

# Incremental rotary encoder

## ENI58PU-R\*

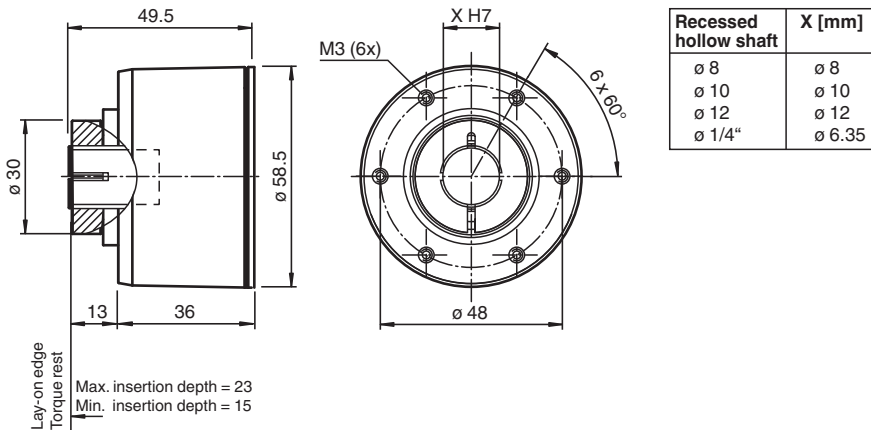
- Housing Ø 58 mm
- Recessed hollow shaft
- Up to 2048 pulses
- Universal output driver
- BlueBeam technology for ultimate precision



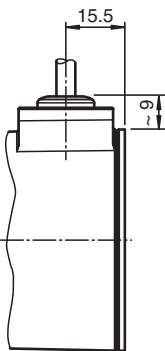
### Function

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



### Connection

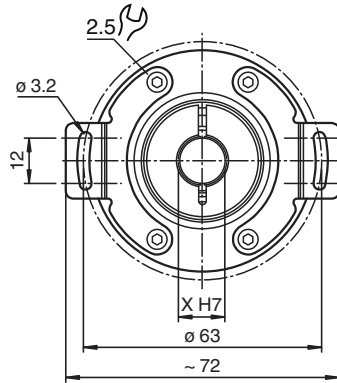
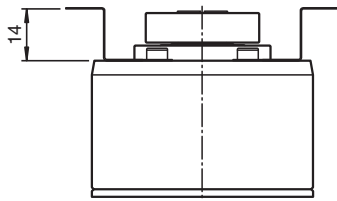


Release date: 2025-05-08 Date of issue: 2025-05-08 Filename: I215150\_eng.pdf

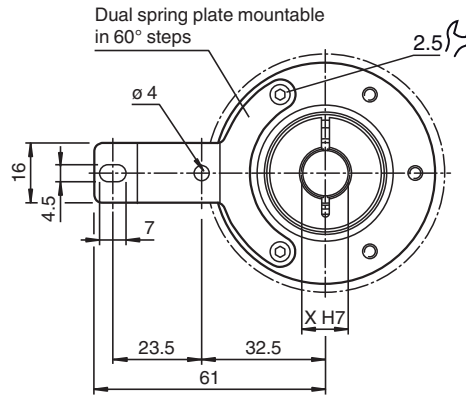
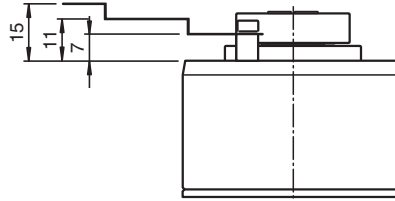
**Dimensions**

**Spring plates DA / BA / JA / LA**

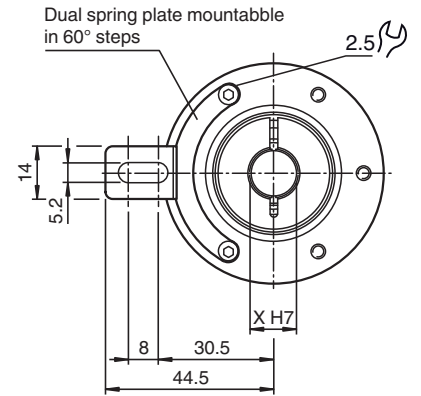
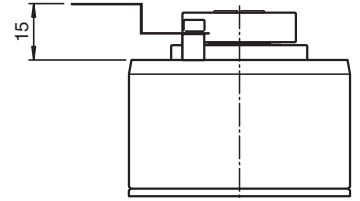
**DA**  
for more accurate measuring tasks



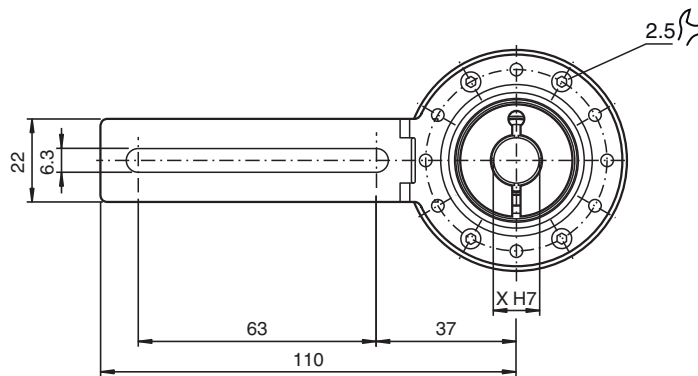
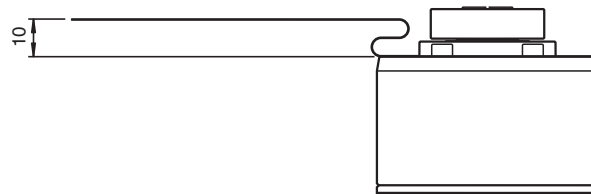
**BA**  
for standard application



**JA**  
for confined installation space



**LA**  
for larger distance to mounting point



**Technical Data**

**General specifications**

Detection type	photoelectric sampling
Linearity error	± 0.025 °
Pulse count	max. 2048

**Electrical specifications**

Operating voltage	U <sub>B</sub>	4.75 ... 30 V DC
No-load supply current	I <sub>0</sub>	max. 50 mA

**Output**

Release date: 2025-05-08 Date of issue: 2025-05-08 Filename: t215150\_eng.pdf

## Technical Data

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 ° ± 9 ° electrical
Duty cycle	1/2 ± 10 %
<b>Connection</b>	
Cable	Ø6 mm, 4 x 2 x 0.14 mm <sup>2</sup>
<b>Standard conformity</b>	
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
<b>Approvals and certificates</b>	
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)
<b>Ambient conditions</b>	
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)
<b>Mechanical specifications</b>	
Material	
Housing	aluminum, blank
Flange	aluminum, blank
Shaft	Recessed hollow shaft Stainless steel
Mass	< 300 g without cable
Rotational speed	max. 6000 min <sup>-1</sup>
Moment of inertia	≤ 60 gcm <sup>2</sup>
Starting torque	≤ 0.015 Nm
Shaft load	
Angle offset	max. 1 °
Axial offset	max. 1 mm
Dimensions	
Diameter	58.5 mm

## Type Code

### Structure of the type code

E	N	I	5	8	P	U	-	R	(1)	(1)	(2)	(2)	4	-	(3)	(3)	(3)	(3)	(4)	(4)	(4)	(4)	-	R	(5)	(5)
---	---	---	---	---	---	---	---	---	-----	-----	-----	-----	---	---	-----	-----	-----	-----	-----	-----	-----	-----	---	---	-----	-----

<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>R</b>	<b>Shaft type</b>
R	Recessed hollow shaft

<b>(1) (1)</b>	<b>Shaft diameter</b>
08	8 mm

## Type Code

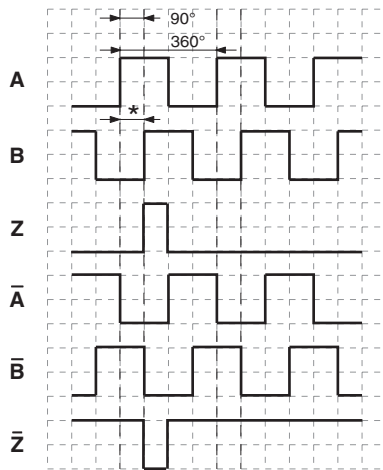
(1) (1) Shaft diameter	
10	10 mm
12	12 mm
U2	1/4 inch
(2) (2) Flange	
BA	Spring plate, single long
JA	Spring plate, single short
DA	Dual spring plate
LA	Spring plate, single extra long
4 Degree of protection	
4	IP54
(3) (3) (3) (3) Pulse count	
0360	360 pulses
1024	1024 pulses
2048	2048 pulses
(4) (4) (4) Electrical interface	
UD1	Universal output driver, $U_B$ 4.75 V ... 30 V
UD2	RS422, $U_B$ 4.75 V ... 30 V
R Connection alignment	
R	Radial
(5) (5) Connection type	
C1	Cable, 1 m
C2	Cable, 2 m
C5	Cable, 5 m

## Connection

Signal	Cable
GND	White
$U_b$	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