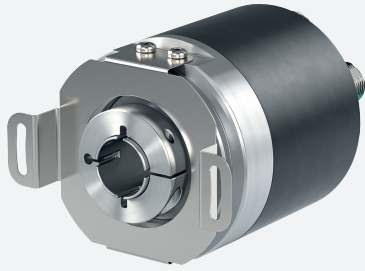


# Absolute rotary encoder

## ENA58TL-R\*\*\*-IO-Link



- Absolute rotary encoder of the innovative Pure Line
- Recessed hollow shaft
- 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
- Status LEDs

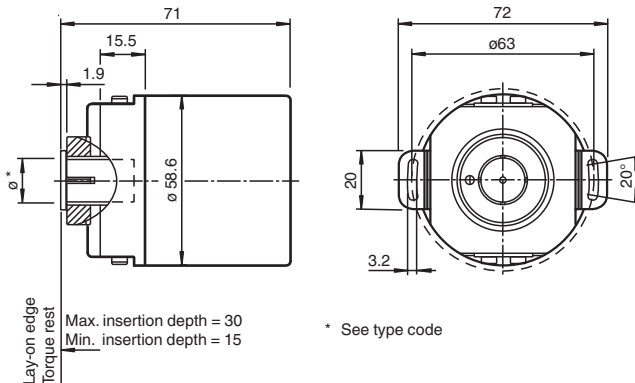


# IO-Link

### 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

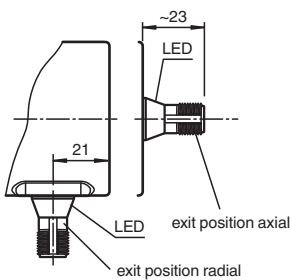


Recessed hollow shaft

#### Connections

Dimensions in mm

#### Connector M12



## Technical Data

General specifications			
Detection type			magnetic sampling
Device type			Absolute rotary encoder as Pure Line
Measured variable			position 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 <sub>d</sub>			566 a at 40 °C
Mission Time (T <sub>M</sub> )			20 a
L <sub>10</sub>			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 <sub>B</sub>		18 ... 30 V DC
No-load supply current	I <sub>0</sub>		max. 50 mA
Power consumption	P <sub>0</sub>		approx. 1.5 W
Time delay before availability	t <sub>v</sub>		< 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 2 Bit - diagnosis signals 2 Bit - status data
Vendor ID			1 (0x0001)
Device ID			5243905 (0x500401), 5243906 (0x500402), 5243909 (0x500405), 5243910 (0x500406)
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			
UL approval			cULus Listed, General Purpose, Class 2 Power Source , if UL marking is marked on the product.

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## Technical Data

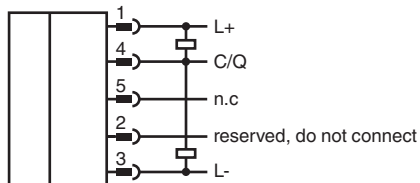
### Ambient conditions

Operating temperature	-40 ... 85 °C (-40 ... 185 °F)
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)
Relative humidity	98 % , no moisture condensation

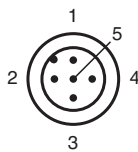
### Mechanical specifications

Material	
Housing	Zinc plated steel, painted
Flange	Aluminum
Shaft	Stainless steel
Mass	approx. 370 g
Rotational speed	max. 12000 min <sup>-1</sup>
Moment of inertia	< 30 gcm <sup>2</sup>
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; ± 0,2 mm dynamic





## Connection














## Connection Assignment



## Accessories

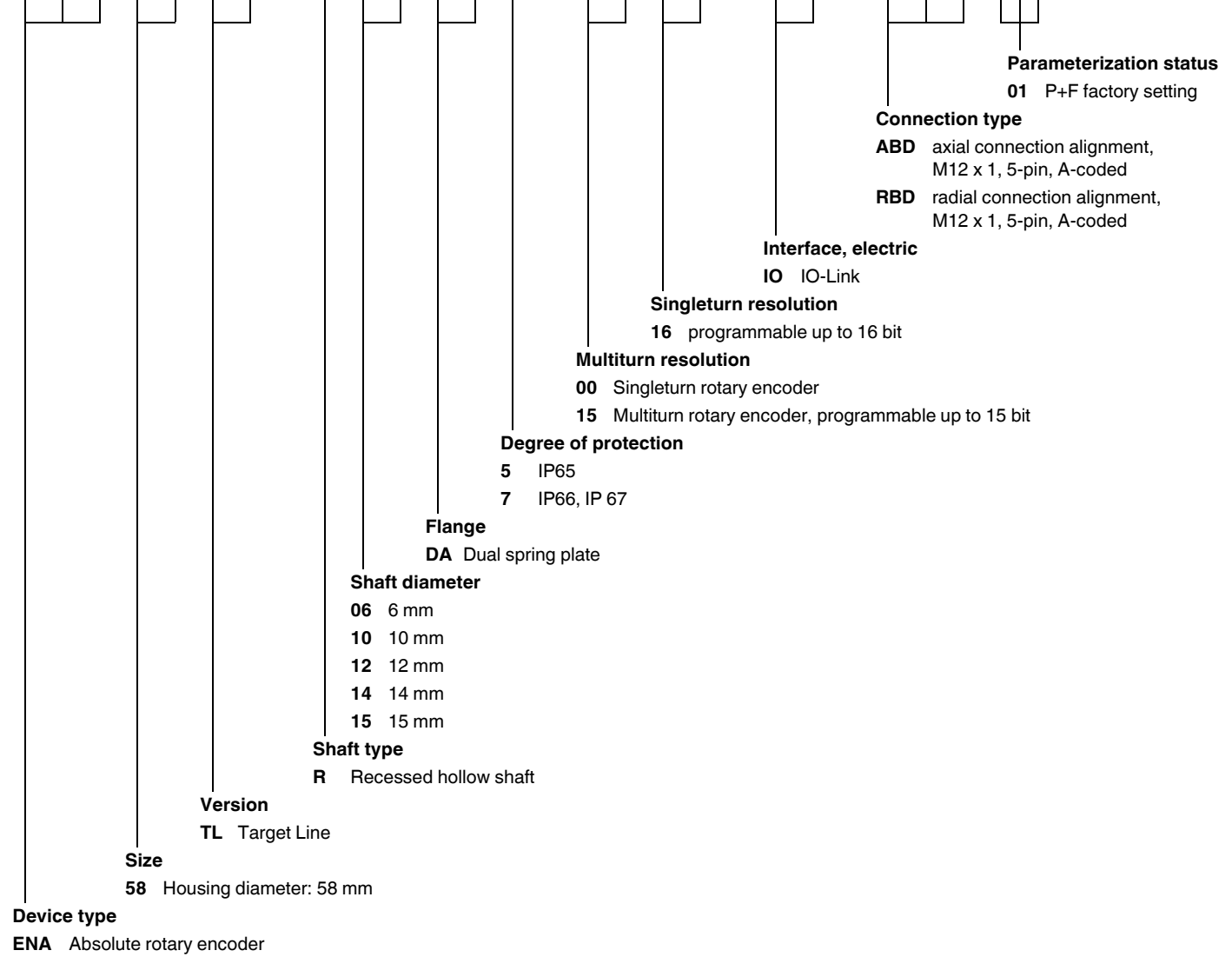
	<b>ICE1-8IOL-G60L-V1D</b>	Ethernet IO-Link module with 8 inputs/outputs
	<b>V1-G-0,6M-PUR-V1-G</b>	Cordset M12 socket straight to M12 plug straight A-coded, 4-pin, PUR cable grey
	<b>V15-G-1M-PUR-V15-G</b>	Cordset M12 socket straight to M12 plug straight A-coded, 5-pin, PUR cable grey
	<b>ACC-PACK-ABS-S_58 Ø15</b>	Accessory kit for Ø58 absolute rotary encoder with recessed hollow shaft 15 mm

## Accessories

	<b>ACC-PACK-ABS-_S_58 ø14</b>	Accessories set for Ø58 absolute rotary encoder with recessed hollow shaft 14 mm
	<b>ACC-PACK-ABS-_S_58 ø12</b>	Accessories set for Ø58 absolute rotary encoder with recessed hollow shaft 12 mm
	<b>ACC-PACK-ABS-_S_58 ø10</b>	Accessory kit for Ø58 absolute rotary encoder with recessed hollow shaft 10 mm
	<b>ICE1-8IOL-G30L-V1D</b>	Ethernet IO-Link module with 8 inputs/outputs
	<b>ICE2-8IOL-G65L-V1D</b>	EtherNet/IP IO-Link master with 8 inputs/outputs
	<b>ICE3-8IOL-G65L-V1D</b>	PROFINET IO IO-Link master with 8 inputs/outputs
	<b>ICE2-8IOL-K45S-RJ45</b>	EtherNet/IP IO-Link master with 8 inputs/outputs, DIN rail, screw terminal
	<b>ICE3-8IOL-K45P-RJ45</b>	PROFINET IO IO-Link master with 8 inputs/outputs, DIN rail, push-in terminals
	<b>ICE3-8IOL-K45S-RJ45</b>	PROFINET IO IO-Link master with 8 inputs/outputs, DIN rail, screw terminal
	<b>IO-Link-Master02-USB</b>	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
	<b>ICE2-8IOL-K45P-RJ45</b>	EtherNet/IP IO-Link master with 8 inputs/outputs, DIN rail, push-in connectors

**Type Code**

**E N A 5 8 T L - R      D A      -      1 6 - I O -      0 1**



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