

Absolute rotary encoder

ENA42HT-S***-IO-Link



- Absolute rotary encoder of the innovative Pure Line
- Solid shaft
- High climatic resistance
- High mechanical stability
- 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

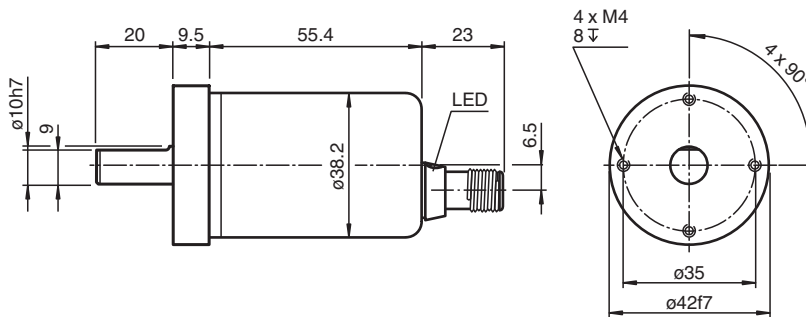


IO-Link

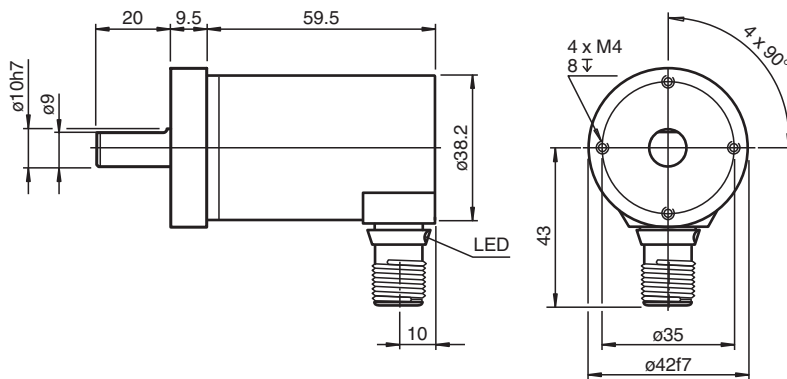
Function

Heavy duty 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



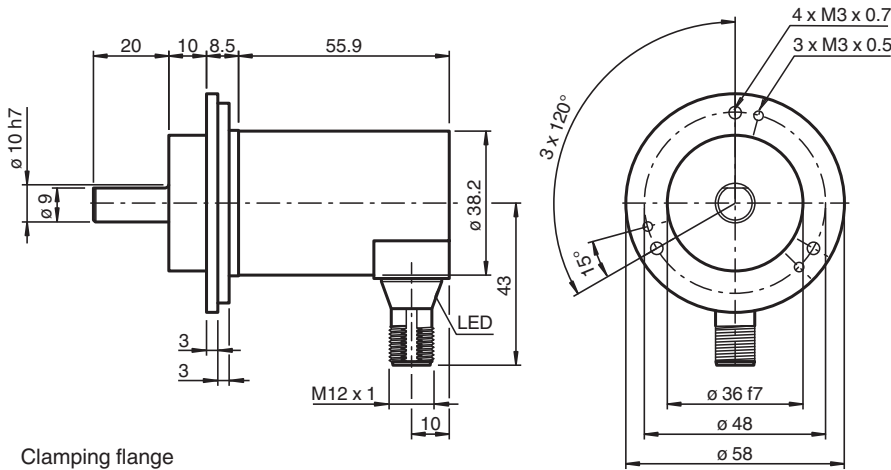
Servo flange



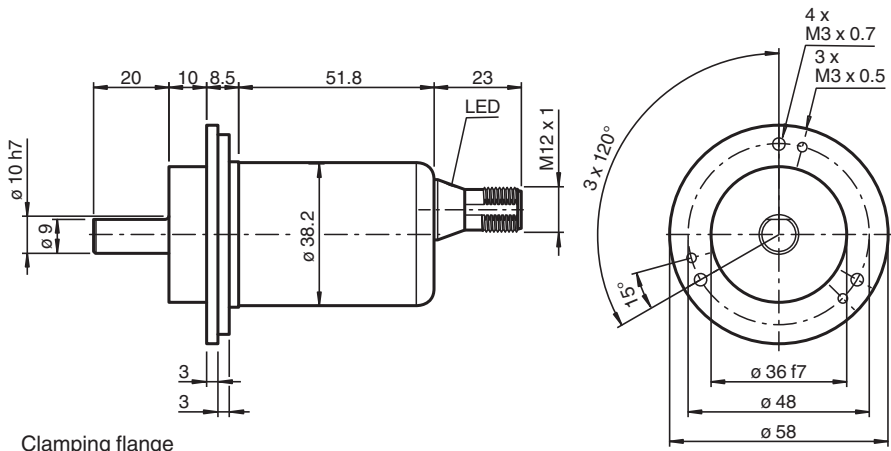
Servo flange

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Dimensions



Clamping flange



Clamping flange

Technical Data

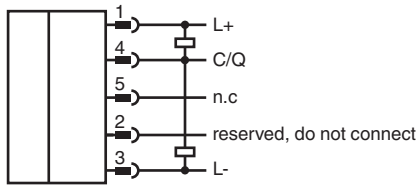
General specifications	
Detection type	magnetic sampling
Device type	Heavy duty absolute rotary encoder as Pure Line
Measured variable	position Temperature
Linearity error	$\leq \pm 0.1^\circ$
UL File Number	E223176 "For use in NFPA 79 Applications only", if UL marking is marked on the product.
Functional safety related parameters	
MTTF _d	480 a at 40 °C
Mission Time (T _M)	20 a
L ₁₀	10 E+8 revolutions at 20/40 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

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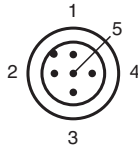
Technical Data

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	5246977 (0x 501001), 5246978 (0x 501002)
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 , IP66 / IP68 / IP69K
Communication interface	IEC 61131-9 / IO-Link V1.1.2
Climatic testing	DIN EN 60068-2-3, no moisture condensation
Emitted interference	EN 61000-6-4:2007
Noise immunity	EN 61000-6-2:2005
Shock resistance	DIN EN 60068-2-27, 200 g, 11 ms
Vibration resistance	DIN EN 60068-2-6, 30 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.
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	Stainless steel 1.4404 / AISI 316L
Flange	Stainless steel 1.4404 / AISI 316L
Shaft	Stainless steel 1.4412 / AISI 440B
Mass	approx. 350 g
Rotational speed	max. 6000 min ⁻¹
Moment of inertia	< 30 gcm ²
Starting torque	< 5 Ncm
Shaft load	
Axial	270 N
Radial	270 N

Connection



Connection Assignment



Type Code

Structure of the type code

E	N	A	4	2	H	T	-	S	1	0	(1)	(1)	9	-	(2)	(2)	1	6	-	I	O	-	(3)	(3)	(3)	0	1
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ENA	Device type
ENA	Absolute rotary encoder
42	Size
42	Housing diameter 42 mm
HT	Version
HT	Heavy Duty as Target Line / Pure Line
S	Shaft type
S	Solid shaft
10	Shaft diameter
10	10 mm
(1) (1)	Flange
C4	Clamping flange
S4	Servo flange
9	Degree of protection
9	IP66/IP66/IP69K
(2) (2)	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
(3) (3) (3)	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

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