

# Incremental encoders

## Solid shaft with clamping or synchro flange

1...65536 pulses per revolution programmable

### EIL580P - solid shaft



EIL580P with clamping flange

#### 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

#### Features

- Size  $\varnothing$ 58 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 - mechanical design

Size (flange)	$\varnothing$ 58 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	$\varnothing$ 10 x 20 mm, solid shaft with edge (clamping flange)
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#### EIL580P - synchro flange

Shaft type	$\varnothing$ 6 x 10 mm, solid shaft with edge (synchro flange)
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#### EIL580P - solid shaft

Part number										
Synchro flange										
EIL580P-S	Y	06	.				.	01024	.	B
										Operating temperature
										B -40...+100 °C
										Pulses programmable
								01024		1024 (factory setting)
										Voltage supply / output circuit
										<b>F 4.75...30 VDC, TTL/RS422, 6 channel (Vout = 5 VDC) - Factory setting</b>
										Q 4.75...30 VDC, HTL/push pull, 6 channel (Vout = Vin)
										Connection
										<b>R Cable radial, 1 m</b>
										L Cable radial, 2 m
										<b>F Flange connector M23, 12-pin, radial, pin terminals, ccw</b>
										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
										<b>5 IP 65</b>
										7 IP 67
										Specification solid shaft
										06 ø6 x 10 mm, with edge
										Flange
										Y Synchro flange, flute ø53 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-SY06.5FF.01024.B | EIL580P-SY06.5RF.01024.B

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

# Incremental encoders

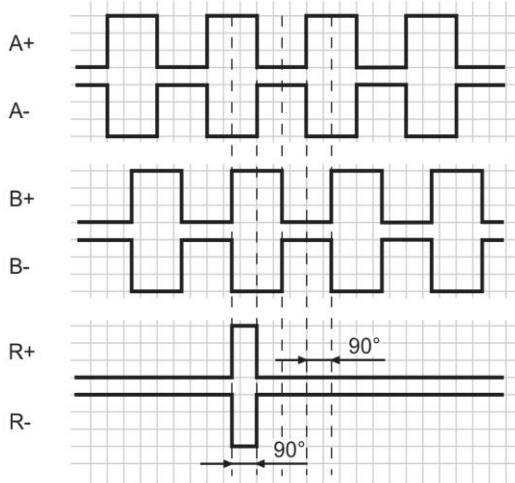
## Solid shaft with clamping or synchro flange

1...65536 pulses per revolution programmable

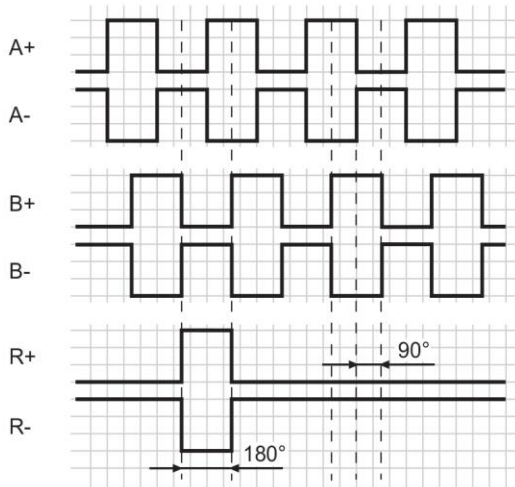
### EIL580P - solid shaft

#### 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  $\geq 2.5$  V

Output level Low  $\leq 0.5$  V

Load  $\leq 20$  mA

##### Outputs HTL/Push-pull

Output level High  $\geq UB - 3$  V

Output level Low  $\leq 1.5$  V

Load  $\leq 20$  mA

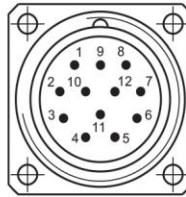
#### Terminal assignment

##### 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 mm<sup>2</sup>], 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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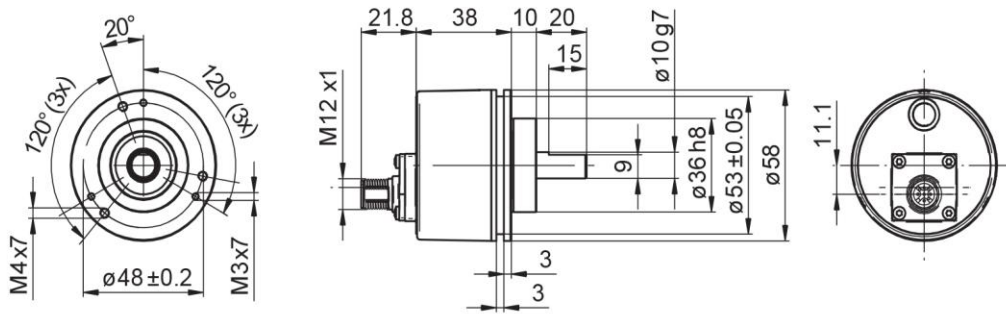
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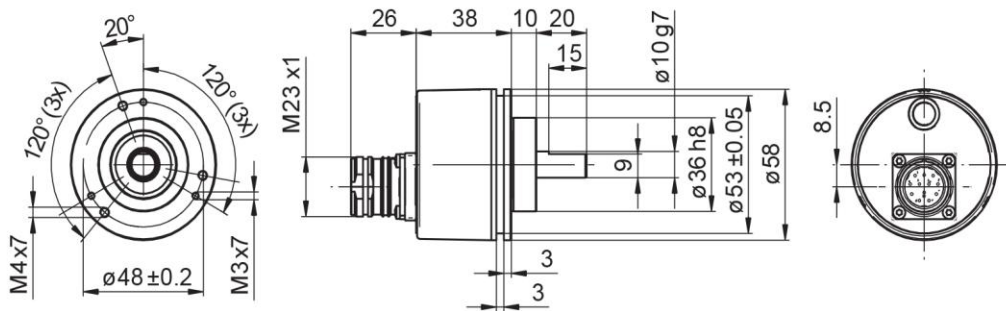
## EIL580P - solid shaft

### Dimensions

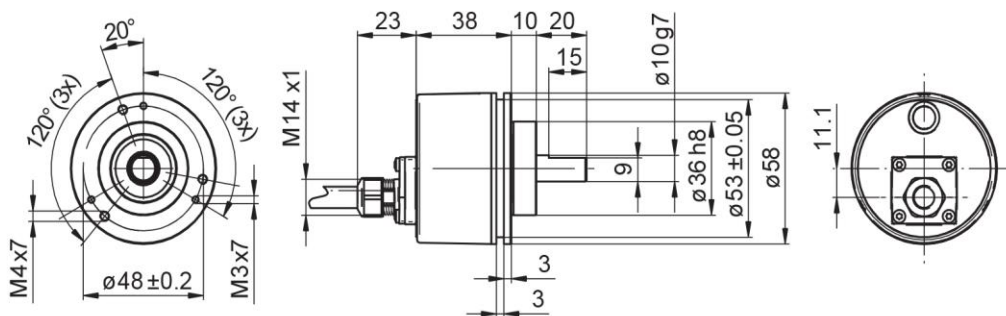
#### Clamping flange, flange connector M12, axial



#### Clamping flange, flange connector M23, axial



#### Clamping flange, cable axial





# Incremental encoders

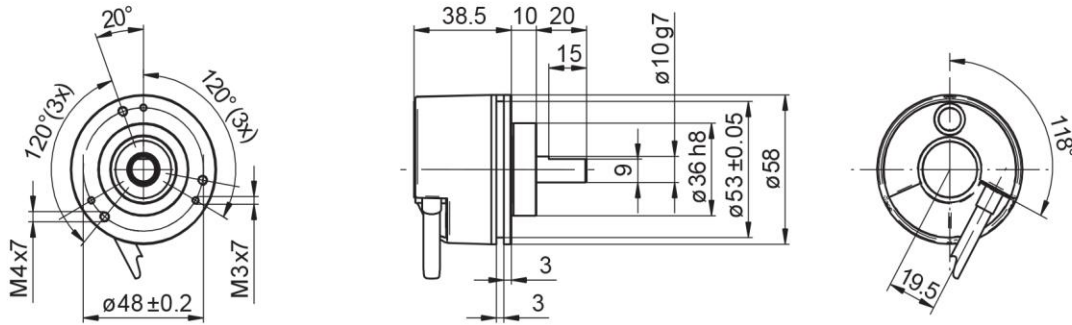
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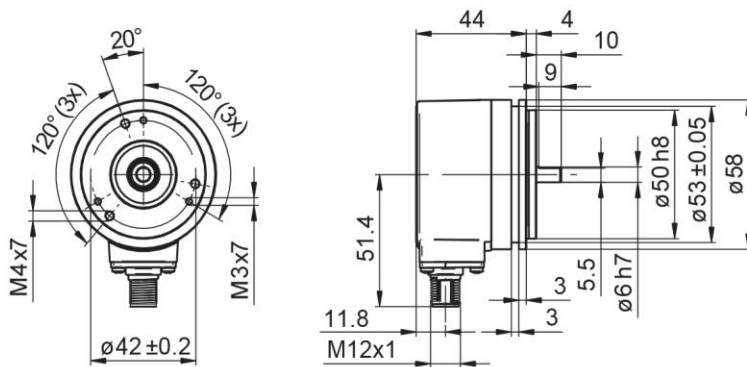
EIL580P - solid shaft

#### Dimensions

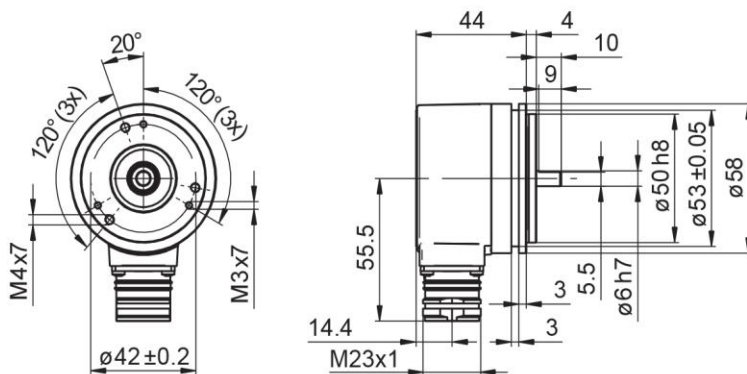
##### Clamping flange, cable tangential



##### Synchro flange, flange connector M12, radial



##### Synchro flange, flange connector M23, radial



Subject to modification in technic and design. Errors and omissions excepted.

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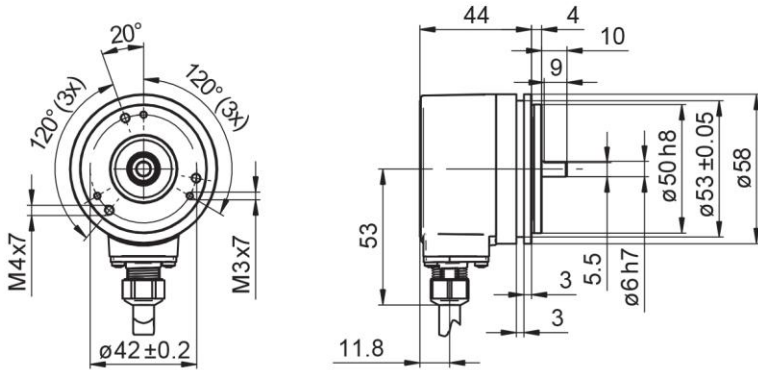
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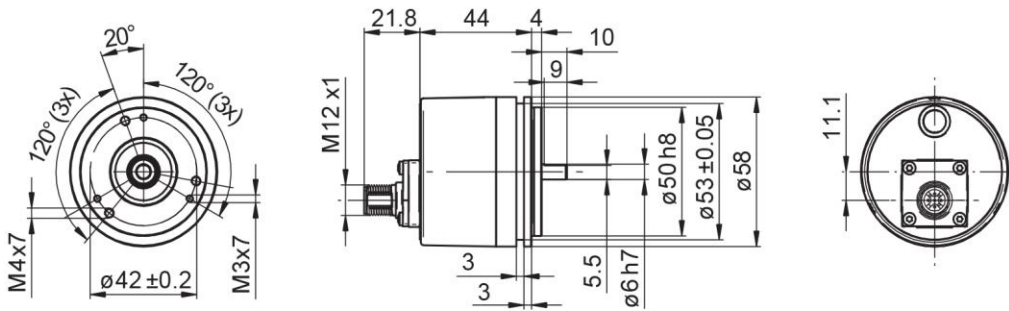
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### Dimensions

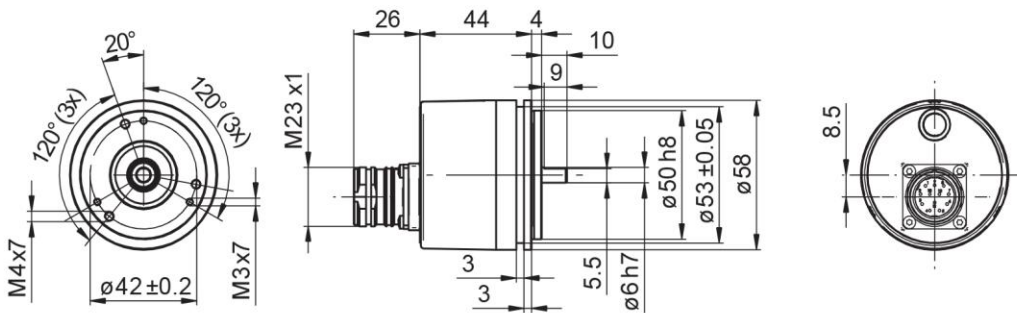
#### Synchro flange, cable radial



#### Synchro flange, flange connector M12, axial



#### Synchro flange, flange connector M23, axial



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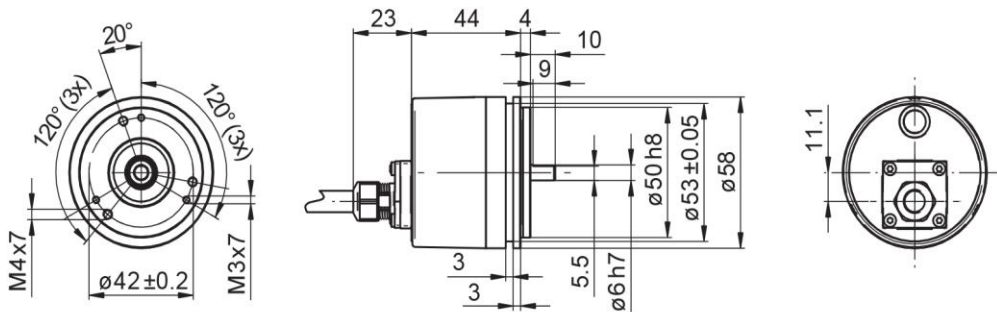
## Solid shaft with clamping or synchro flange

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#### Dimensions

##### Synchro flange, cable axial



##### Synchro flange, cable tangential

