Compact Two-Piece Reed Proximity Switches

40FR

50FR

FEATURES

- Magnetically actuated reed switch . . . matching permanent magnet unit
- Compact size
- Long life
- Rhodium plated, hermetically sealed contacts
- Electrically compatible with solid state logic requirements
- 40FR switch and 41FR magnet . . . Contact area hermetically glass-to-metal sealed

  Epoxy embedded terminals to prevent shorting

  Epoxy embedded reed for shock and vibration protection
- 50 FR switch and 52FR1 magnet

  Enclosed in high impact thermoplastic housings

  Embedded in epoxy for protection from shock, vibration, environmental abuse

  Particularly suited for use in portable equipment and as a liquid level sensor in a float

40/50 FR ORDER GUIDE

Contact Arrangement	Catalog Listing	
SPNO Preleaded	40FR1-3	50FR2-3-1
SPNC Preleaded	40FR2-3-1	50FR3-3-1
SPDT Preleaded	40FR3-3-1	50FR4-3-1
SPNO Connector	40FR1-33	
SPDT Connector	40FR3-33-1	
SPNO Armour Cable	40FR1-3-AG1	
Magnet Actuator	41FR2	52FR1

N.O. condition: actuator is not present.

SPECIFICATIONS

Electrical Ratings All Listings

DC 10 watts max. resistive Max. voltage, 100 VDC Max. current, 300 mA		AC 10 VA max. inrush or res. Max. voltage, 132 VAC Max. current, 750 mA	
VDC	Max. Current	VAC	Max. Current
10-20	300 mA	48	300 mA
100	100 mA	120	85 mA
30	300 mA		

Contact Resistance: 200 milliohms max. (initial), up to 2 ohms max. during life.
Insulation Resistance: 100 megohms min. at 200 VDC.
Dielectric Strength: 200 VAC RMS, 60 Hz between two wire leads with contacts fully open.

APPLICATION PRECAUTIONS

1. Do not subject these switches to the influence of strong magnetic fields.
2. When the magnet is exposed to ferrous filings, a loss of sensitivity can be expected.
3. Use arc suppression networks to extend life in inductive circuits.
4. Do not subject these switches to extreme vibration.

Electrical Life: Up to 30,000,000 operations, depending on load. Virtually infinite life at reduced loads.
Temperature Range: −40° to +125°C (−40° to +257°F)
Material: Housings 40 FR- Polycarbonate, 50 FR- Glass filled Diallyl Phthalate (DAP) wire insulation 40/50 FR- extruded polyalkene.

MICRO SWITCH CABLES FOR CONNECTOR VERSIONS ORDER GUIDE

Type	Catalog Listing
2 m Straight Micro Connector	804000A09M020
5 m Straight Micro Connector	804000A09M050
2 m Right Angle Micro Connector	804001A09M020
5 m Right Angle Micro Connector	804001A09M050

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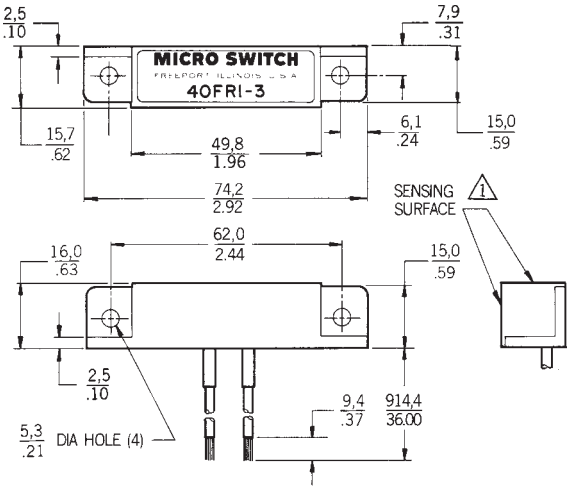
OPERATING CHARACTERISTICS

	40FR	50FR
Sensitivity*	**SPNO**	
Operate Point	19,8 ± 7,6 .780 + .225	11,4 ± 3,8 .450 + .150
Release Point	42,7 max. 1.68 max.	17,8 max. .700 max.
Hysteresis	2,54 min. .100 min.	2,54 min. .100 min.

*Based on head-on mode and 2 inch (50,8 mm) mounting centers. Closer spacing may result in reduced sensitivity.

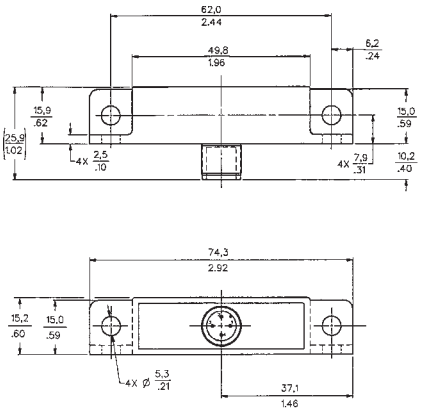
MOUNTING DIMENSIONS mm
(For reference only) in.

40FR1-3



1 TO ACTUATE THE 40FR-3 SWITCH, ONE OF ITS SENSING SURFACES SHOULD BE TOWARD THE ACTIVE FACE OF THE 41FR2 MAGNET ACTUATOR.

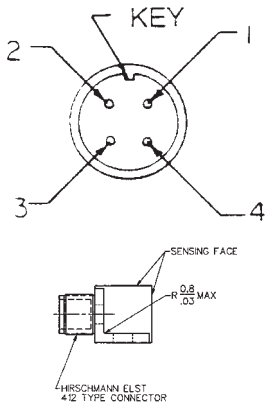
40FR1-33/40FR3-33-1



41FR2 Magnet Actuator is same dimensions except no leadwire or connector.

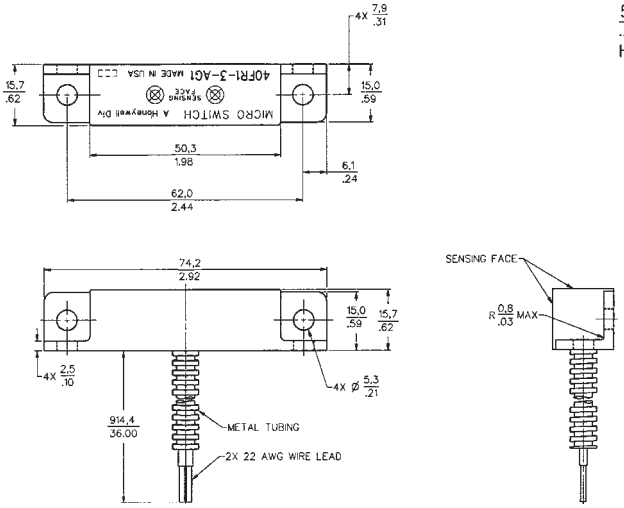
2-WIRE DC TYPE

Sensor Pinout

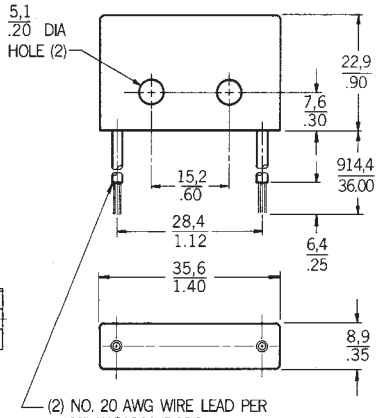


Pin 1 – Common
Pin 2 – No Function
Pin 3 – N.C.
Pin 4 – N.O.

40FR1-3-AG1

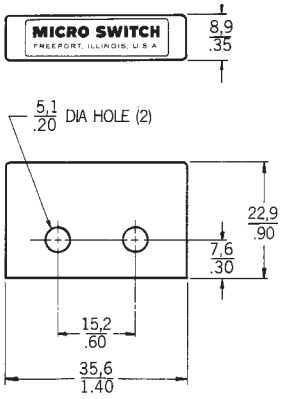


50FR



THE 50FR-3 SWITCH CAN BE ACTUATED WITH THE 52FR1 MAGNET ACTUATOR.

52FR1



2-WIRE NON-POLARITY SENSITIVE (shown on wire)
1-20 Common
2-20 N.O.
3-20 N.C.

Proximity