

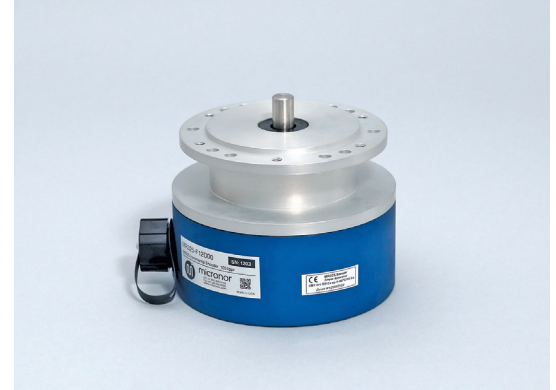
# FIBER OPTIC INCREMENTAL ENCODER

## MR325 ZapFREE® Size 125mm Fiber Optic Incremental Encoder

Questions?  
Call 805.389.6600

MR320 SERIES

The MR325 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 MR320 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.

### MR320 Controller

Inherently Safe Optical Radiation



Electrical Connections:  
24 VDC Power, A/B Quadrature Output  
Analog Output, RS485 Serial Interface

up to 2500 meters

Non-Hazardous Location

Hazardous Location

### MR325 Sensor

Simple Mechanical Device



Duplex LC and ODVA IP-LC  
Multimode 62.5/125, Fiber Optic Cabling

## 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 2500m
- Temperature range -40°C to +80°C;
- Special versions can be engineered for radiation and high temperature environments



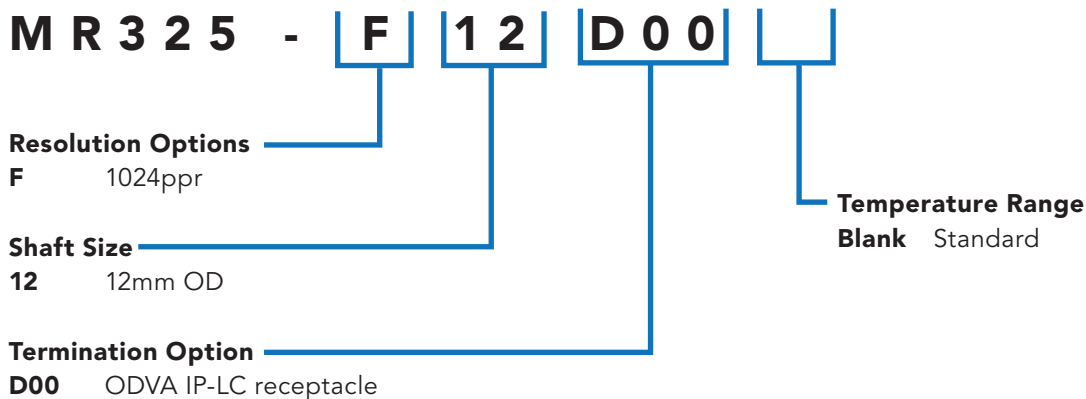
VFD  
Drive  
System

# Specifications

Measurement Parameters	
Resolution	1024ppr
Max Speed	3600 RPM Continuous Note: MR320 Auxiliary modes are processor-dependent functions.; e.g. Divider, Multiplier, Position Counter, and Analog Outputs. Unused Auxiliary functions should be turned OFF. Contact Micronor for more information about speed versus operational trade-offs.
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 2500m (3280 ft). with MR320 Controller
Explosive Atmospheres	
EX Classification	Inherently safe, simple mechanical device when used with MR320 Controller IECEX Test Report (ExTR) GB/CML/ExTR 16.0039/00
ATEX	EPL Mb/Gb/Gc/Db/Dc
IECEX	EPL Mb/Gb/Gc/Db/Dc
NEC	Exempt
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



### Quick Ship Configurations:

**MR325-F12D00** Sensor, 1024ppr, 12mm Shaft, ODVA IP-LC Connector Receptacle  
**MR320** Controller

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