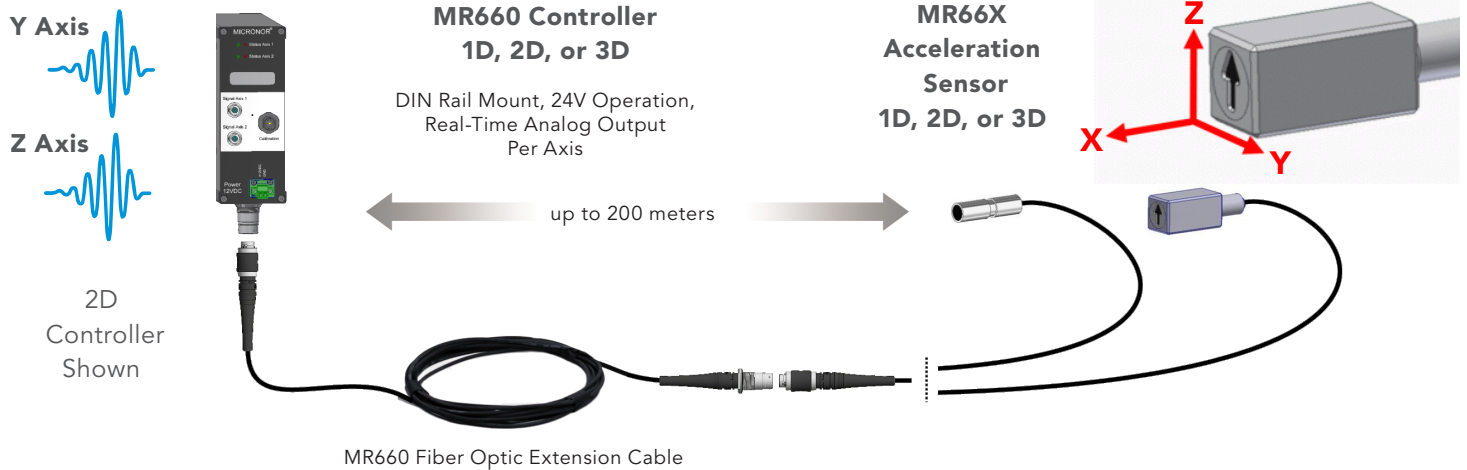


# FIBER OPTIC ACCELEROMETER

## MR660 Multi-Axis Fiber Optic Acceleration Sensor System

The MR660 series Multi-Axis Fiber Optic Accelerometers are 100% passive sensors based on an opto-mechanical acceleration sensor. The sensing device is a micromechanical silicon mirror (MEMS) which deflects a light beam proportional to the acceleration. The innovative sensor can be placed in a harsh environment and isolated from the measurement electronics by optical fibers. Applications include: Pantograph, Transformer End-Winding, MRI, Motors, Mining, Oil and Gas.

Paired with a MR660 series Signal Conditioner, the Acceleration Sensor output signal per axis is 100mV/g pk-pk within frequency range of 0.5Hz to 1100Hz (-3dB BW).



### Features

- 100% passive sensor - no electronics whatsoever
- Immune to EMI, RFI, high voltage, and magnetic fields
- Low noise density
- Inherently safe sensor can be installed in all manner of explosive atmospheres - mines, gas, or dust
- DIN Rail Mount Signal Conditioner

### Applications

- Wind Turbine Blades
- Electric Train Pantograph
- Transformers and other High Voltage Switchgear
- Generators and Motors
- MRI

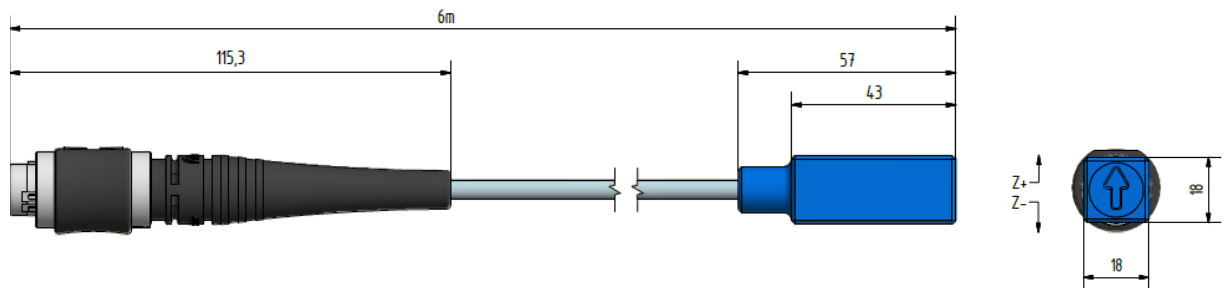


# Sensor Specifications

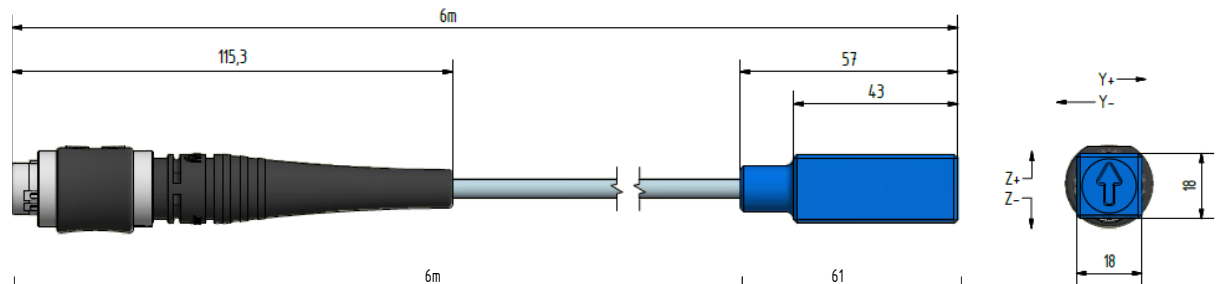
Measurement Parameters	100% passive design
Maximum Frequency (-3dB BW)	1100 Hz, max
Minimum Frequency	0.5 Hz
Linearity	3%, max
Measuring Range	50 g, max
Maximum Shock (Survival)	1500 g
Noise Density	100 µg/Hz, max
Sensitivity	0.6 dB/g, typical
Optical Interface	
Fiber	Multimode 100/125 µm Step Index Fiber
Optical Interface	1-Axis and 2-Axis Sensors: Fischer F04 Multichannel Connector 3-Axis Sensor: 3x Duplex E-2000 Connectors
Sensor Length	6 m
Explosive Atmospheres	
EX Classification	Inherently safe, simple mechanical device when used with MR660 series Controller.
Environmental	
Operating Temperature	-40°C to +85°C (-40°F to +185°F)
Storage Temperature	-40°C to +155°C (-40°F to +311°F)
Ingress Protection	IP68
Physical Attributes	
Unit Weight	MR661, 230 g (0.51 lbs)
Materials	Housing=Aluminum, Internal Sensor=Stainless Steel

Specifications subject to change without notice

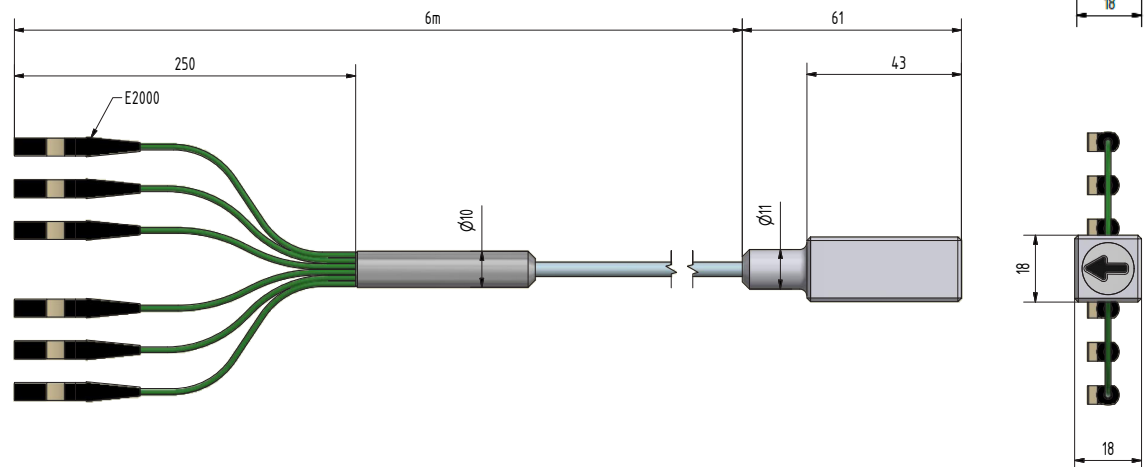
**MR662  
1-Axis  
Sensor**



**MR663  
2-Axis  
Sensor**



**MR664  
3-Axis  
Sensor**

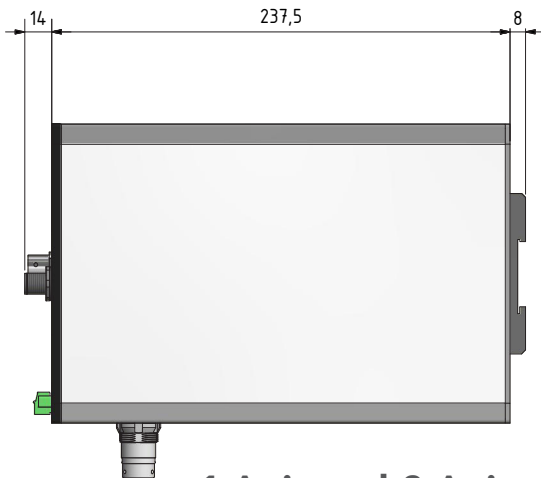
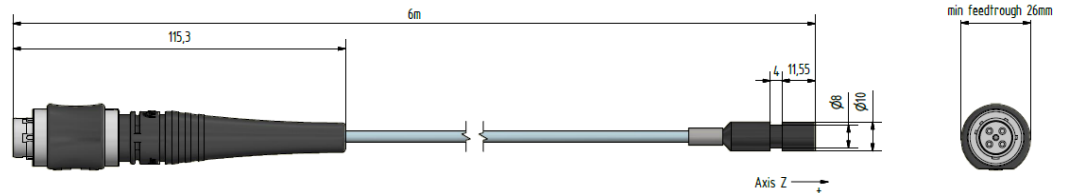


# Controller Specifications

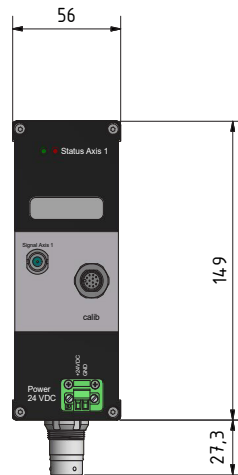
Acceleration Measurement		DIN Rail Controller	
Nominal Sensitivity	100 mV/g pk-pk, 5V max=50 g max		
Electrical Interface			
Power Supply	12 VDC nominal, 1.5V min to 12.5V max, 350 mA typical (MR660-3), via 2C Phoenix Combicon Connector		
Analog Output	100 Ohm impedance via BNC		
Amplitude Non-Linearity	5%, max		
Traverse Sensitivity	3%, max		
Optical Interface		Class 1, LED, 850nm	
Interface	1-Axis and 2-Axis System: Fischer F04 Multichannel Connector 3-Axis System: 3x Duplex E-2000 Connectors		
Maximum Optical Link Length	Lesser of 200m or Optical Loss Budget. Distance depends on the user's system loss budget which is the total round-trip loss of all optical link components. Contact Sales for long distance applications.		
Explosive Atmospheres		Inherently Safe, Optical Radiation	
EX Classification	Controller shall be installed in non-hazardous location only		
Environmental			
Temperature Range	-40°C to +85°C (-40°F to +185°F)		
Ingress Protection	IP50		
Physical Attributes			
Unit Weight	MR661, 460 g (16.2 oz)		
Materials	Aluminum Housing		

Specifications subject to change without notice

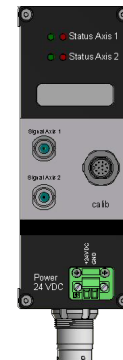
## MR661 1-Axis Sensor



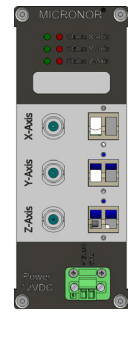
**1-Axis and 2-Axis  
Signal Conditioner  
Module**



**MR660-1  
1-Axis**



**MR660-2  
2-Axis**

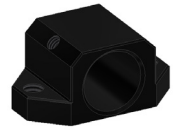


**MR660-3  
3-Axis**

## Ordering Info

### 1-Axis Accelerometer System

MR661 1-Axis Accelerometer Sensor, Rectangular Body, Length=6 meters  
MR662 1-Axis Accelerometer Sensor, Round Body, Length=6 meters  
6099.26.180 Mounting Adapter for Round 1-Axis Sensor



MR660-1 1-Axis DIN Rail Controller

DIST-MR662-XXX FO Extension Cable, Length=XXX meters (5, 10, 20, etc.)

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### 2-Axis Accelerometer System

MR663 2-Axis Accelerometer Sensor, Rectangular Body, Length=6 meters  
MR660-2 2-Axis DIN Rail Controller

DIST-MR663-XXX FO Extension Cable, Length=XXX meters (5,10, 20, etc.)

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### MR664, 3-Axis Accelerometer System

MR664 3-Axis Accelerometer Sensor, Rectangular Body, Length=6 meters  
MR660-3 3-Axis DIN Rail Controller

DIST-MR664-XXX FO Extension Cable, Length=XXX meters (5, 10, 20, etc.)

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