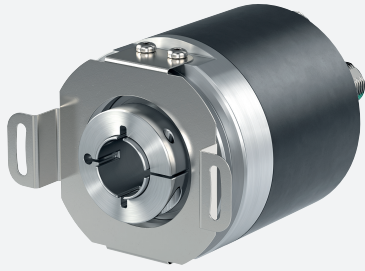


Absolute rotary encoder

ENA58IL-R***-IO-Link



- Absolute rotary encoder of the innovative Performance Line
- Recessed hollow shaft
- Position and shaft velocity
- IO-Link Interface for process data, parameterization and diagnosis
- Suitable for condition monitoring
- Measuring range, direction of rotation and switching signals programmable
- Free of wear magnetic sampling
- High resolution and accuracy

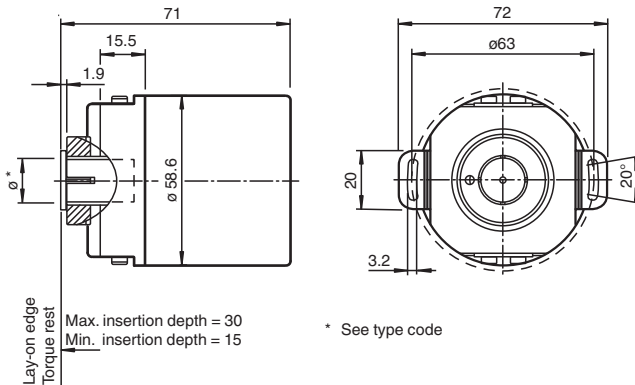


IO-Link

Function

Absolute encoders with IO Link are high precision encoders with internal magnetic sampling. The integrated IO Link interface offers an optimal adaption to different applications through parameterization as well as process data transfer and condition monitoring.

Dimensions

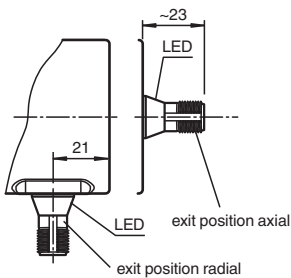


Recessed hollow shaft

Connections

Dimensions in mm

Connector M12



Release date: 2023-11-30 Date of issue: 2023-11-30 Filename: t214147_eng.pdf

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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PEPPERL+FUCHS

Technical Data

General specifications		
Detection type		magnetic sampling
Device type		Absolute rotary encoder as Performance Line
Measured variable		position shaft velocity Temperature
Linearity error		$\leq \pm 0.1^\circ$
UL File Number		E223176 "For use in NFPA 79 Applications only", if UL marking is marked on the product.
Functional safety related parameters		
MTTF _d		566 a at 40 °C
Mission Time (T _M)		20 a
L ₁₀		5 E+8 revolutions at 24/198 N axial/radial shaft load
Diagnostic Coverage (DC)		0 %
Indicators/operating means		
LED STATUS		LED green flashing with short break (1 Hz) - IO-Link mode
Electrical specifications		
Operating voltage	U _B	18 ... 30 V DC
No-load supply current	I ₀	max. 50 mA
Power consumption	P ₀	approx. 1.5 W
Time delay before availability	t _v	< 1 s
Interface		
Interface type		IO-Link
IO-Link revision		1.1
Device profile		Identification and Diagnosis - I&D
Resolution		
Single turn		up to 16 Bit programmable
Multiturn		up to 15 Bit programmable
Overall resolution		up to 31 Bit programmable
Process data		Input 12 Byte - measurement value 4 Byte - resolution 16 Bit - auxiliary measurement value 4 Byte - switching signals 4 Bit - diagnosis signals 2 Bit - status data Output 1 Byte - Trigger 1 Bit
Vendor ID		1 (0x0001)
Device ID		5244417 (0x500601), 5244418 (0x500602), 5244421 (0x500605), 5244422 (0x500606)
Transfer rate		COM3 (230.4 kbits/s)
Min. cycle time		1.5 ms
SIO mode support		no
Compatible master port type		Class A Class B (use 3-pole adapter or 3-wire cable)
Connection		
Connector		M12 connector, 5 pin , A-coded
Standard conformity		
Degree of protection		DIN EN 60529, IP65, IP67
Communication interface		IEC 61131-9 / IO-Link V1.1.2
Climatic testing		DIN EN 60068-2-78, no moisture condensation
Emitted interference		EN 61000-6-4:2007
Noise immunity		EN 61000-6-2:2005
Shock resistance		DIN EN 60068-2-27, 100 g, 6 ms
Vibration resistance		DIN EN 60068-2-6, 10 g, 10 ... 1000 Hz
Approvals and certificates		

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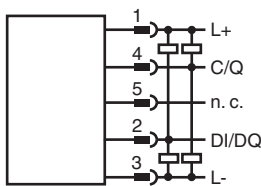
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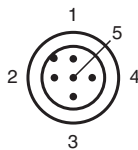
Technical Data

UL approval	cULus Listed, General Purpose, Class 2 Power Source , if UL marking is marked on the product.
Ambient conditions	
Operating temperature	-40 ... 85 °C (-40 ... 185 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Relative humidity	98 % , no moisture condensation
Mechanical specifications	
Material	
Housing	Zinc plated steel, painted
Flange	Aluminum
Shaft	Stainless steel
Mass	approx. 370 g
Rotational speed	max. 12000 min ⁻¹
Moment of inertia	< 30 gcm ²
Starting torque	< 3 Ncm
Shaft load	
Axial	24 N
Radial	198 N
Angle offset	± 0.9 °
Axial offset	± 0.3 mm static; ± 0,1 mm dynamic
Radial offset	± 0.5 mm static; &lusmn 0,2 mm dynamic

Connection



Connection Assignment



Type Code

Structure of the type code

E	N	A	5	8	I	L	-	R	(1)	(1)	D	A	(2)	-	(3)	(3)	1	6	-	I	O	-	(4)	(4)	(4)	0	1
---	---	---	---	---	---	---	---	---	-----	-----	---	---	-----	---	-----	-----	---	---	---	---	---	---	-----	-----	-----	---	---

ENA	Device type
ENA	Absolute rotary encoder
58	Size
58	Housing diameter 58 mm
IL	Version
IL	Industrial Line / Performance Line

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Type Code

R	Shaft type
R	Recessed hollow shaft
(1) (1)	Shaft diameter
06	6 mm
10	10 mm
12	12 mm
14	14 mm
15	15 mm
DA	Flange
DA	Dual spring plate
(2)	Degree of protection
5	IP65
7	IP66, IP67
(3) (3)	Multiturn resolution
00	Singleturn rotary encoder
15	Multiturn rotary encoder, parameterizable up to 15 bit
16	Singleturn resolution
16	16 Bit
IO	Interface, electric
IO	IO-Link
(4) (4) (4)	Connection type
ABP	Axial connection alignment, M12 x 1, 5-pin, A coded
RBD	Radial connection alignment, M12 x 1, 5-pin, A coded
01	Parameterization status
01	P+F factory setting