Incremental encoders

Solid shaft with clamping or synchro flange

1…65536 pulses per revolution programmable

EIL580P - solid shaft

EIL580P with clamping flange

Features

- **Size ø58 mm**
- **Precise optical sensing**
- **Output signal level programmable (TTL or HTL)**
- **Clamping or synchro flange**
- **Connection axial, radial or tangential**
- **Pulses per revolution 1...65536, programmable**
- **High protection up to IP67**
- **High shock and vibration resistance**

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°/180° 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)	ø58 mm
Shaft loading	≤40 N axial ≤80 N radial
Protection DIN EN 60529	IP 65 (without shaft seal), IP 67 (with shaft seal)
Operating speed	≤6000 rpm (+20 °C, IP 67) ≤12000 rpm (+20 °C, IP 65)
Starting torque	≤0.01 Nm (+20 °C, IP 65) ≤0.02 Nm (+20 °C, IP 67)
Materials	Housing: aluminium die-cast Flange: aluminium Solid shaft: stainless steel
Operating temperature	-40...+100 °C
Relative humidity	90 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 30 g, 10-2000 Hz DIN EN 60068-2-27 Shock 300 g, 6 ms
Connection	Flange connector M12, 8-pin Flange connector M23, 12-pin Cable
Weight approx.	300 g
EIL580P - clamping flange	
Shaft type	ø10 x 20 mm, solid shaft with edge (clamping flange)
EIL580P - synchro flange	
Shaft type	ø6 x 10 mm, solid shaft with edge (synchro flange)

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Part number

Clamping flange

EIL580P-S	C	10	.				.	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
T Cable axial, 1 m
U Cable axial, 2 m
D Flange connector M23, 12-pin, axial, pin terminals, ccw
A Flange connector M12, 8-pin, axial, pin terminals, ccw
P Cable tangential, 1 m
Q Cable tangential, 2 m

Protection
5 IP 65
7 IP 67

Specification solid shaft
10 ø10 x 20 mm, with edge

Flange
C Clamping flange, centering collar ø36 mm, M3/M4

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-SC10.5FF.01024.B | EIL580P-SC10.5RF.01024.B

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

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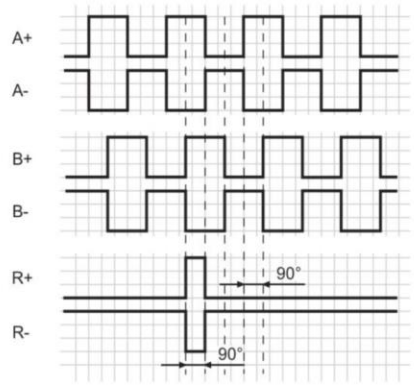
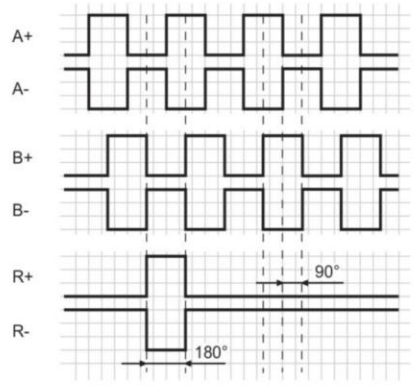
Output signals

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

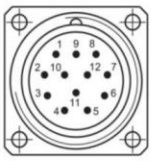
Outputs	**TTL/RS422**
Output level High	≥2.5 V
Output level Low	≤0.5 V
Load	≤20 mA

Outputs	**HTL/Push-pull**
Output level High	≥UB -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	



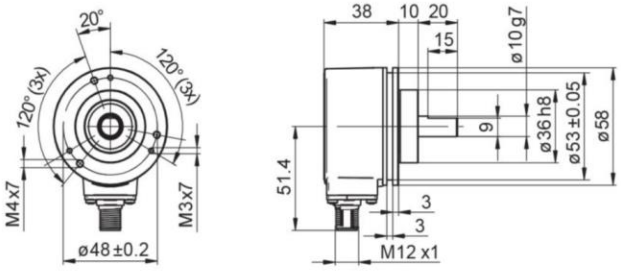
Flange connector M12, 8-pin

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

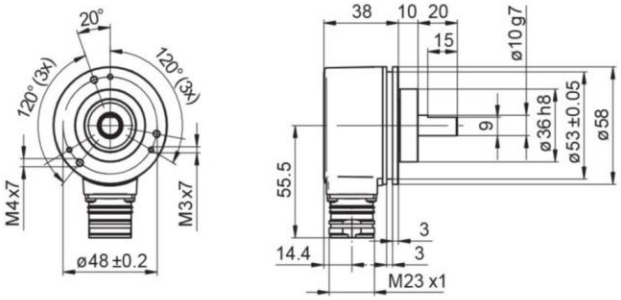
EIL580P - solid shaft

Dimensions

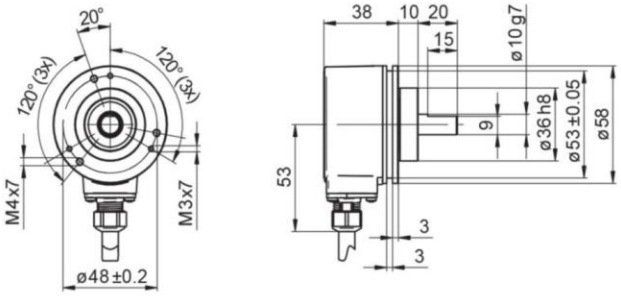
Clamping flange, flange connector M12, radial



Clamping flange, flange connector M23, radial



Clamping flange, cable radial



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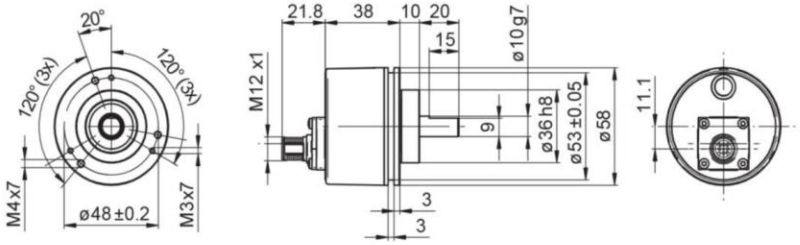
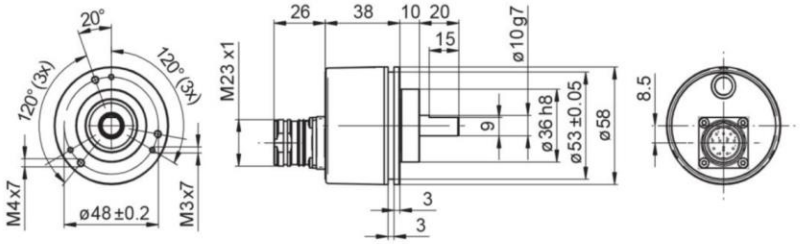
Dimensions

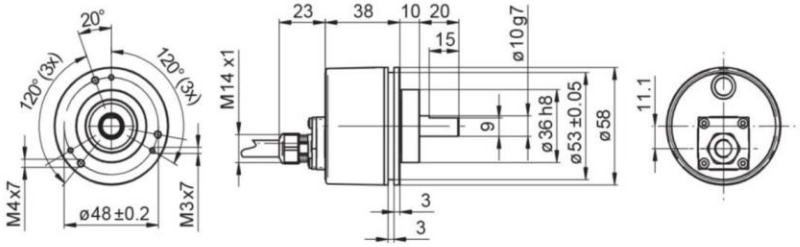
Clamping flange, flange connector M12, axial



Clamping flange, flange connector M23, axial

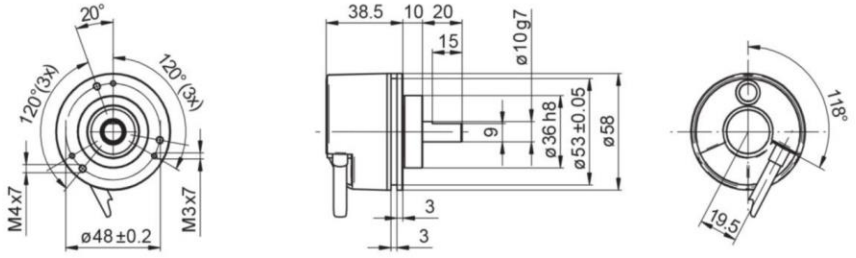


Clamping flange, cable axial

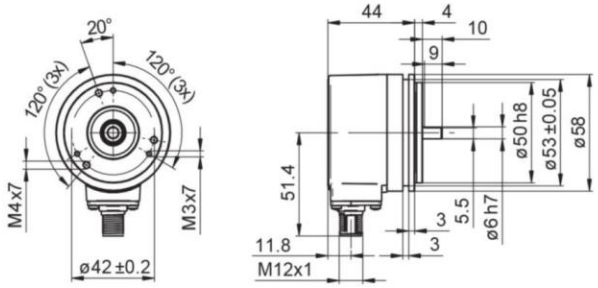


Dimensions

Clamping flange, cable tangential



Synchro flange, flange connector M12, radial



Synchro flange, flange connector M23, radial