



## Incremental rotary encoder

### ENI58PU-S\*\*Q\*

- Housing Ø 58 mm
- Solid shaft
- Up to 2048 pulses
- Square flange
- Universal output driver
- BlueBeam technology for ultimate precision

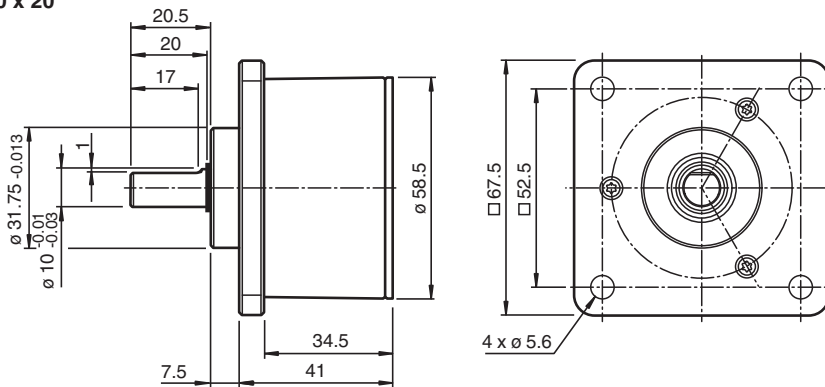


## Function

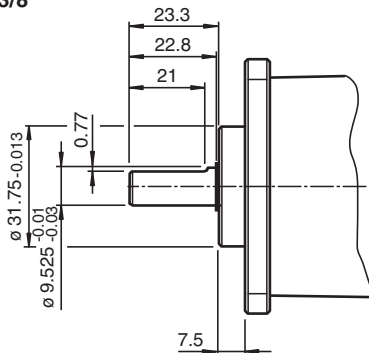
The ENI58PU is the basic version of the ENI58 series and impresses with its high robustness and modular design, which includes cable lengths and mechanical variants. With its high-precision BlueBeam technology and innovative housing design, the ENI58PU sets the new market standard for incremental rotary encoders.

## Dimensions

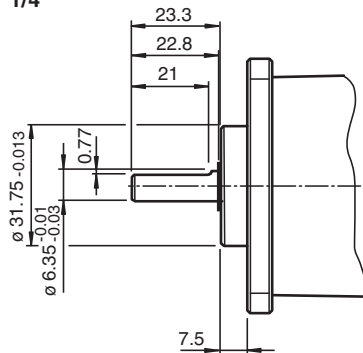
10 x 20



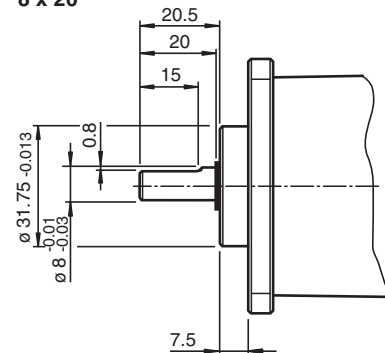
3/8"



1/4"

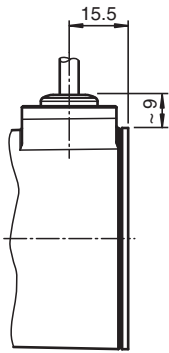


8 x 20



## Dimensions

### Connection



## Technical Data

General specifications	
Detection type	photoelectric sampling
Linearity error	$\pm 0.025^\circ$
Pulse count	max. 2048
Electrical specifications	
Operating voltage	$U_B$ 4.75 ... 30 V DC
No-load supply current	$I_0$ max. 50 mA
Output	
Output type	push-pull or RS422 (universal output driver, output level depending on input voltage)
Load current	max. per channel 40 mA , short-circuit protected, reverse polarity protected
Output frequency	max. 400 kHz
Rise time	300 ns
Phase position A to B	$90^\circ \pm 9^\circ$ electrical
Duty cycle	$1/2 \pm 10\%$
Connection	
Cable	$\varnothing 6$ mm, 4 x 2 x 0.14 mm <sup>2</sup>
Standard conformity	
Degree of protection	DIN EN 60529, IP54
Climatic testing	DIN EN 60068-2-78 , no moisture condensation
Emitted interference	EN IEC 61000-6-4:2019
Noise immunity	EN IEC 61000-6-2:2019
Shock resistance	DIN EN 60068-2-27, 100 g, 6 ms
Vibration resistance	DIN EN 60068-2-6, 10 g, 10 ... 2000 Hz
Approvals and certificates	
UL approval	E223176 , cULus Listed, General Purpose, Class 2 Power Source, Type 1 enclosure , if UL marking is marked on the product. For use in NFPA 79 Applications only. adapters providing field wiring on request
Maximum permissible ambient temperature	max. 80 °C (max. 176 °F)
Ambient conditions	
Operating temperature	-20 ... 70 °C (-4 ... 158 °F) , cable, fixed installation -5 ... 70 °C (23 ... 158 °F) , movable cable
Storage temperature	-20 ... 70 °C (-4 ... 158 °F)
Mechanical specifications	
Material	
Housing	aluminum, blank
Flange	aluminum, blank
Shaft	Solid shaft Stainless steel
Mass	< 400 g without cable
Rotational speed	max. 6000 min <sup>-1</sup>
Moment of inertia	$\leq 35$ gcm <sup>2</sup>

Release date: 2025-05-14 Date of issue: 2025-05-14 Filename: t215152\_eng.pdf

## Technical Data

Starting torque	≤ 0.01 Nm
Shaft load	
Axial	≤ 40 N
Radial	≤ 80 N
Dimensions	
Diameter	58.5 mm

## Type Code

### Structure of the type code

E	N	I	5	8	P	U	-	S	(1)	(1)	Q	A	4	-	(2)	(2)	(2)	(2)	(3)	(3)	(3)	-	R	(4)	(4)
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<b>ENI</b>	<b>Device type</b>
ENI	Incremental rotary encoder

<b>58</b>	<b>Size</b>
58	Housing diameter 58 mm

<b>PU</b>	<b>Version</b>
PU	Pure Line

<b>S</b>	<b>Shaft type</b>
S	Solid shaft

<b>(1) (1)</b>	<b>Shaft diameter</b>
08	8 x 20 mm
10	10 x 20 mm
U2	1/4 inch x 23 mm
U3	3/8 inch x 23 mm

<b>QA</b>	<b>Flange</b>
QA	Square flange

<b>4</b>	<b>Degree of protection</b>
4	IP54

<b>(2) (2) (2) (2)</b>	<b>Pulse count</b>
0360	360 pulses
1024	1024 pulses
2048	2048 pulses

<b>(3) (3) (3)</b>	<b>Electrical interface</b>
UD1	Universal output driver, U <sub>B</sub> 4.75 V ... 30 V
UD2	RS422, U <sub>B</sub> 4.75 V ... 30 V

<b>R</b>	<b>Connection alignment</b>
R	Radial

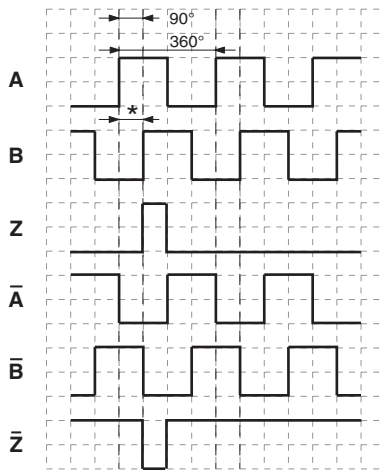
<b>(4) (4)</b>	<b>Connection type</b>
C1	Cable, 1 m
C2	Cable, 2 m
C5	Cable, 5 m

**Connection**

Signal	Cable
GND	White
U <sub>b</sub>	Brown
A	Green
B	Grey
$\bar{A}$	Yellow
$\bar{B}$	Pink
Z	Blue
$\bar{Z}$	Red
Shielding	Shield
	<b>Note:</b> Unused cores must be insulated individually before commissioning in order to avoid interference.

**Operation**

**Signal outputs**



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