micronor

FIBER OPTIC SIGNALING

MR381 ZapFREE® Emergency Actuator Switch Sensor

The MR381 Series Emergency Actuator (E-ACTUATOR) Switch is a new, innovative emergency signalling system that can be deployed where EMI immunity is required, in hazardous environments or over long distances - beyond the capabilities of conventional electromechanical solutions. The MR381 E-ACTUATOR system employs a photo interrupt scheme operating over either a duplex multimode or duplex single mode optical link.

The MR381 E-ACTUATOR is designed for safety applications where a system is not to be activated or powered, such as a fire suppression system, until the E-ACTUATOR is deliberately pushed and engaged. A malfunction of the system shall not activate the emergency event.
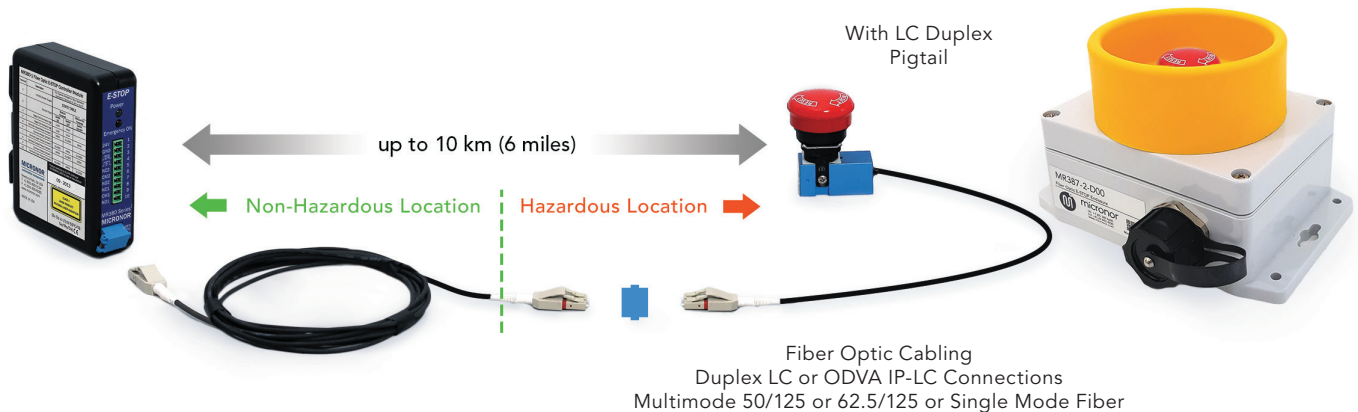
ZAP FREE®

Ex

Inherently Safe, Simple Mechanical Device
EPL Mb/Gb/Gc/Db/Dc

MR380-1 Controller
24 VDC, Digital, Relay Contacts

MR381 E-ACTUATOR Sensor

Multiple sensors can be optically wired in series

Panel Mount Housing with ODVA IP-LC Receptacle, IP65

With LC Duplex Pigtail

up to 10 km (6 miles)

← Non-Hazardous Location | Hazardous Location →

Fiber Optic Cabling
Duplex LC or ODVA IP-LC Connections
Multimode 50/125 or 62.5/125 or Single Mode Fiber

Features

- Sensor is EX Classified "Inherently Safe, Simple Mechanical Device"
- Sensor can be operated in any hazardous or explosive environment - gas, dust, mines, etc.
- Immune to EMI, RFI, lightning, and ground loops
- Immune to high voltage lines
- Panel mountable sensor
- Choice of Ø30mm or Ø40mm mushroom button
- Operates over short to long distances - up to 10 km
- DIN rail mount and OEM controller available

Sensor Specifications

Functional States	MR380-1 Controller Output States
Normal RESET (Up Position) Broken Fiber, Loss of Optical Signal, or Controller Failure	Red LED is ON Digital 5V and 24V Outputs=LOW Relay NC contacts=Open, Relay NO contacts=Closed
ACTIVATED (Down Position)	Red LED is OFF Digital 5V and 24V Outputs=HI Relay NC contacts=Closed, Relay NO contacts=Open
Optical Interface	
Interface	Duplex LC for pigtailed sensors, MR381-XX-YY where YY is pigtail length in meters ODVA IP-LC connector receptacle, MR381-XX-D00 sensors in housing
Insertion Loss	MR381-2X-XX, IL=2.5dB max (2dB typical), 62.5/125 OM1 MM Fiber MR381-3X-XX, IL=5.0dB max (3dB typical), 9/125 OS1 SM Fiber MR381-5X-XX, IL=3.5dB max (3dB typical), 50/125 OM2/OM3 MM Fiber Consult Application Note AN118 for guidance on determining system loss budget and maximum distance
Explosive Atmospheres	**Inherently Safe, Simple Mechanical Device**
EX Classification	Inherently safe, simple mechanical device when used with MR380 Controller IECEx Test Report GB/CML/ExTR 16.0105.00/00
ATEX	C€ EPL Mb/Gb/Gc/Db/Dc
EAEU/GOST	EPL Mb/Gb/Gc/Db/Dc
IEC Ex	EPL Mb/Gb/Gc/Db/Dc
North America	Exempt, non-electrical
Environmental	
Temperature/Humidity	-40°C to +65°C (-40°F to +150°F), 0-95% RH, Non-Condensing
Ingress Protection	IP61
Mechanical	
Housing	Aluminum housing, anodized finish
Durability	100,000 operations min.
Physical	
Housing Dimension	Consult Mechanical Reference Drawing
Mounting	Consult Mechanical Reference Drawing
Unit Weight	Sensor with 5 meter pigtail, 240 g (8.5 oz)

Specifications subject to change without notice

Ordering Info

M R 3 8 1 - 2 S - 0 3

Fiber
2   62.5/125 MMF (OM1)
3   9/125 SMF (OS1)
5   50/125 MMF (OM2/OM3)

Mushroom Button Size
S   Ø30mm
M   Ø40mm

Optical Interface/Pigtail Length
1R5   LC Duplex Pigtail, 1.5m
03   LC Duplex Pigtail, 3 m
05   LC Duplex Pigtail, 5m
10   LC Duplex Pigtail, 10m
D00   Panel Mount Housing with Switch Guard and
         ODVA IP-LC Connector Receptacle

Quick Ship Configurations:

MR381-2S-03	E-Actuator, Ø30mm Button, 62.5/125 MMF, Pigtail 3m
MR381-2S-D00	E-Actuator in Panel Mount Housing, Ø30mm Button, 62.5/125 MMF, ODVA IP-LC Interface
MR381-3S-03	E-Actuator, Ø30mm Button, SMF, Pigtail 3m
MR381-3S-D00	E-Actuator in Panel Mount Housing, Ø30mm Button, SMF, ODVA IP-LC Interface
MR381-5S-03	E-Actuator, Ø30mm Button, 50/125 MMF, Pigtail 3m
MR381-5S-D00	E-Actuator in Panel Mount Housing, Ø30mm Button, 50/125 MMF, ODVA IP-LC Interface
MR380-0-1	OEM Controller, 850nm Multimode
MR380-0-1E	OEM Controller, 850nm Multimode, Extended Temperature
MR380-1-3	DIN Rail Mount Controller, Universal Single Mode/Multimode, 1310nm