



Model Number

ENI58PL-R***

Features

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

Description

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.

Technical Data

General specifications

Detection type	magnetic sampling
Linearity error	± 0.1 °
Pulse count	configurable from 1 ... 16384
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	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 ° ± 14 ° for speed > 100 min ⁻¹
Duty cycle	1/2 ± 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	
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

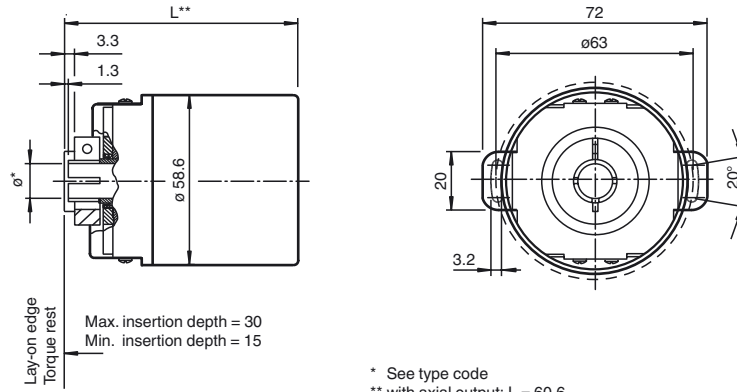
Factory settings

Default setting	output type HTL , pulse count 1024 , direction of rotation A before B (clockwise)
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Approvals and certificates

UL approval	cULus Listed, General Purpose, Class 2 Power Source , if UL marking is marked on the product. adapters providing field wiring on request
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Dimensions



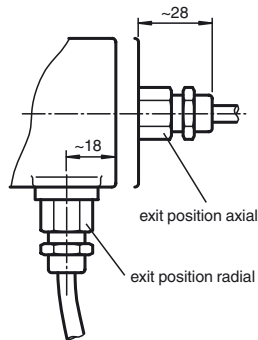
* See type code
 ** with axial output: L = 60.6
 with radial output: L = 71 mm

Recessed hollow shaft

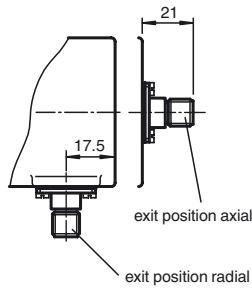
Connections

Dimensions in mm

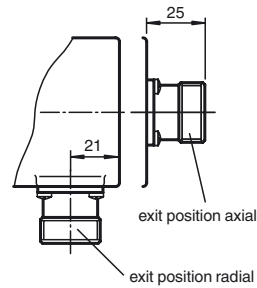
Cable



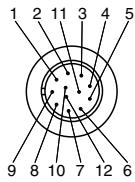
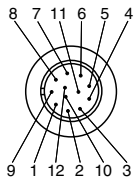
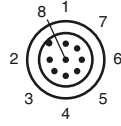
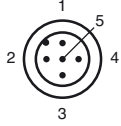
Connector M12



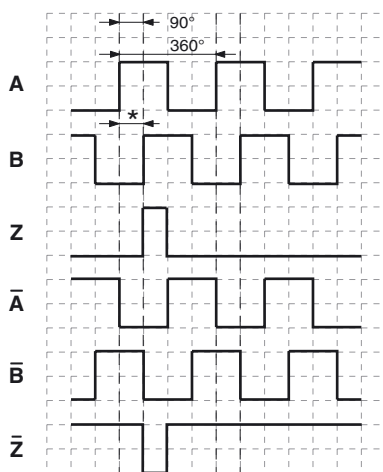
Connector M23



Electrical 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>				

Signal outputs



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

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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>				

Note

The configuration is carried out via a suitable IO-Link Master.

Accessories

IO-Link-Master02-USB

IO-Link master, supply via USB port or separate power supply, LED indicators, M12 plug for sensor connection

IODD Interpreter DTM

Software for the integration of IODDs in a frame application (e. g. PACTware)

PACTware 4.1

Universal DTM host platform, For all DTMs of Pepperl+Fuchs, Approved FDT/DTM technology

PACTware 5.X

Universal DTM host platform, For all DTMs of Pepperl+Fuchs, Approved FDT/DTM technology

SmartBridge Interface

IO-Link/Bluetooth interface with SmartBridge-Technologie

Adapter cable for IO-Link configuration

V15S-G-0,5M-CGR-BD

Adapter cable, M12 plug, 5-pin to M12 socket, 5-pin

V15S-G-0,5M-CGR-BE

Adapter cable, M12 plug, 5-pin to M12 socket, 8-pin

V15S-G-0,5M-CGR-AA

Adapter cable, M12 plug, 5-pin to M23 socket, 12-pin

V15S-G-0,5M-CGR-AB

Adapter cable, M12 plug, 5-pin to M23 socket, 12-pin, ccw

V15S-G-0,5M-CGR-TC

Adapter cable, M12 plug, 5-pin to terminal block

Connection cable for normal operation

V19-G-2M-PVC-TP

Female cordset, M12, 8-pin, shielded, PVC cable

V19-G-5M-PVC-TP

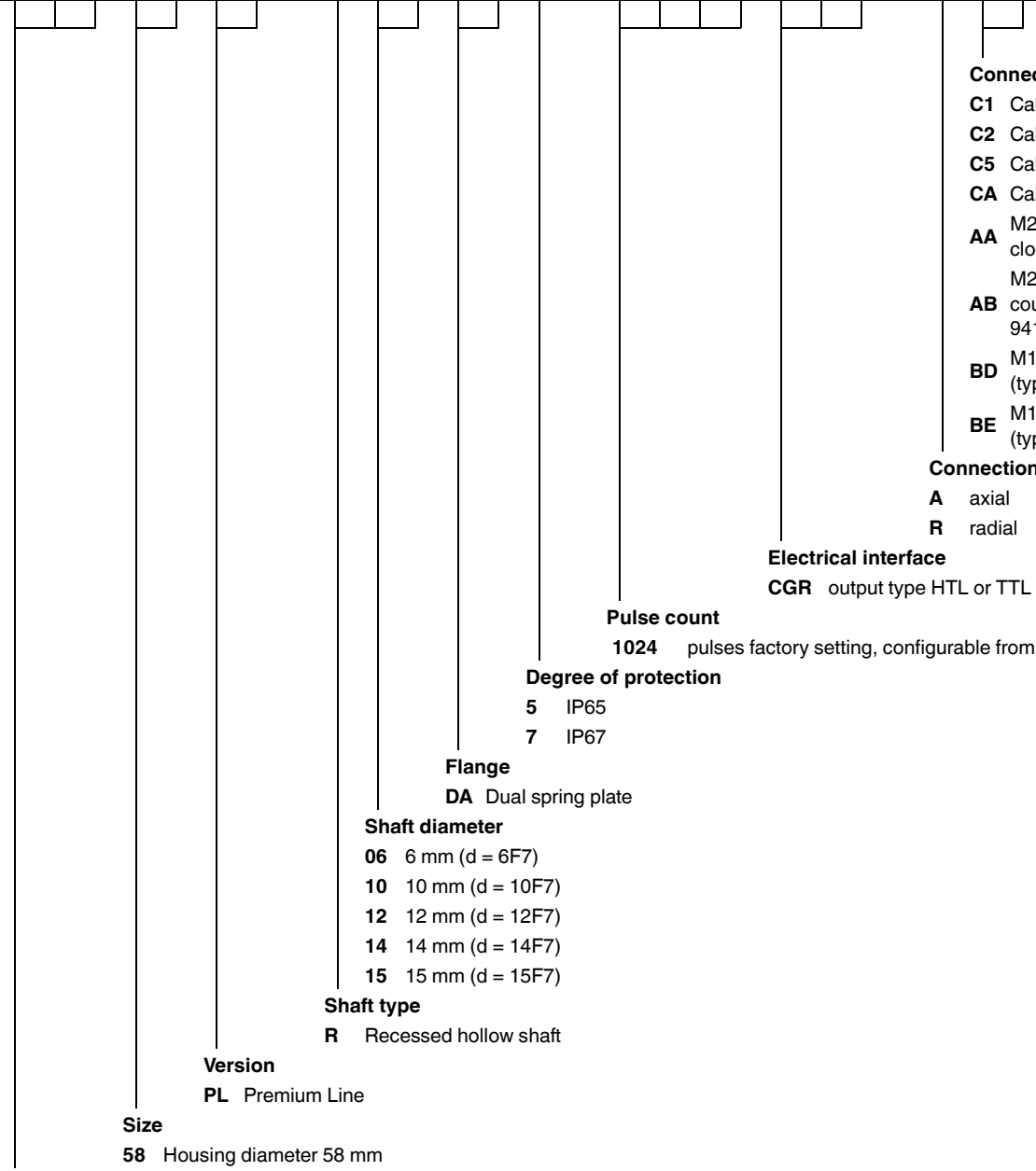
Female cordset, M12, 8-pin, shielded, PVC cable

V19-G-10M-PVC-TP

Female cordset, M12, 8-pin, shielded, PVC cable

Model number

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