

Incremental encoders

With blind or through hollow shaft

1...65536 pulses per revolution programmable

EIL580P - hollow shaft



EIL580P with blind hollow shaft

Features

- Size $\varnothing 58$ mm
- Precise optical sensing
- Output signal level programmable (TTL or HTL)
- Blind hollow or through hollow shaft, $\varnothing 8...15$ mm
- Connection axial, radial or tangential
- Pulses per revolution 1...65536, programmable
- High protection up to IP67
- High resistance to shock and vibrations

Technical data - electrical ratings

Voltage supply	4.75...30 VDC
Reverse polarity protection	Yes
Short-circuit proof	Yes
Consumption w/o load	≤ 70 mA
Initializing time	≤ 30 ms after power on
Pulses per revolution	1...65536
Duty cycle	45...55 % typical at 2048 ppr
Reference signal	Zero pulse 90° or 180°
Sensing method	Optical
Output frequency	≤ 300 kHz (TTL) ≤ 160 kHz (HTL)
Output signals	A+, B+, R+, A-, B-, R-
Output stage	TTL/RS422 HTL/push pull
Programmable parameters	Output level TTL/HTL Pulse number 1...65536 Zero pulse width $90^\circ/180^\circ$ Zero pulse position Signal sequence
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3
Approval	UL 508 / CSA 22.2

Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Motor shaft tolerance	0.2 mm axial 0.03 mm radial
Protection DIN EN 60529	IP 65 (without shaft seal), IP 67 (with shaft seal)
Starting torque	≤ 0.02 Nm ($+20^\circ\text{C}$, IP 65) ≤ 0.025 Nm ($+20^\circ\text{C}$, IP 67)
Materials	Housing: aluminium die-cast Flange: aluminium
Operating temperature	$-40...+100^\circ\text{C}$
Relative humidity	90 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 30 g, 10-2000 Hz DIN EN 60068-2-27 Shock 250 g, 6 ms
Connection	Flange connector M12, 8-pin Flange connector M23, 12-pin Cable
Weight approx.	300 g

EIL580P - blind hollow shaft

Shaft type	$\varnothing 8...15$ mm (blind hollow shaft)
Operating speed	≤ 6000 rpm ($+20^\circ\text{C}$, IP 67) ≤ 8000 rpm ($+20^\circ\text{C}$, IP 65)

EIL580P - through hollow shaft

Shaft type	$\varnothing 8...15$ mm (through hollow shaft)
Operating speed	≤ 3000 rpm ($+20^\circ\text{C}$, IP 67) ≤ 6000 rpm ($+20^\circ\text{C}$, IP 65)

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Part number

Through hollow shaft

EIL580P- T 01024 . B

Operating temperature
B -40...+100 °C

Pulses programmable
01024 1024 (factory setting)

Voltage supply / output circuit
F 4.75...30 VDC, TTL/RS422, 6 channel (Vout = 5 VDC) - Factory setting
Q 4.75...30 VDC, HTL/push pull, 6 channel (Vout = Vin)

Connection
R Cable radial, 1 m
L Cable radial, 2 m
F Flange connector M23, 12-pin, radial, pin terminals, ccw
B Flange connector M12, 8-pin, radial, pin terminals, ccw
P Cable tangential, 1 m
Q Cable tangential, 2 m

Protection
5 IP 65
7 IP 67

Specification hollow shaft
08 ø8 mm, clamping ring at A side | U4 ø1/2" (12.7 mm), clamping ring at A side
U3 ø3/8" (9,52 mm), clamping ring at A side | **14 ø14 mm, clamping ring at A side**
10 ø10 mm, clamping ring at A side | **15 ø15 mm, clamping ring at A side**
12 ø12 mm, clamping ring at A side

Flange
N Without stator coupling
T With stator coupling ø63 mm
P Pin torque support 3 mm, axial/radial

Shaft type
T Through hollow shaft

Printed in **bold** = standard items (up to the quantity of 10 will be supplied within 5 working days).

(Factory setting: 1024 ppr, Vout = 5 VDC TTL, signal sequence A leads B (CW), zero pulse 90° A&B high)

1...65536 pulses programmable.

Stock items

EIL580P-TT12.5FF.01024.B | EIL580P-TT14.5FF.01024.B

Numerous stock items in single quantity will be supplied within 24 hours respectively one day ex works.

Incremental encoders

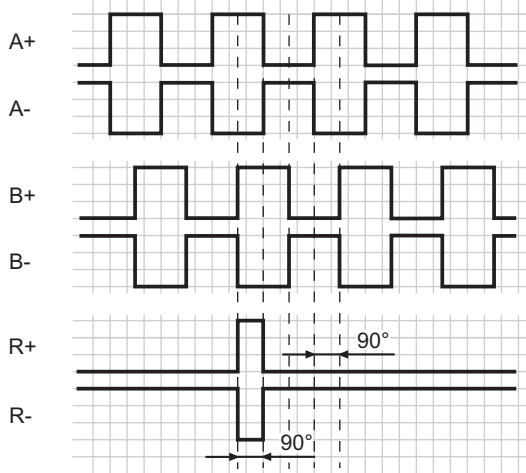
With blind or through hollow shaft

1...65536 pulses per revolution programmable

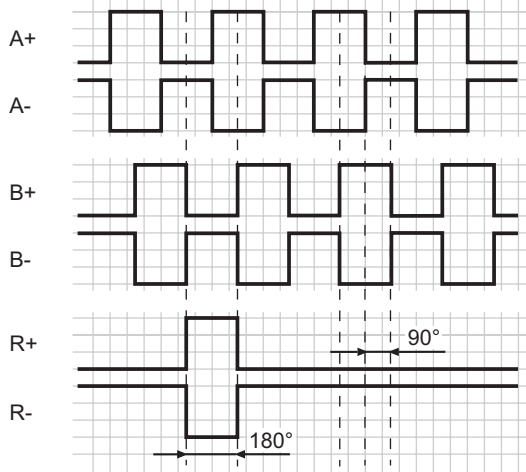
EIL580P - hollow shaft

Output signals

Zero pulse electrical 90° A&B high
(Factory setting at clockwise rotation (CW)
in view of the encoder flange)



Zero pulse electrical 180° B low
(at clockwise rotation (CW)
in view of the encoder flange)



Trigger level

Outputs	TTL/RS422
Output level High	≥ 2.5 V
Output level Low	≤ 0.5 V
Load	≤ 20 mA

Outputs	HTL/Push-pull
Output level High	$\geq U_B - 3$ V
Output level Low	≤ 1.5 V
Load	≤ 20 mA

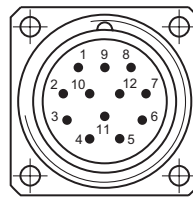
Terminal assignment

Flange connector M23, 12-pin / cable

Pin	Core color	Assignment
1	pink	B-
2	–	–
3	blue	R+
4	red	R-
5	green	A+
6	yellow	A-
7	–	–
8	grey	B+
9	–	–
10	white	GND
11	–	–
12	brown	UB

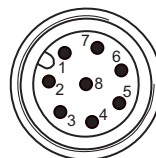
Screen: Connected to housing

Cable data: PUR, [4x2x0.14 mm²], bending radius >45.8 mm, Outer diameter 6.1 mm



Flange connector M12, 8-pin

Pin	Assignment
1	GND
2	UB
3	A+
4	A-
5	B+
6	B-
7	R+
8	R-



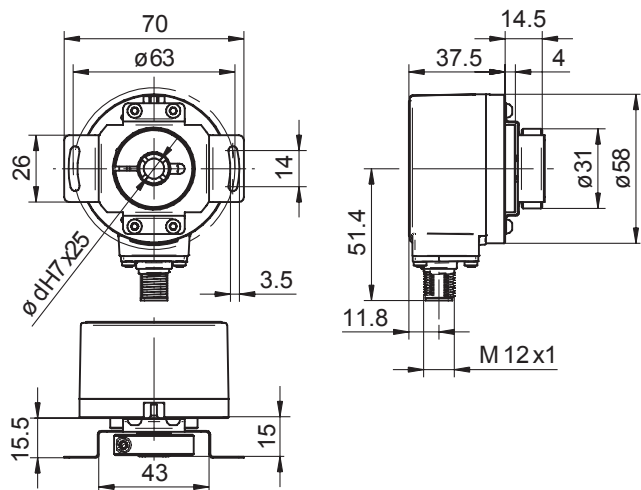
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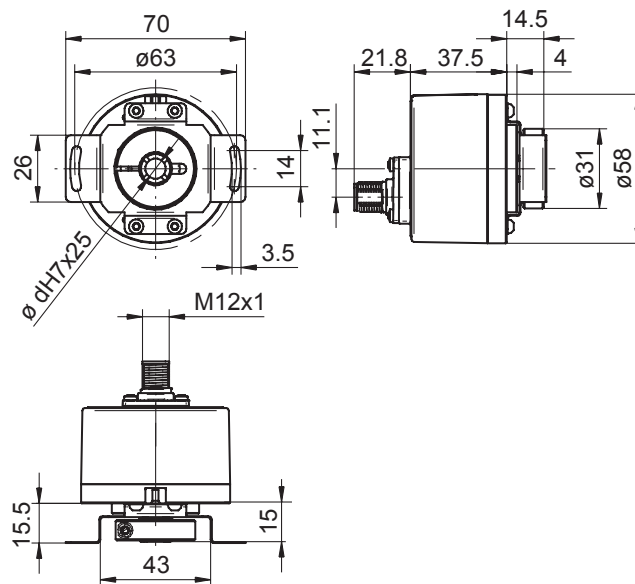
EIL580P - hollow shaft

Dimensions

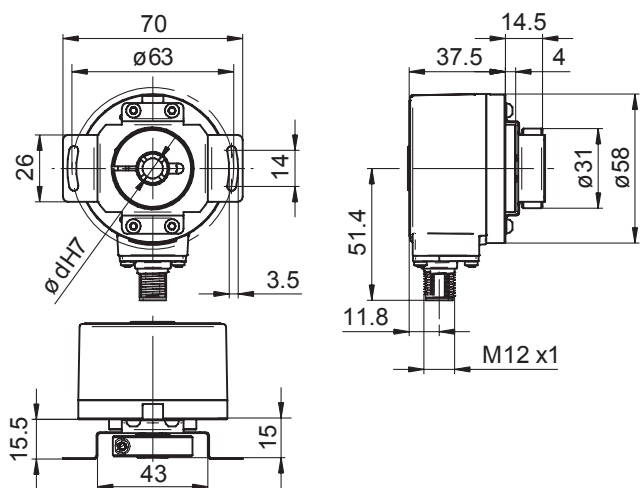
Blind hollow shaft, flange connector M12 radial



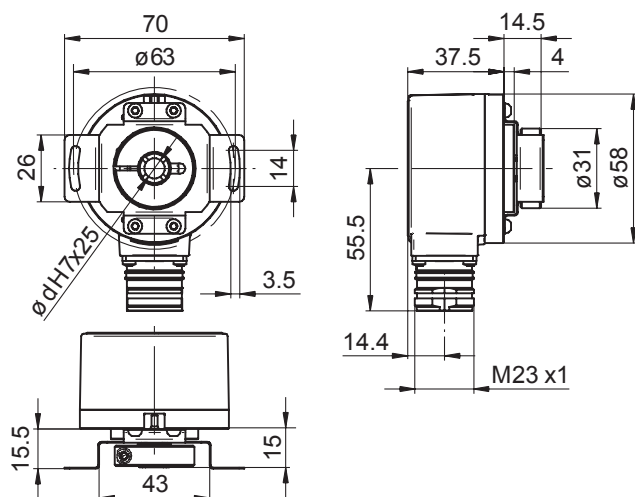
Blind hollow shaft, flange connector M12 axial



Through hollow shaft, flange connector M12 radial



Blind hollow shaft, flange connector M23 radial



Incremental encoders

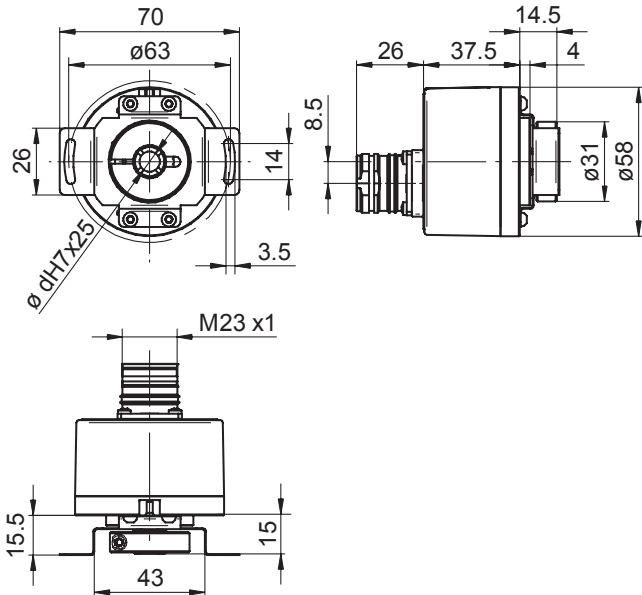
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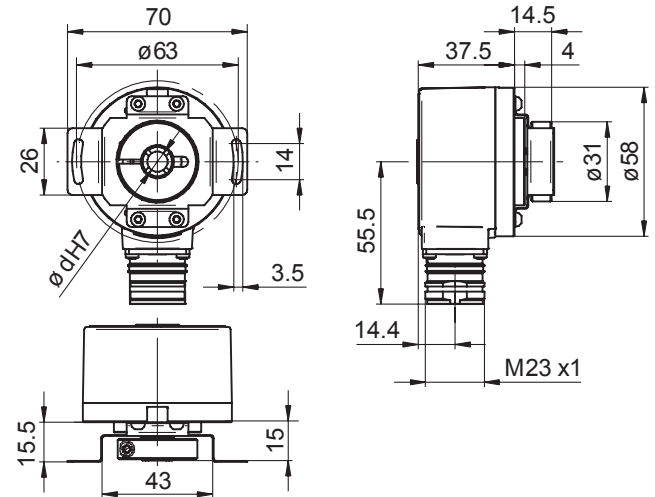
EIL580P - hollow shaft

Dimensions

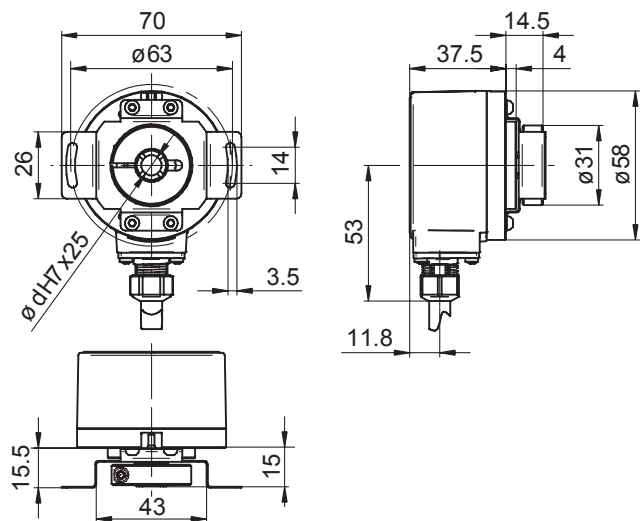
Blind hollow shaft, flange connector M23 axial



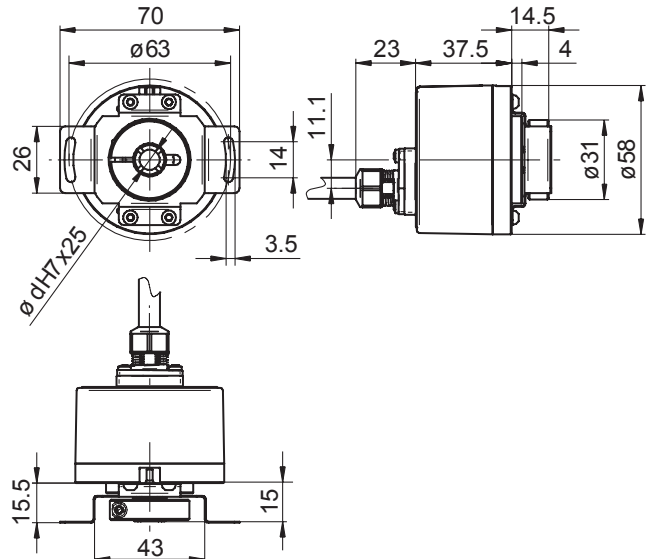
Through hollow shaft, flange connector M23 radial



Blind hollow shaft, cable radial



Blind hollow shaft, cable axial



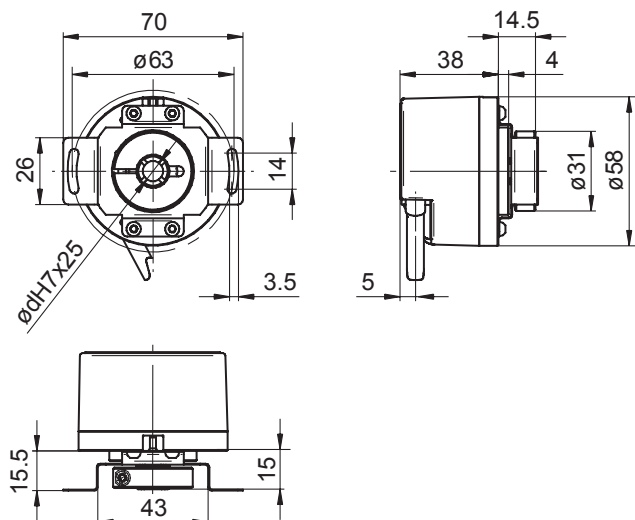
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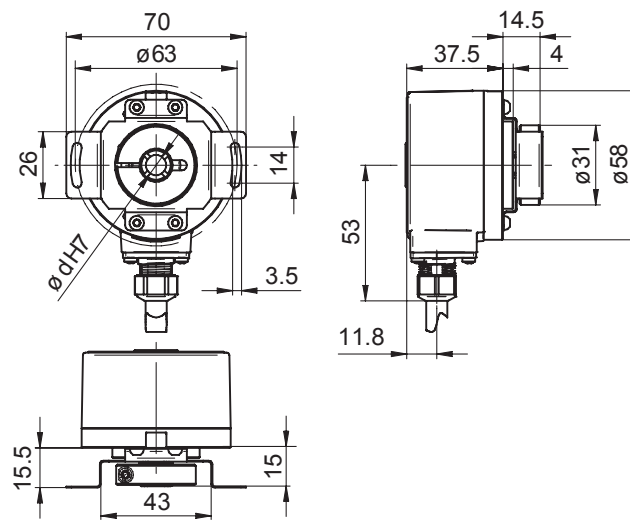
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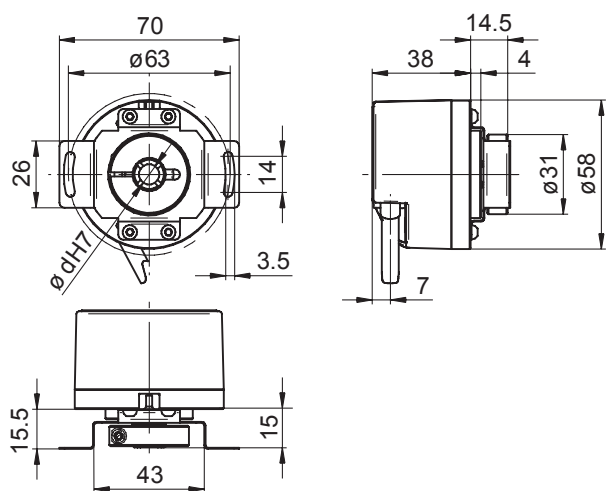
Blind hollow shaft, cable tangential



Through hollow shaft, cable radial



Through hollow shaft, cable tangential



Pin torque support, axial

