Magnetic Sensors
For Cylinder Position Sensing

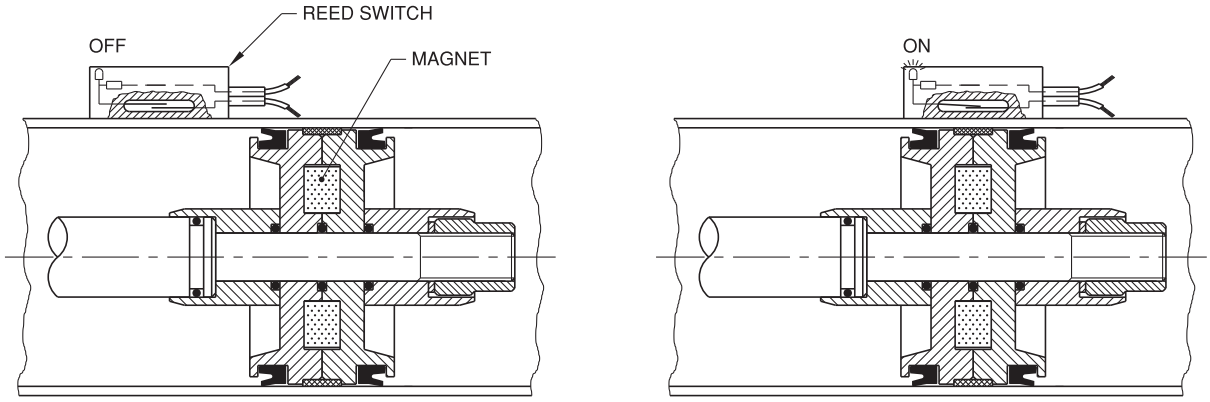
MERCURY

MODEL 71-036

MODEL 71-037

MODEL 71-038

Working Principle



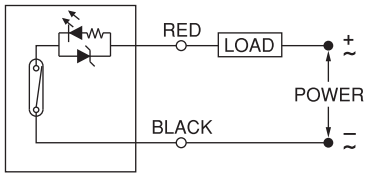
Piston is away from the reed switch

Piston is near the reed switch

The cylinder piston is fitted with a permanent magnet. The normally open contacts of the reed switch close when the piston comes near the switch.

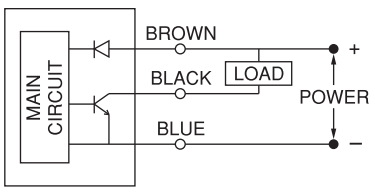
Technical Infomation

1. Do not exceed rated specifications, permanent damage to the sensor may occur.
2. For reed switch type sensors (Model 71-038), polarity must also be observed for the proper functioning of LED. Connect the red wire in series with load positive (+) and the black wire to negative (-) of power source. If the polarity is reversed, reed switch remains functional but LED will remain in “OFF” state.

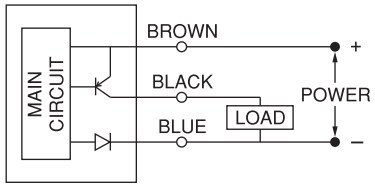


71-038

3. For solid-state type sensors, polarity must also be observed. Connect brown wire to the positive (+) and the blue to the negative (-) of DC power source. The black wire must connect to the load only. If the black wire is accidentally connected to the power source, permanent damage to the sensor may occur.



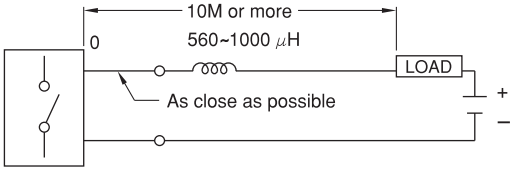
71-036 (NPN Output)



71-037 (PNP Output)

4. An external protection circuit may be required if the reed switch is used with inductive load, such as relay or solenoid. For DC inductive load, attach an external diode parallel to the load and use R-C circuit parallel with AC inductive load as illustrated below.

5. Keep sensors away form stray magnetic field to prevent malfunctions.
6. When using reed switch with capacitive load or if the lead wire length exceed 10-metre, an inductor must be installed in series with the sensor to prevent damage (Sticking effect).

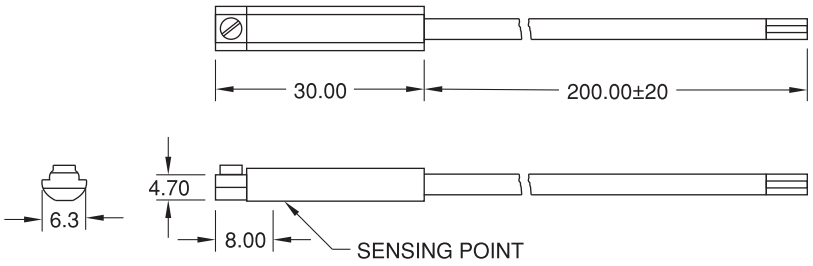


Technical Specification

Type	71-036	71-037	71-038
Wiring Method	3-Wire Type		2-Wire Type
Switching Logic	Solid State Output, Normally Open		SPST, Normally Open
Sensor Type	NPN Current Sinking	PNP Current Sinking	Reed Switch
Operating Voltage	10~30V DC		5~240V DC/AC
Switching Current	100mA. max.		
Max. Switching Power	3 W		10W OHMIC
Current Consumption	20mA @ 24VDC max.		–
Voltage Drop	2V max.		3.0V max.
Leakage Current	0.05 mA max.		–
Indicator	Red LED	Yellow LED	230VAC-Red, 24VDC-Yellow LED
Cable	3 Wire x 2 Metre		2 Wire x 2 Metre
Operating Frequency	1000 Hz		200 Hz
Magnet Requirement (Note 1.)	60 Gauss Parallel		
Temperature Range	-10~70 °C		
Enclosure Classification	IEC 529 IP 67		
Protection Circuit	Reverse Polarity, short-circuit		None

Dimensions

MODEL 71-036, 71-037 & 71-038



Housing 'T' Slot Dimensions