



Incremental rotary encoder

ENI58PL-R***

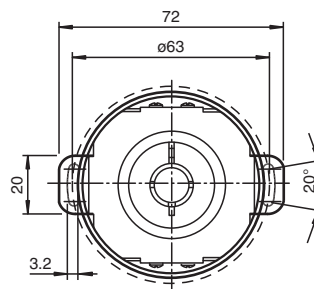
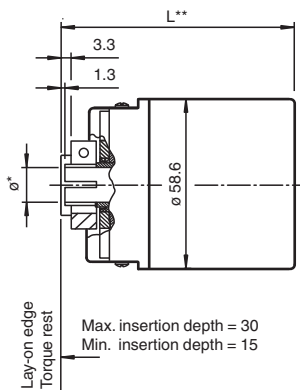
- Housing Ø 58 mm
- Recessed hollow shaft
- Puls count configurable from 1 ... 16384
- Direction of rotation configurable
- Output type configurable



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 mm
with radial output: L = 71 mm

Recessed hollow shaft

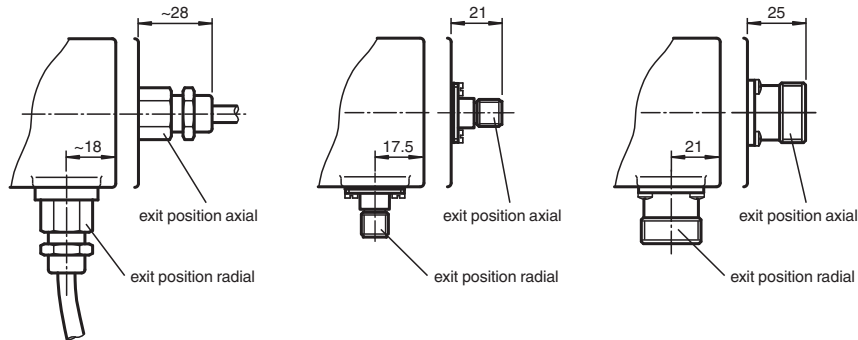
Connections

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)

Mechanical specifications













Material	
----------	--

Release date: 2021-01-29 Date of issue: 2021-01-29 Filename: t187373_eng.pdf

Technical Data

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

	9416	Female cordset
	9416L	Female cordset
	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.X	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

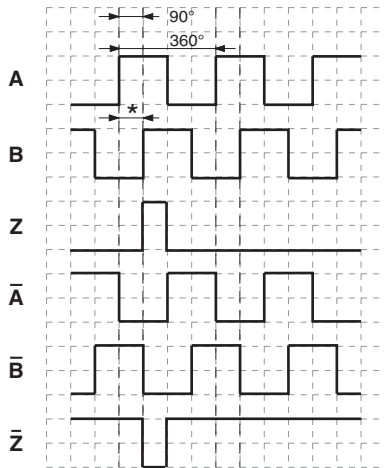
Release date: 2021-01-29 Date of issue: 2021-01-29 Filename: t187373_eng.pdf

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).

Release date: 2021-01-29 Date of issue: 2021-01-29 Filename: t187373_eng.pdf

Electrical connection for IO-Link configuration

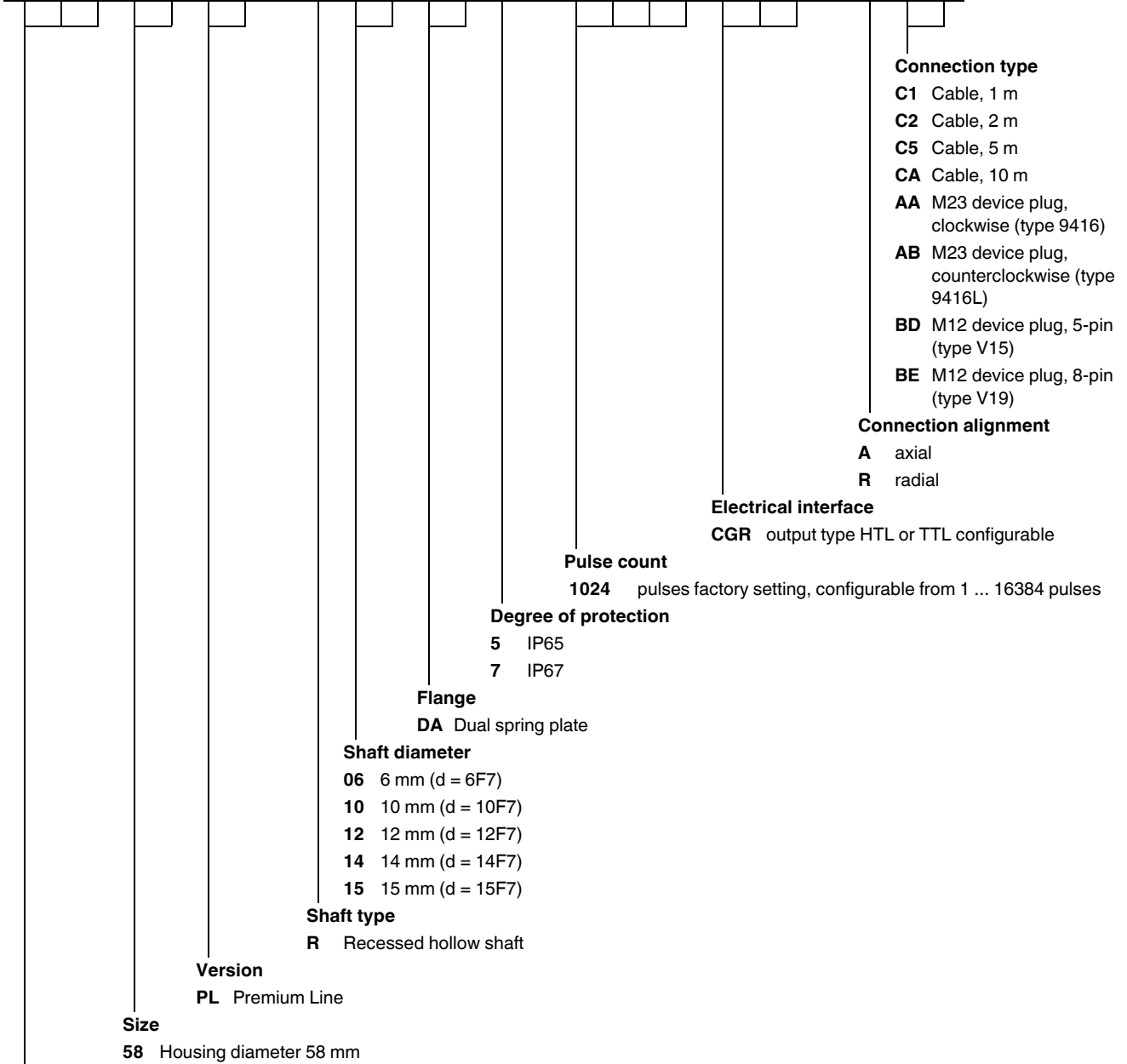
Signal	Cable	Connector M23, 12-pin, clockwise	Connector M23, 12-pin, counterclockwise	Connector M12 x 1 8-pin	Connector M12 x 1 5-pin
L-	White	10	10	1	3
L+	Brown	12	12	2	1
NC	Green	5	5	3	2
NC	Grey	8	8	5	4
NC	Yellow	6	6	4	-
NC	Pink	1	1	6	-
IO-Link	Blue	3	3	7	5
NC	Red	4	4	8	-
NC	-	2	2	-	-
NC	-	7	7	-	-
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

Release date: 2021-01-29 Date of issue: 2021-01-29 Filename: t187373_eng.pdf

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

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

Release date: 2021-01-29 Date of issue: 2021-01-29 Filename: t187373_eng.pdf