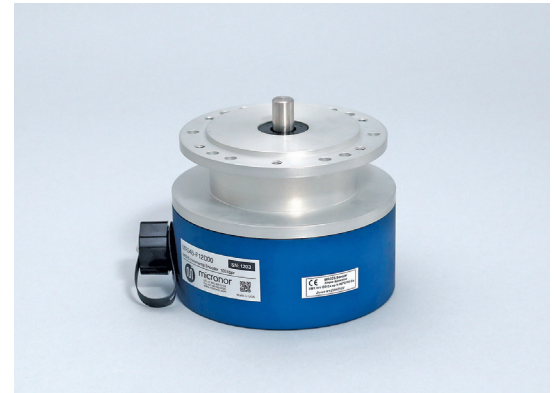


# FIBER OPTIC INCREMENTAL ENCODER

## MR345 ZapFREE® Size 125mm Fiber Optic Incremental Encoder

The MR345 ZapFREE® Heavy Duty Fiber Optic Incremental Sensor is an entirely passive, intrinsically safe, fiber optic incremental rotary encoder – ideal for a wide range of harsh and hazardous environmental applications. The passive, all-optical Sensor connects to the remote Controller via a standard duplex 62.5/125 multimode optical fiber link.



U.S. Patent 7,196,320  
Inherently Safe, Simple Mechanical Device  
EPL Mb/Gb/Gc/Db/Dc

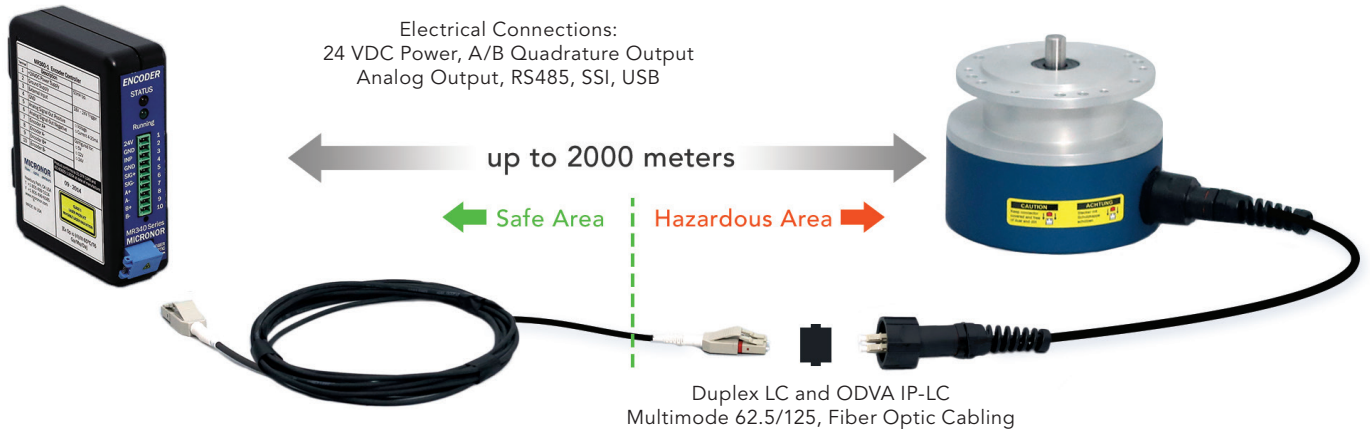
The remote MR340 Controller Module transmits and converts optical signals to/from the Sensor. The Controller's multiple built-in interfaces insure compatibility with industry standard motor drives, PLCs, quadrature counters, and motion control systems.

### MR340-1 Controller

Inherently Safe Optical Radiation

### MR345 Sensor

Simple Mechanical Device



## Features

- 100% passive sensing design - no electronics whatsoever
- Sensor can be installed in all manner of hazardous and potentially explosive atmospheres - mines, gas and dust
- Immune to EMI and RFI for safe use in and around medical equipment, VFD drives and other "noisy" industrial environments
- Immune to lightning and high voltage which "zaps" electronics-based encoders
- Outdistances copper, link lengths to 2000m
- Temperature range -40°C to +80°C;
- Special versions can be engineered for radiation and high temperature environments
- DIN Rail Mount and OEM PCB controllers available



# Specifications

Measurement Parameters	
Resolution	1024ppr
Max Speed	3600 RPM Continuous
Mechanical Parameters	
Rotor Moment of Inertia	6.65E-4 kg*m <sup>2</sup>
Starting Torque	1.79E-3 N*m
Max Shaft Loads	Radial = 300N (67 lbf), Axial = 200N (22 lbf)
System MTBF	L10 Bearing life calculated at 50% of max radial and axial load at 3000 RPM: 1.128E+05 hours (12.9 years)
Optical Interface	
Optical Interface	ODVA IP-LC Receptacle, 62.5/125µm Graded Index Fiber, 0.275NA, Type OM1
Link Length	Up to 2000m (6560 ft). with MR340 Controller
Explosive Atmospheres	
EX Classification	Inherently safe, simple mechanical device when used with a MR340 Controller
ATEX	EPL Mb/Gb/Gc/Db/Dc
IECEX	EPL Mb/Gb/Gc/Db/Dc
Environmental Attributes	
Temperature/Humidity	-40°C to +80°C, 0%-95% RH (non-condensing)
Ingress Protection	IP67 (temporary submersion)
Physical Attributes	
Housing Dimension	Ø 125mm x 92mm
Unit Weight	1505 g (53 oz)
Materials	Body: Anodized Aluminum; Shaft and Bearings: Stainless Steel

Specifications subject to change without notice

## Ordering Info

**MR345 - F 12 D00**

### Resolution Options

**F** 1024ppr

### Shaft Size

**12** 12mm OD

### Termination Option

**D00** ODVA IP-LC receptacle

### Quick Ship Configurations:

**MR345-F12D00** Sensor, 1024ppr, 12mm Shaft, ODVA IP-LC Connector Receptacle

**MR340-0** OEM Controller

**MR340-1** DIN Rail Mount Controller

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