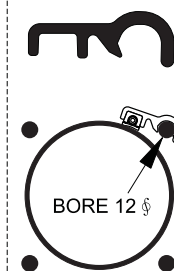
### PM - 8



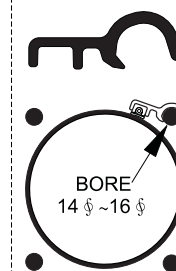
### PM - 10



### PM - 12



### PM - 16

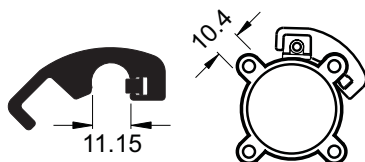


## PI BRACKET

Mounting LS MG20 & LS MG21 series  
on ISO Profile Cylinder

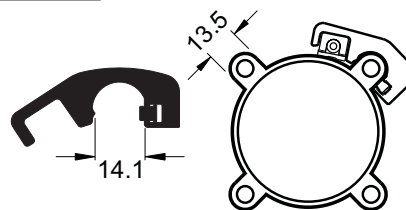


### PI-1



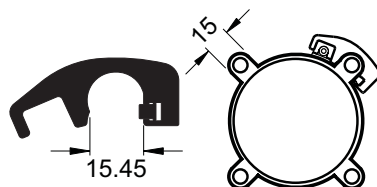
Apply to 32 \$ to 40 \$ ISO Profile Cylinder

### PI-2



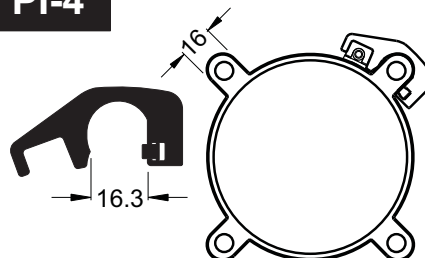
Apply to 50 \$ to 63 \$ ISO Profile Cylinder

### PI-3



Apply to 80 \$ ISO Profile Cylinder

### PI-4



Apply to 100 \$ ISO Profile Cylinder

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## PC BRACKET

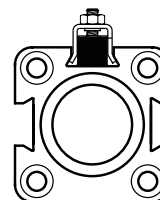
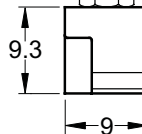
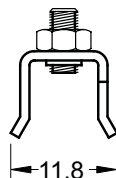
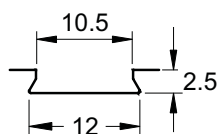
Mounting LS MG03 & LS MG15 series  
on Dovetail Groove Cylinder



### PC

MATERIAL: STAINLESS STEEL

DOVETAIL GROOVE



## PBO CLAMP

Mounting LS MG03 & LS MG15 series on Round Cylinder



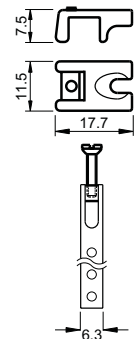
### PBO

#### PBO-01

For 6" ~ 63" round cylinder use

#### PBO-02

For 6" ~ 125" round cylinder use



#### Step 1

Start by keeping screw 3 to 4 turns into barrel nut on the end of the band assembly.

#### Step 2

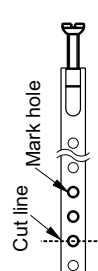
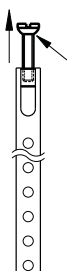
1. Place the screw head into the clamp and wrap the band around the cylinder.
2. Position the pin with the nearest hole on the band and mark the hole with a permanent marker.

#### Step 3

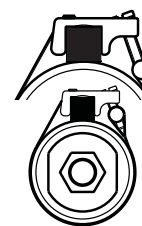
1. Remove clamp assembly.
2. Cut the band at next 2 adjacent hole from marked hole.

#### Step 4

1. Insert cut end of the band into flat slot opposite from the clamp slot.
2. Place the chosen hole over the pin and bend the band firmly down with thumb pressure.
3. Wrap the band around cylinder barrel and re-insert screw Head into clamp.
4. Position the switch and tighten.

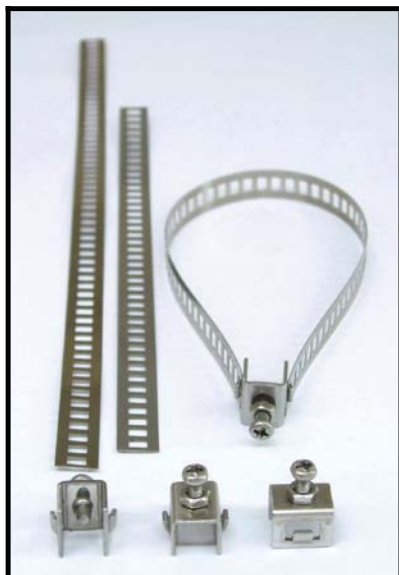


**ATTENTION!**  
Do not over tighten!  
Damage to the switch and/or cylinder may occur.



## PBK CLAMP

Mounting LS MG03 & LS MG15 series on Round Cylinder



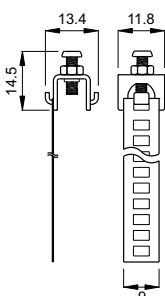
### PBK

#### PBK-01

For 6" ~ 40" round cylinder use

#### PBK-02

For 6" ~ 63" round cylinder use



#### Step 1

Loosen screw & nut.

#### Step 2

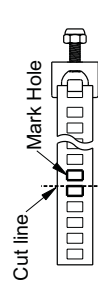
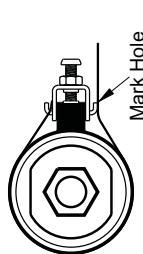
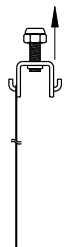
1. Place sensor & wrap the band around the cylinder.
2. Position the hook with the nearest hole on the band and mark the hole with a permanent marker.

#### Step 3

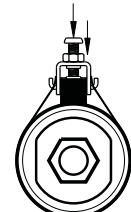
1. Remove mounting assembly.
2. Cut the band at the nearest edge of next hole.

#### Step 4

1. Re-place the sensor & mounting assembly.
2. Wrap the band & put the chosen hole on hook.
3. Position the switch and tighten.
4. Finally swivel nut for steady.



**ATTENTION!**  
Do not over tighten!  
Damage to the switch and/or cylinder may occur.



**LS MGM83M**



**LS MGM83F**



**LS MGM83FL**



**LS MGM124M**



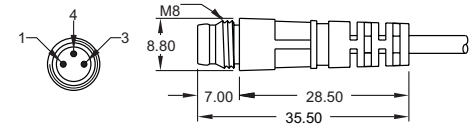
**LS MGM124F**



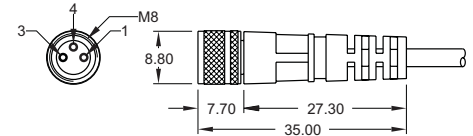
### LS MGM8 Connector

Note. The plastic dimensions are for reference only.

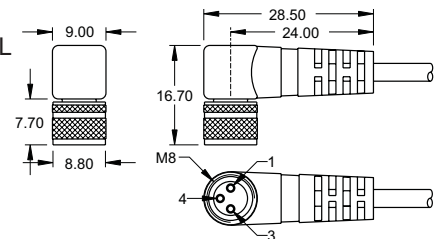
**LS MGM83M (MALE)**



**LS MGM83F (FEMALE)**



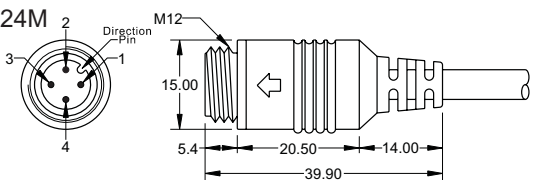
**LS MGM83FL (FEMALE)**



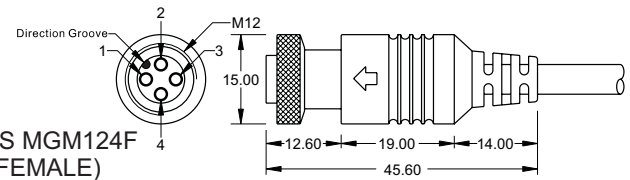
### LS MGM12 Connector

Note. The plastic dimensions are for reference only.

**LS MGM124M (MALE)**



**LS MGM124F (FEMALE)**



## SPECIFICATION

TYPE CHARACTERISTIC	LS MGM83M	LS MGM83F	LS MGM83FL	LS MGM124M	LS MGM124F
CONNECTOR TYPE	M8 3PIN Male (Straight)	M8 3PIN Female (Straight)	M8 3PIN Female (right-angle)	M12 4PIN Male ( Straight)	M12 4PIN Female (Straight)
LEAD WIRE COLOR	PIN 1: Brown,   PIN 3: Blue,   PIN 4: Black			PIN 1: Brown, PIN 2: NC, PIN 3:Blue, PIN 4: Black	
MAX. OPERATING VOLTAGE	60V AC/DC			250V AC/DC	
MAX. RATING CURRENT	3 A			4 A	
INSULATION BETWEEN CONTACTS	1.0 KV			1.4 KV	
INSULATION BETWEEN CONTACTS & METAL HOUSING	0.85 KV			1.4 KV	
PIN COATING	5M GOLD COATING				
NUMBERS OF MECHANICAL OPERATIONS	Over 100 times				
TEMPERATURE RANGE	-25 ° ~ 85 °				
CABLE TENSION FORCE IN CONNECTED	30 N				
IP DEGREE PROTECTION	IP 67 (IEC 60529)				
STANDARD	IEC 61076-2-101				

## EXAMPLE: FEMALE QUICK CONNECTOR

**LS MG - 83FL R H - 02**

### Special Type Orders Available

#### Cable Length

- 01 : The length of cable is 1 M
- 03 : The length of cable is 3 M (Standard Length)
- ⋮ : ⋮
- 05 : The length of cable is 5 M

#### Cable Color

- B : Color of Cable is Black, 3 Wire (Standard Color)
- G : Color of Cable is Gray, 2 Wire

#### Cable Diameter

- 2.9 : Cable Diameter is 2.9 mm
- 3.3 : Cable Diameter is 3.3 mm
- 4 : Cable Diameter is 4.0 mm (Standard Diameter)

#### Connector Type

- 83F : M8\*3PIN Female Connector, Straight direction Outlet.
- 83FL : M8\*3PIN Female Connector, Angle direction Outlet.
- 124F : M12\*4 PIN Female Connector, Straight direction Outlet.

**Other models available, please contact us for more information.**

We reserve the right to discontinue models, or change specifications without notice or incurring obligation.

**SAFETY CAUTION:** The devices in this catalog must not be used in applications where the safety of people is dependent on their functioning.