



Incremental rotary encoder

ENI58PL-R***

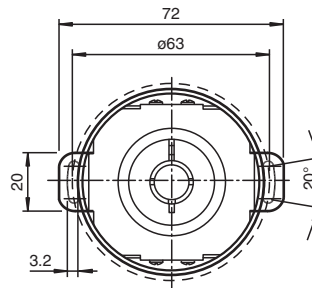
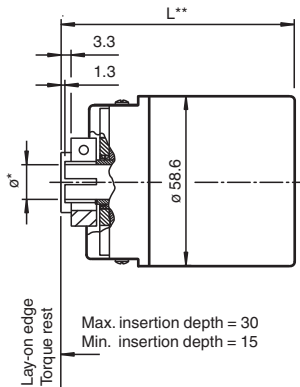
- Housing Ø 58 mm
- Recessed hollow shaft
- Puls count configurable from 1 ... 16384
- Direction of rotation configurable
- Output type configurable



Function

The ENI58PL is a robust, high-quality and versatile incremental rotary encoder with various electrical and mechanical interfaces. Thanks to the possibility of configuring the pulse number, the direction of rotation and the output type via the standardized IO-Link interface, the ENI58PL can be ideally adapted to changing and special application conditions. In addition to the optimal adaptation to the application, this enables a more efficient storage by reducing the variance that is stored.

Dimensions



* See type code

** with axial output: L = 60.6
with radial output: L = 71 mm

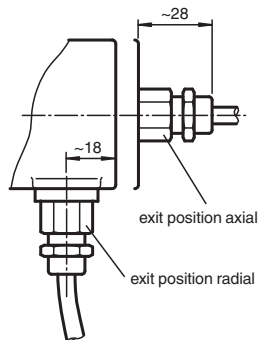
Recessed hollow shaft

Dimensions

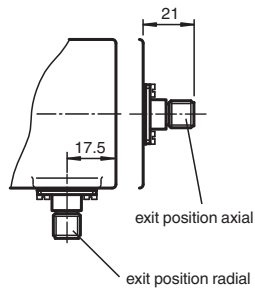
Connections

Dimensions in mm

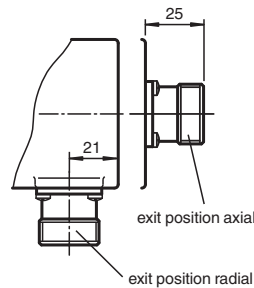
Cable



Connector M12



Connector M23



Technical Data

General specifications			
Detection type			magnetic sampling
Linearity error			$\pm 0.1^\circ$
Pulse count			configurable from 1 ... 16384
Functional safety related parameters			
MTTF _d			140 a
Mission Time (T _M)			20 a
L ₁₀			70 E+9 at 6000 rpm
Diagnostic Coverage (DC)			0 %
Electrical specifications			
Operating voltage	U _B		4.75 ... 30 V DC
No-load supply current	I ₀		max. 50 mA
Output			
Output type			HTL/TTL configurable
Load current			max. per channel 50 mA , short-circuit protected, reverse polarity protected
Output frequency			max. 1000 kHz
Rise time			300 ns
Phase position A to B			$90^\circ \pm 14^\circ$ for speed > 100 min ⁻¹
Duty cycle			$1/2 \pm 15\%$ for speed > 100 min ⁻¹
Connection			
Connector			M12 connector, 8-pin M12 connector, 5 pin M23 connector, 12-pin
Cable			Ø6 mm, 4 x 2 x 0.14 mm ²
Standard conformity			
Degree of protection			DIN EN 60529, IP65, IP67
Climatic testing			DIN EN 60068-2-78 , no moisture condensation
Emitted interference			EN 61000-6-4:2007/A1:2011
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
Ambient conditions			
Operating temperature			cable, flexing: -5 ... 70 °C (23 ... 158 °F) cable, fixed: -30 ... 70 °C (-22 ... 158 °F) connector models: -40 ... 85 °C (-40 ... 185 °F)
Storage temperature			-40 ... 85 °C (-40 ... 185 °F)








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Technical Data

Mechanical specifications

Material	
Housing	nickel-plated steel , painted
Flange	Aluminum
Shaft	Stainless steel
Mass	ca 300 g
Rotational speed	max. 3000 min ⁻¹
Moment of inertia	≤ 30 gcm ²
Starting torque	≤ 3 Ncm for IP65 , ≤ 5 Ncm for IP67
Shaft load	
Axial	max. 40 N
Radial	max. 110 N
Factory settings	
Default setting	output type HTL , pulse count 1024 , direction of rotation A before B (clockwise)

Accessories

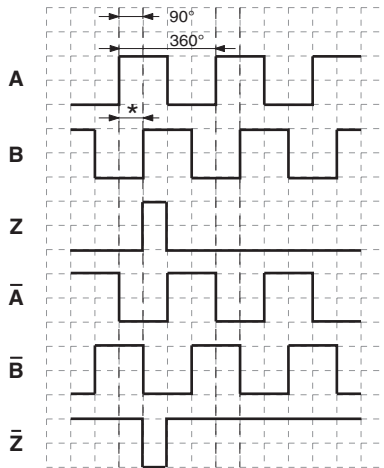
	IO-Link-Master02-USB	IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection
	PACTware 4.1	FDT Framework
	PACTware 5.0	FDT Framework
	V15S-G-0,5M-CGR-BE	Adapter cable for programmable ENI58PL-*****-1024CGR-*BE
	V15S-G-0,5M-CGR-AA	Adapter cable for programmable ENI58PL-*****-1024CGR-*AA
	V15S-G-0,5M-CGR-AB	Adapter cable for programmable ENI58PL-*****-1024CGR-*AB
	V15S-G-0,5M-CGR-TC	Adapter cable for programmable ENI58PL-*****-1024CGR-*C*
	V15S-G-0,5M-CGR-BD	Adapter cable for programmable ENI58PL-*****-1024CGR-*BD
	V19-G-5M-PVC-TP	Female cordset, M12, 8-pin, shielded, PVC cable
	V19-G-10M-PVC-TP	Female cordset, M12, 8-pin, shielded, PVC cable

Connection

Signal	Cable	Connector M23, 12-pin, clockwise	Connector M23, 12-pin, counterclockwise	Connector M12 x 1 8-pin	Connector M12 x 1 5-pin
GND	White	10	10	1	3
U _b	Brown	12	12	2	1
A	Green	5	5	3	2
B	Gray	8	8	5	4
\bar{A}	Yellow	6	6	4	-
\bar{B}	Pink	1	1	6	-
Z	Blue	3	3	7	5
\bar{Z}	Red	4	4	8	-
NC	-	2	2	-	-
NC	-	7	7	-	-
NC	-	9	9	-	-
NC	-	11	11	-	-
Screen	Housing	Housing	Housing	Housing	Housing
	<p>Note: Unused cores must be insulated individually before commissioning in order to avoid interference..</p>				

Operation

Signal outputs



↺ cw - with view onto the shaft
 phase relationships electrical
 * 1 Measuring step is 90° electrical

Programming

The configuration is carried out via IO-Link using a suitable IO-Link Master, a FDT framework such as PACTware and a suitable V15S cable (see under accessories).

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Electrical connection for IO-Link configuration

Signal	Cable	Connector M23, 12-pin, clockwise	Connector M23, 12-pin, counterclockwise	Connector M12 x 1 8-pin	Connector M12 x 1 5-pin
L-	White	10	10	1	3
L+	Brown	12	12	2	1
NC	Green	5	5	3	2
NC	Grey	8	8	5	4
NC	Yellow	6	6	4	-
NC	Pink	1	1	6	-
IO-Link	Blue	3	3	7	5
NC	Red	4	4	8	-
NC	-	2	2	-	-
NC	-	7	7	-	-
NC	-	9	9	-	-
NC	-	11	11	-	-
	<p>Note: Unused cores (NC) must be insulated individually for programming in order to avoid interference.</p>				

Type Code

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E N I 5 8 P L - R - - - - - 1 0 2 4 C G R - - - -

Connection type

- C1** Cable, 1 m
- C2** Cable, 2 m
- C5** Cable, 5 m
- CA** Cable, 10 m
- AA** M23 device plug, clockwise (type 9416)
- AB** M23 device plug, counterclockwise (type 9416L)
- BD** M12 device plug, 5-pin (type V15)
- BE** M12 device plug, 8-pin (type V19)

Connection alignment

- A** axial
- R** radial

Electrical interface

CGR output type HTL or TTL configurable

Pulse count

1024 pulses factory setting, configurable from 1 ... 16384 pulses

Degree of protection

- 5** IP65
- 7** IP67

Flange

DA Dual spring plate

Shaft diameter

- 06** 6 mm (d = 6F7)
- 10** 10 mm (d = 10F7)
- 12** 12 mm (d = 12F7)
- 14** 14 mm (d = 14F7)
- 15** 15 mm (d = 15F7)

Shaft type

R Recessed hollow shaft

Version

PL Premium Line

Size

58 Housing diameter 58 mm

Device type

ENI Incremental rotary encoder

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