Absolute encoders

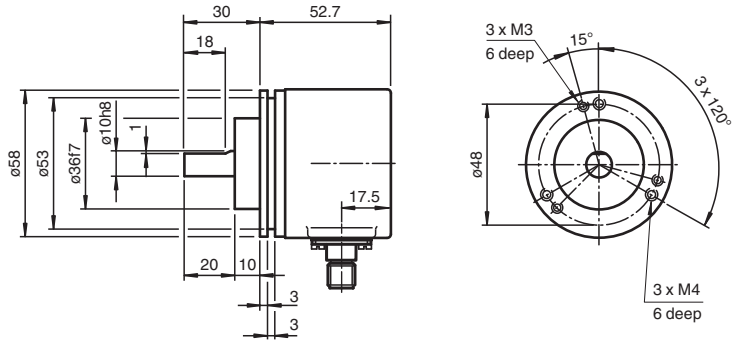
ENA58IL-S10CA5-1516B30-RBD

- Solid shaft
- Communication via MODBUS RTU
- Free of wear magnetic sampling
- High resolution and accuracy

Function

The ENA58IL series are high precision encoders with internal magnetic sampling.
This multiturn absolute rotary encoder transmits a position value corresponding to the shaft setting via the MODBUS RTU interface.
The position values are transferred in a serial format via a 2 wire bus (RS 485).

Dimensions



Clamping flange

Technical Data

General specifications		
Detection type		magnetic sampling
Device type		Absolute encoders
Linearity error		≤ ± 0.1 °
Functional safety related parameters		
Mission Time (T_M)		20 a
L_{10}		55 E+8 revolutions at 40/110 N axial/radial shaft load
Diagnostic Coverage (DC)		0 %
Electrical specifications		
Operating voltage	U_B	10 ... 30 V
No-load supply current	I_0	typ. 150 mA
Power consumption	P_0	approx. 1 W
Time delay before availability	t_v	< 1 s
Output code		binary code
Code course (counting direction)		adjustable
Interface		
Interface type		MODBUS RTU

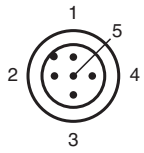
Release date: 2022-12-12 Date of issue: 2022-12-12 Filename: 70119338_eng.pdf

Technical Data

Resolution		
Single turn		up to 16 Bit , factory setting: 13 Bit
Multiturn		up to 12 Bit , factory setting: 15 Bit
Overall resolution		up to 31 Bit , factory setting: 25 Bit
Transfer rate		factory setting 19,2 kBit/s adjustable : 1200, 2400, 4800, 9600, 19200, 28800, 38400, 57600, 76800, 115200, 256000 Bit/s
Address setting		node number adjustable, factory default 127
Cycle time		< 50 µs
Standard conformity		RS 485
Connection		
Connector		M12 connector, 5 pin
Standard conformity		
Degree of protection		DIN EN 60529, IP65
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*, 6 ms
Vibration resistance		DIN EN 60068-2-6, 20 *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		nickel-plated steel , painted
Flange		Aluminum
Shaft		Stainless steel
Mass		approx. 300 g
Rotational speed		max. 6000 min^{-1}
Moment of inertia		50 gcm^2
Starting torque		< 3 Ncm at 20 °C
Shaft load		
Axial		40 N
Radial		110 N
Factory settings		
Default setting		

Release date: 2022-12-12 Date of issue: 2022-12-12 Filename: 70119338_eng.pdf

Connection

Signal	Connector M12, 5-pin
Signal GND	1
U_B (rotary encoder)	2
GND (rotary encoder)	3
RS485 A+	4
RS485 B-	5
	

Release date: 2022-12-12 Date of issue: 2022-12-12 Filename: 70119338_eng.pdf