



Incremental rotary encoder

ENI58PL-S***

- Housing Ø 58 mm
- Solid shaft
- Servo flange, square flange or clamping flange
- Puls count configurable from 1 ... 16384
- Direction of rotation configurable
- Output type configurable

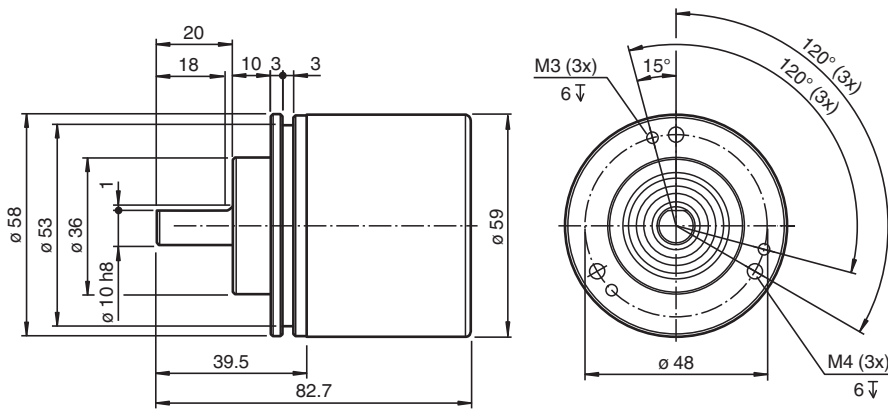


Function

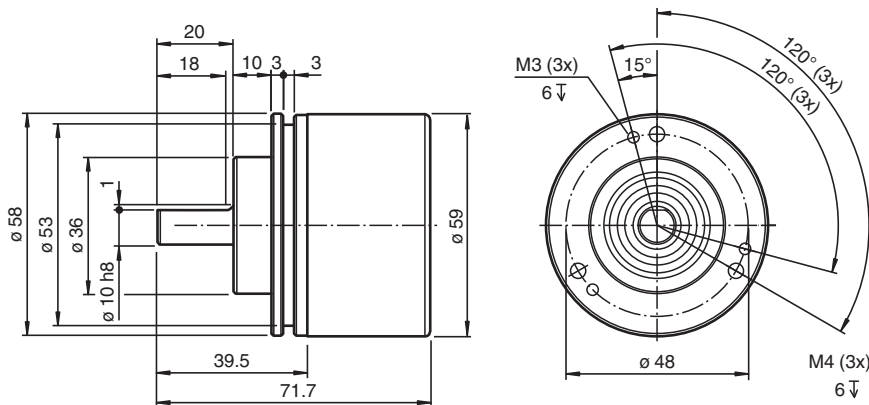
The ENI58PL is a robust, high-quality and versatile incremental rotary encoder with various electrical and mechanical interfaces. Thanks to the possibility of configuring the pulse number, the direction of rotation and the output type via the standardized IO-Link interface, the ENI58PL can be ideally 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

Clamping flange with cable and connectors M12, M23 (radial)



Clamping flange with cable and connectors M12, M23 (axial)



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

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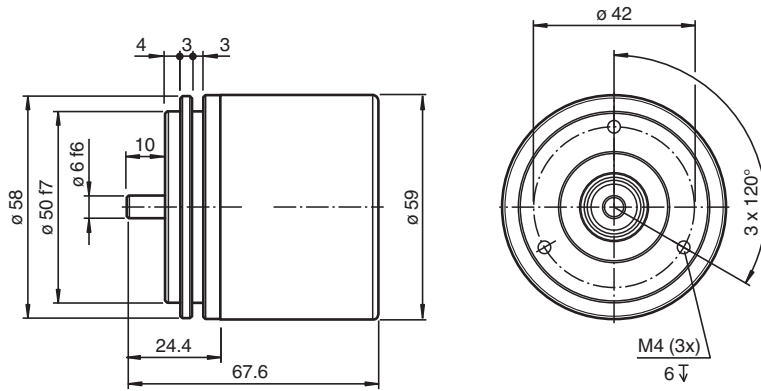
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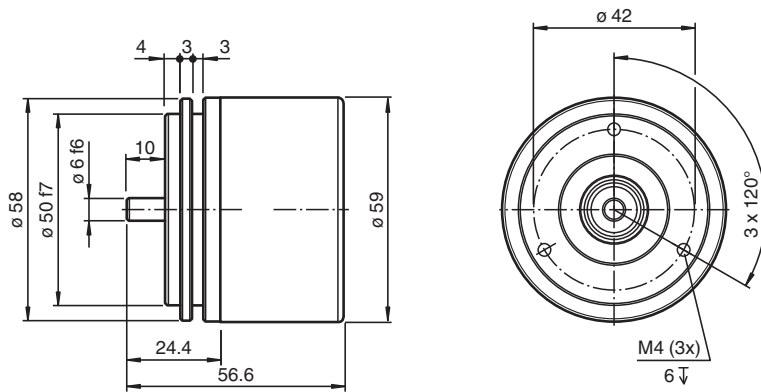
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Dimensions

Servo flange with cable and connectors M12, M23 (radial)



Servo flange with cable and connectors M12, M23 (axial)



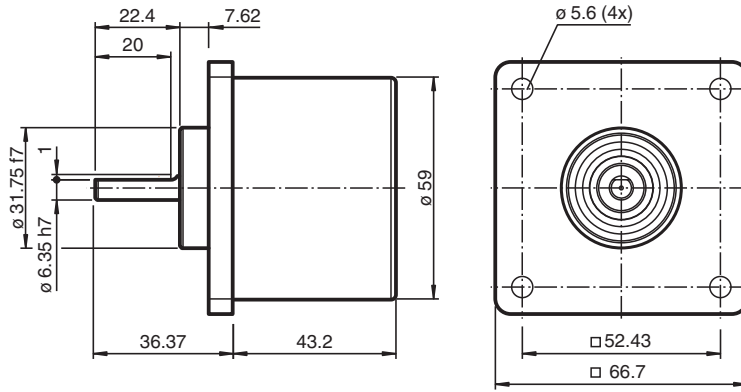
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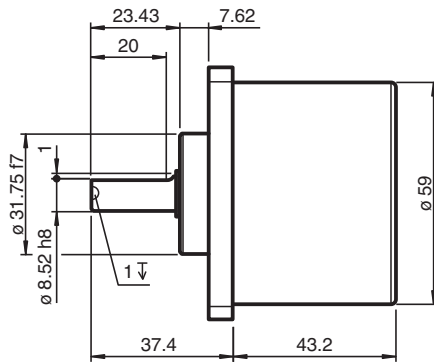
Dimensions

Square flange with cable and connector M12, M23 (radial)

1/4"



3/8



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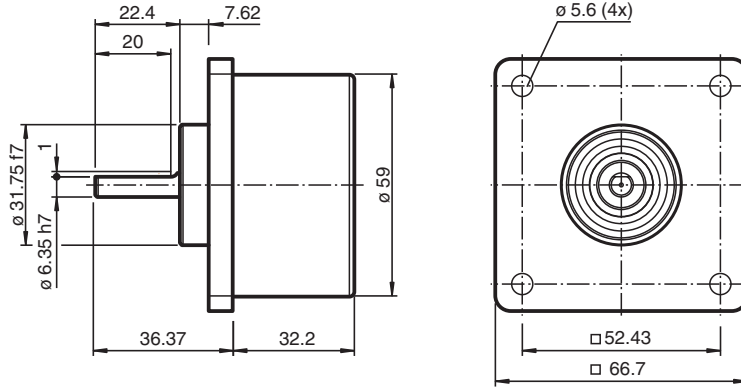
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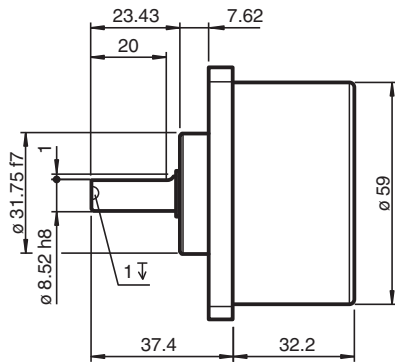
Dimensions

Square flange with cable and connector M12, M23 (axial)

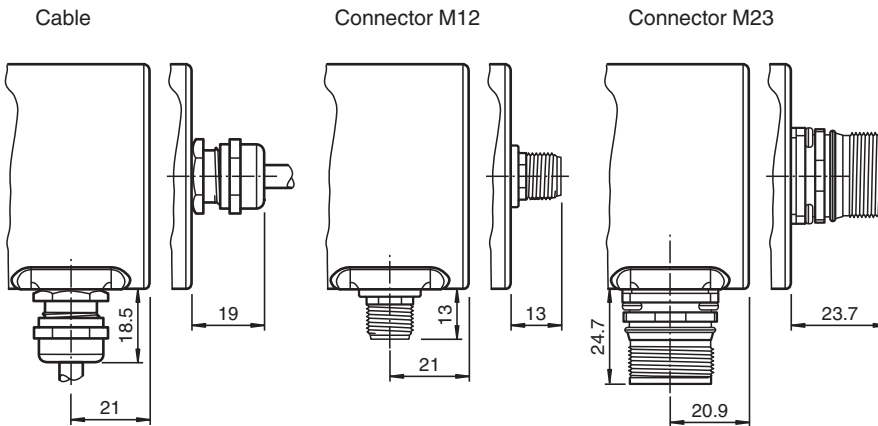
1/4"



3/8



Connections



Technical Data




General specifications	
Detection type	magnetic sampling
Linearity error	± 0.1 °
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

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Technical Data

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		
Housing		nickel-plated steel , painted
Flange		Aluminum
Shaft		Stainless steel
Mass		ca 300 g
Rotational speed		max. 12000 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

Accessories

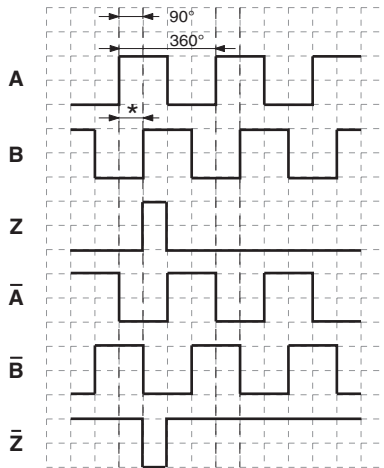
	V15S-G-0,5M-CGR-BE	Adapter cable for programmable ENI58PL-*****-1024CGR-*BE
	V15S-G-0,5M-CGR-AA	Adapter cable for programmable ENI58PL-*****-1024CGR-*AA
	V15S-G-0,5M-CGR-AB	Adapter cable for programmable ENI58PL-*****-1024CGR-*AB
	V15S-G-0,5M-CGR-TC	Adapter cable for programmable ENI58PL-*****-1024CGR-*C*
	V15S-G-0,5M-CGR-BD	Adapter cable for programmable ENI58PL-*****-1024CGR-*BD
	V19-G-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

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 - S - - - - - 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

- CA** Clamping flange
- SA** Servo flange
- QA** Square flange

Shaft diameter

- 06** 6 mm
- 10** 10 x 20 mm
- U2** 1/4 inch with square flange only
- U3** 3/8 inch with square flange only

Shaft type

- S** Solid shaft

Version

- PL** Premium Line

Size

- 58** Housing diameter 58 mm

Device type

- ENI** Incremental rotary encoder

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