

FIBER OPTIC SIGNALING

MR380-0-UNI Universal OEM Controller

MR380 SERIES

The MR380-0-UNI Universal Controller is intended for the OEM user in support of the MR380 series ZapFREE® Fiber Optic Signaling products. Fiber optic sensors outperform electromechanical and electronics-based sensors, where:

- Immunity to EMI, RFI and lightning is required
- High voltage isolation is needed
- Interference-free operation over long distances is vital
- Hazardous area mandates an inherently safe solution



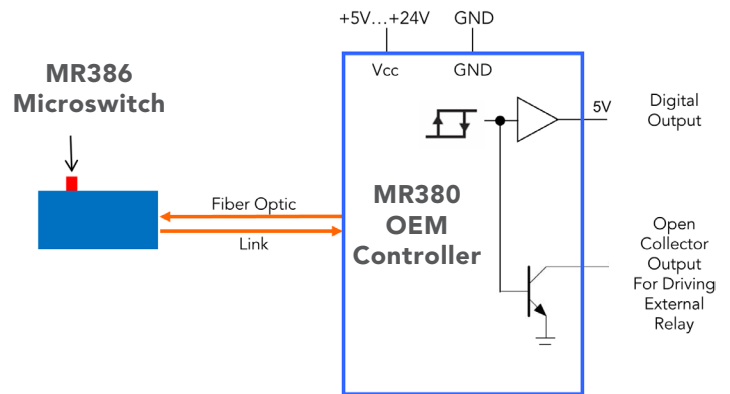
Inherently Safe, Optical Radiation
[EPL Mb/Gb/Gc/Db/Dc]

Applications

- Medical and MRI
- Transportation
- Oil, gas and mines
- Robotic systems
- Process industries and instrumentation
- Aerospace actuators

Interfaces

- Multimode or Single Mode Fiber
- Digital output
- Open-collector output for activating external relay
- Operates from +5V to +24V



System Planning

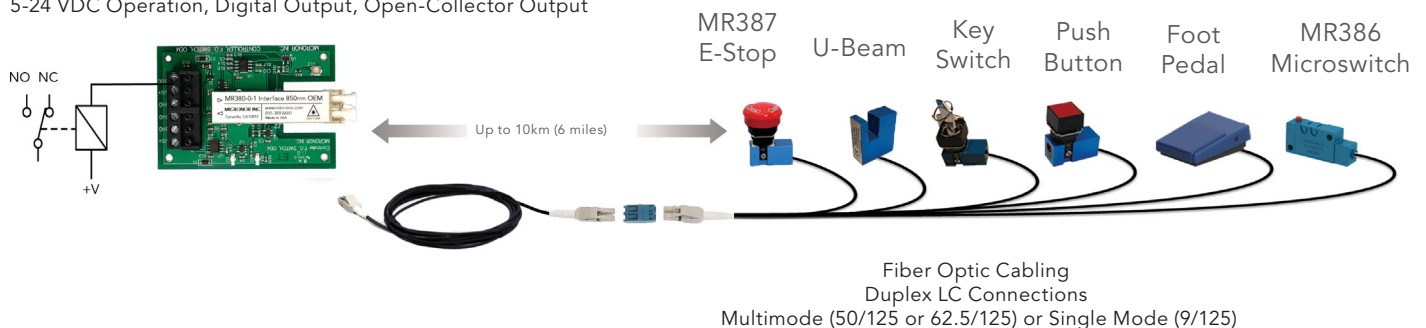
MR380-0-UNI Universal OEM Controller

Inherently Safe, Optical Radiation

5-24 VDC Operation, Digital Output, Open-Collector Output

MR38X Sensors

Simple Mechanical Device



Fiber Optic Cabling
Duplex LC Connections
Multimode (50/125 or 62.5/125) or Single Mode (9/125)

1. Select cabling and junction boxes compatible with the operating environment.
2. Verify that the optical link loss is within the Controller's two-way loss margin.
3. Consult Application Note AN118 for more information, examples and guidance.

Specifications

Functional States		MR386 Series Fiber Optic Microswitch
For Normally Open (NO) Microswitch		
- Plunger Up		LED=Off, Logic Output=LO, Open Collector Output=OFF
- PlungerDown (Normal State)		LED=On, Logic Output=HI, Open Collector Output=ON
For Normally Closed (NC) Microswitch		
- Plunger Up (Normal State)		LED=On, Logic Output=HI, Open Collector Output=ON
- Plunger Down		LED=Off, Logic Output=LO, Open Collector Output=OFF
Functional States		MR387 Series Fiber Optic Emergency Stop
E-Stop in Up Postion (Reset State) (Light throughput-Monitoring State)		LED=On, Logic Output=HI, Open Collector Output=ON
E-Stop in Down Position (E-State) (Light interrupted)		LED=Off, Logic Output=LO, Open Collector Output=OFF
Electrical		NOTE: Electrical connections shall not exceed 3 meters.
Logic Output		High=4.5V min (2k Ω Load), Low=0.25V max
Open Collector Output		Maximum Load Voltage=24 VDC Maximum Current 180mA, Protected by resetable fuse
Power Supply		+5V to +24V DC maximum, <80mA input
Optical		Class 1 Eye Safe
Laser Safety Classification		Class 1 Eye Safe, 1310nm, VCSEL
Compatible Fiber Types		62.5/125 μ m OM1 Multimode Fiber 50/125 μ m OM2/OM3 Multimode Fiber 9/125 μ m OS1 Single Mode Fiber
Optical Loss Margin		OM1=21dB, OS1=18dB, max
Maximum Optical Link Length		Distance is a function of the user's system loss budget which is the total round-trip loss of all optical link components - multiple sensors, connectors, splices and cable segments. Consult Application Note AN118 for more information. Contact Micronor for longer distance applications.
Interface		
Electrical		CamdenBoss P/N CTB1301/6A (one included with Controller) 6C, Screw-Type Terminal Plug, 5mm contact spacing, 1.5mm cable entry
Optical		LC Duplex, PC Polish
Explosive Atmospheres		Inherently safe, optical radiation
EX Classification		Controller shall be installed in non-hazardous location only NOTE: Power supply shall be limited to 200mA or less
ATEX		c \bar{c} [EPL Mb/Gb/Gc/Db/Dc]
IEC Ex		[EPL Mb/Gb/Gc/Db/Dc]
NEC		Exempt
Environmental Performance		
Temperature/Humidity		-40°C to +70°C (-40°F to +158°F)
Humidity		0%-85% RH, Non-Condensing
Ingress Protection		IP00 (none)
Vibration/Shock		Performance depends on mounting. Consult factory when designing for high shock and vibration environment.
Physical Attributes		
Mounting		4x #2-56 or M2.5 screws, Mounting Pattern=1.60 x 2.60 inches
Size		5.08 x 7.62 cm (2.00 x 3.00 inches)
Weight		25 g (1 oz)
Country of Origin		Switzerland

Specifications subject to change without notice

Ordering Info

MR380-0-UNI

Quick Ship Configurations:

MR380-0-UNI Universal OEM Controller, SM/MM, 1310nm
MR380-1-3 Universal DIN Rail Mount Controller, SM/MM, 1310nm

Compatible Sensors:

MR386 MICROSWITCH Sensor, consult separate MR386 data sheet.
MR387 E-STOP Switch Sensor, consult separate MR387 data sheet.

Replacement Part:

50-CTB13016A/6A CamdenBoss Terminal Plug

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