

FIBER OPTIC INCREMENTAL ENCODER

MR322 ZapFREE® Size 58mm Fiber Optic Incremental Encoder

The MR322 series ZapFree® 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.



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.



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

MR320 Controller

Inherently Safe Optical Radiation



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

up to 2500 meters

MR322 Sensor

Simple Mechanical Device

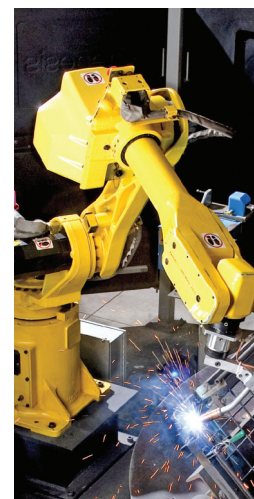


Non-Hazardous Location Hazardous Location



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 and "noisy" industrial environments
- Immune to lightning and high voltages
- Outdistances copper, link lengths to 2500 meters
- Standard model operates over -40°C to +80 °C
- Extended Temperature option covers -60°C to +150 °C
- Special versions can be engineered for radiation and vacuum environments



Sensor Specifications

Measurement Parameters	
Resolution	100, 128, 256, 360ppr (Consult Micronor for special requirements)
Max Speed	8,000 RPM continuous
Mechanical Parameters	
Moment of Inertia	1.0585E-6 kg*m ²
Starting Torque	1.28E-5 N*m
Max Shaft Loads	Radial = 80 N (18 lbf), Axial = 40 N (9 lbf)
System MTBF	L10 Bearing life calculated at 50% of max radial and axial load at 2500 RPM: 1.78E+05 hours (20.3 years)
Optical Interface	
Optical Interface	LC Duplex, 62.5/125µm Graded Index Fiber, 0.275NA, Type OM1
Link Length	Up to 2500 meters with MR320 Controller
Explosive Atmospheres	
EX Classification	Inherently safe, simple mechanical device when used with MR320 Controller IECEX Test Report (IEExTR) GB/CML/ExTR 16.0039/00
ATEX	EPL Mb/Gb/Gc/Db/Dc
IEC Ex	EPL Mb/Gb/Gc/Db/Dc
NEC	Exempt
Environmental Attributes	
Temperature/Humidity	Standard: -40°C to +80°C, 0%-95% RH (non-condensing) Extended: -60°C to +150°C, 0%-95% RH (non-condensing), Not available with D00 Option
Ingress Protection	IP64 (splash proof)
Physical Attributes	
Housing Dimension	Ø 58mm x 58mm
Unit Weight	210 g (7.25 oz)
Materials	Body: Anodized Aluminum; Shaft and Bearings: Stainless Steel

Specifications subject to change without notice

Ordering Info

MR322 - [D] [06] [C03] []

Resolution

- A** 100ppr
- B** 128ppr
- C** 256ppr
- D** 360ppr

Shaft Size

- 06** 6mm OD

Temperature Range

- Blank** Standard
- E** Extended (Not available with D00)

Termination Option

- C1R5** Duplex LC Pigtail, 1.5m
- C03** Duplex LC Pigtail, 3m
- C05** Duplex LC Pigtail, 5m
- D00** ODVA IP-LC receptacle

Quick Ship Configurations:

- MR322-D06C05** Sensor, 360ppr, Duplex LC Pigtail 5m
- MR322-D06D00** Sensor, 360ppr, ODVA IP-LC Connector Receptacle
- MR320** Controller

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