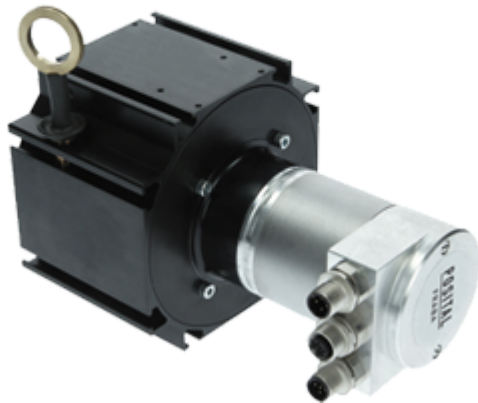



**LINARIX Linear Sensor**
**LD0-EM01B-1213-3F00-PRM**
**POSITAL**  
FRABA

**General Data**
**General Data**

Supply Voltage	10 - 30 VDC
Power Consumption	≤ 2.5 W
Turn On Time	< 1 s
Operating Temperature	-20 °C (-4 °F) - +80 °C (+176 °F)
Weight	1255 g (2.77 lb)
Protection Class (Encoder)	IP64 / IP65
EMC: Emitted Interference	DIN EN 61000-6-4
EMC: Noise Immunity	DIN EN 61000-6-2

**Mechanical Data**

Max. Measurement Length	3.00 m (9.84')
Length per Revolution	260 mm
Wire Material	Coated Polyamide Stainless Steel
Wire Diameter	0.80 mm
Encoder Housing Material	Steel
Draw Wire Housing Material	Aluminum
Max. Speed of Wire Displacement	2.0 m / s
Max. Wire Acceleration	7.0 g
Max. Extension Force	9.0 N

Data Sheet

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Min. Retraction Force	5.5 N
Actuation Lifetime	3.0 mio Cycles (Estimated based on ideal conditions)
Wire Mounting	M4 Thread
Max. Wire Exit Angle	±3°

### Sensor Data

Technology	Optical ( $\leq 0.02^\circ$ )
Accuracy	±0.02 % FSO
Repeatability	±0.003 % FSO
Resolution [Encoder - Singleturn]	13 bit
Resolution [Encoder - Multiturn]	12 bit
Approx. Linear Resolution	31.7 $\mu\text{m}$
Output Code	Binary

### Interface

Communication Interface	Ethernet ModbusTCP
Profile	TCP/IP, UDP, Modbus TCP (IEC 61158)
Programming Functions	Resolution, preset, complement, transmission mode: polled mode, cyclic mode, change of state
Transmission Rate	10 / 100 Mbit
Cycle Time Interface	≥ 10 ms

### Outputs

Output Driver	Ethernet
Current Consumption	≤ 230 mA @ 10 V DC, ≤ 100 mA @ 24 V DC
Reverse Polarity Protection	Yes
Short Circuit Protection	Yes
MTTF	134 years @ 60 °C

### Electrical Connection

Connection Orientation	Radial
Connection Orientation (w.r.t Draw Wire)	Radial 0 / Axial
Connector 1	M12, Male, 5 pin, a coded
Connector 2	M12, Female, 4 pin, d coded

### Product Life Cycle



Product Life Cycle

Established

**Connection Plan**

SIGNAL	CONNECTOR	PIN NUMBER
Power Supply	Connector 1	1
Power Supply	Connector 1	2
GND	Connector 1	3
GND	Connector 1	4
PE	Connector 1	5
Tx+	Connector 2	1
Rx+	Connector 2	2
Tx-	Connector 2	3
Rx-	Connector 2	4

## Connector-View on Encoder Dimensional Drawing

[2D Drawing](#)
**Accessories**

## Connectors &amp; Cables

2m PUR Cable, 4pin, D-Coded, m  
 10m PUR Cable, 4pin, D-Coded, m  
 10m PVC Cable, 4pin, D-Coded, m  
 2m PVC Cable, 4pin, D-Coded, m  
 5m PVC Cable, 4pin, D-Coded, m  
 POS M12 5pin-A Female+5m PUR Cable  
 POS M12 5pin-A Female+2m PUR Cable  
 POS M12 5pin-A Female+10m PUR Cable  
 M12, 4pin D-Coded, Male  
 M12, 5pin A-Coded, Female  
 5m PUR Cable, 4pin, D-Coded, m  
 More

**Got questions? Need an individual solution? We are here to help!**

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All dimension in [inch] mm. Encoder dimensions may vary depending on electrical interface and connector. This drawing and the information contained is for general presentation purposes only. Please refer to the "Download" section for detailed technical drawings. © FRABA B.V., All rights reserved. We do not assume responsibility for technical inaccuracies or omissions. Specifications are subject to change without notice.