

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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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

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

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.

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Accessories

Connectors and cables

10127844	Connection cable 2 m shielded with female connector M12, 8-pin, straight (ESG 34FH0200G)
10129332	Connection cable 5 m shielded with female connector M12, 8-pin, straight (ESG 34FH0500G)
10129333	Connection cable 10 m shielded with female connector M12, 8-pin, straight (ESG 34FH1000G)
11053961	Connection cable 2 m shielded with female connector M12, 8-pin, angled (ESW 33FH0200G)
11053962	Connection cable 5 m shielded with female connector M12, 8-pin, angled (ESW 33FH0500G)
10170054	Connection cable 10 m shielded with female connector M12, 8-pin, angled (ESW 33FH1000G)
10164705	Connector M23, 12-pin
11095302	Connection cable 1 m shielded with female connector M23, 12-pin
11100408	Connection cable 2 m shielded with female connector M23, 12-pin
11100430	Connection cable 5 m shielded with female connector M23, 12-pin
11100431	Connection cable 10 m shielded with female connector M23, 12-pin
11119280	Connection cable connector M12 / connector D-SUB, 0.2 m
11119720	Connection cable connector M12 / connector D-SUB, 1 m
11119257	Connection cable connector M23 / connector D-SUB, 0.2 m (S2BG12/K4SG9)
11119723	Connection cable connector M23 / connector D-SUB, 1 m (S2BG12/K4SG9)

Mounting accessories for EIL580P - clamping flange

11065915	Coupling CPS25 L=19 d1=04/d2=10
11065918	Coupling CPS25 L=19 d1=07/d2=10
11065920	Coupling CPS25 L=19 d1=08/d2=10
11065921	Coupling CPS25 L=19 d1=09/d2=10
11065922	Coupling CPS25 L=19 d1=10/d2=06
11065923	Coupling CPS25 L=19 d1=10/d2=10
11065924	Coupling CPS25 L=19 d1=10/d2=11
11065925	Coupling CPS25 L=19 d1=10/d2=12
10141132	Spring washer coupling D1=06 / D2=10
10141133	Spring washer coupling D1=10 / D2=10
11034138	Spring washer coupling D1=10 / D2=16
11034140	Spring washer coupling D1=10 / D2=14

Mounting accessories for EIL580P - clamping flange

11034141	Spring washer coupling D1=10 / D2=12
11050507	Bellows coupling aluminium/stainless steel D1=06 / D2=10
11101781	Double loops coupling D1=10 / D2=10
10125051	Mounting adaptor for encoders with clamping flange
11065545	Set of eccentric fixings type A
11101893	Spring encoder arm

Mounting accessories for EIL580P - synchro flange

11065916	Coupling CPS25 L=19 d1=06/d2=06
11065917	Coupling CPS25 L=19 d1=06/d2=08
11065922	Coupling CPS25 L=19 d1=10/d2=06
11065926	Coupling CPS25 L=19 d1=11/d2=06
11065928	Coupling CPS25 L=19 d1=12/d2=06
10141131	Spring washer coupling D1=06 / D2=06
10141132	Spring washer coupling D1=06 / D2=10
11034139	Spring washer coupling D1=06 / D2=16
11050507	Bellows coupling aluminium/stainless steel D1=06 / D2=10
10117667	Mounting adaptor for encoders with synchro flange
10117668	Set of eccentric fixings for mounting clamp (10117667) with 3x eccentric fixings, screws and nuts
11065545	Set of eccentric fixings type A
10158124	Bearing flange for encoders with synchro flange (Z 119.035)

Programming accessories

11120657	Handheld Programming Tool Z-PA-EI-H
11120547	PC Programming Tool Z-PA-EI-P

For matching measuring wheels please see chapter accessories, "measuring wheels" (MR).

Incremental encoders

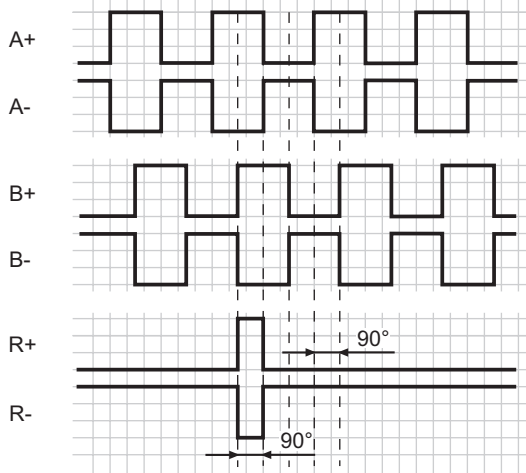
Solid shaft with clamping or synchro flange

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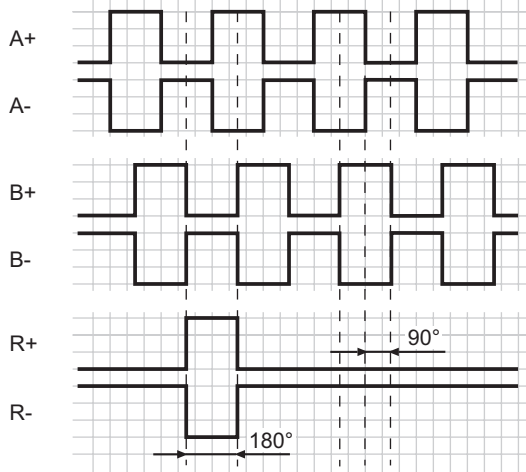
EIL580P - solid shaft

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	≥ 2.5 V
Output level Low	≤ 0.5 V
Load	≤ 20 mA

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

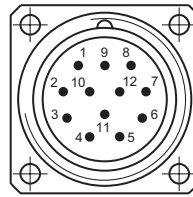
Terminal assignment

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

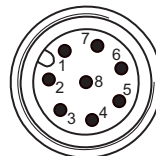
Screen: Connected to housing

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-



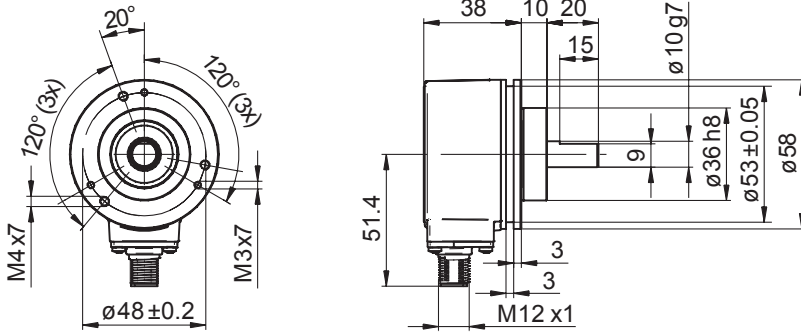
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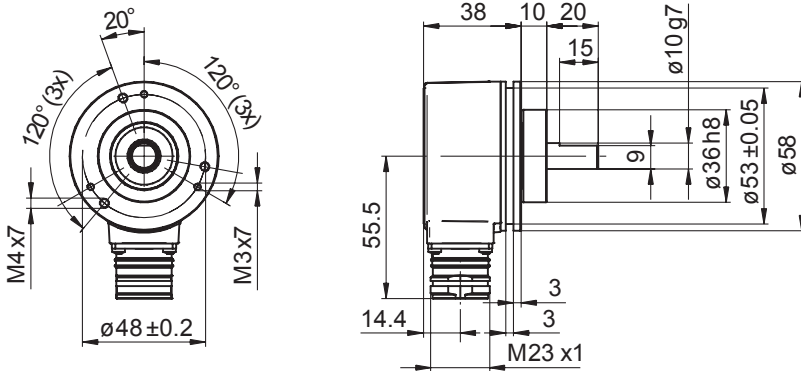
EIL580P - solid shaft

Dimensions

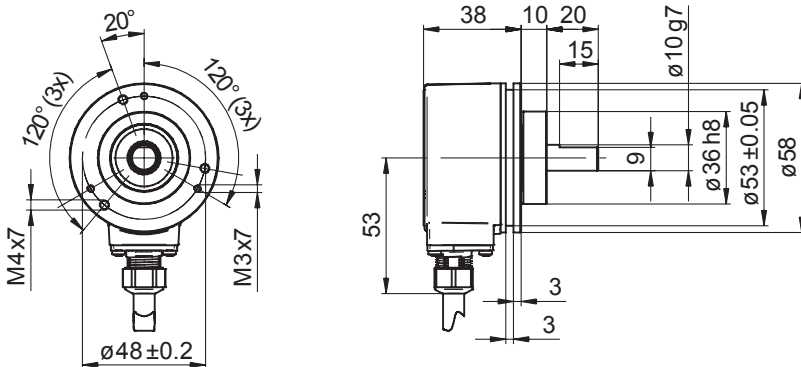
Clamping flange, flange connector M12, radial



Clamping flange, flange connector M23, radial



Clamping flange, cable radial



Incremental encoders

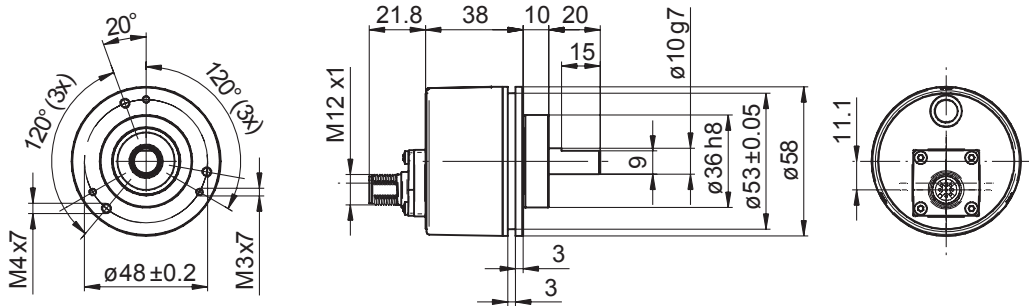
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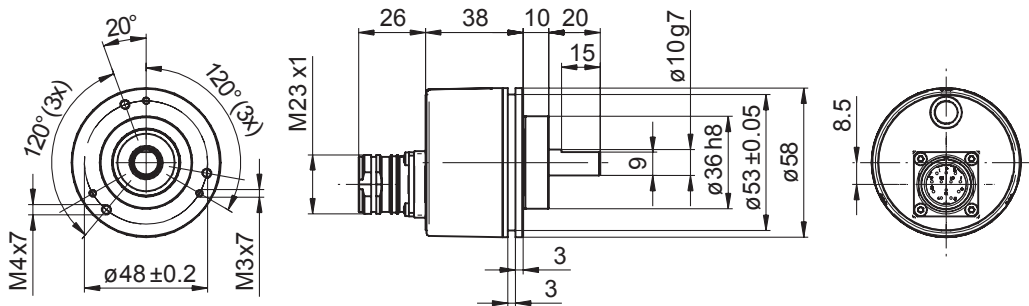
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Dimensions

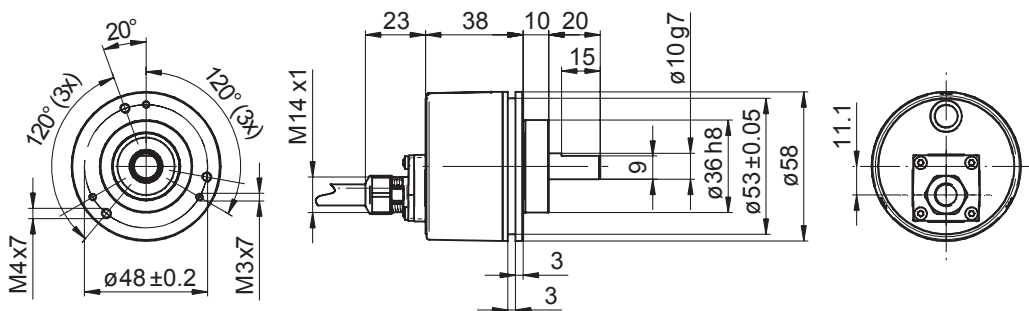
Clamping flange, flange connector M12, axial



Clamping flange, flange connector M23, axial



Clamping flange, cable axial



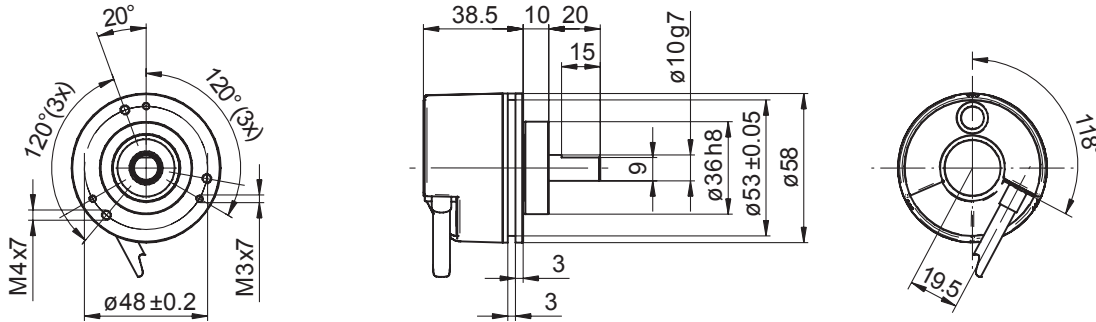
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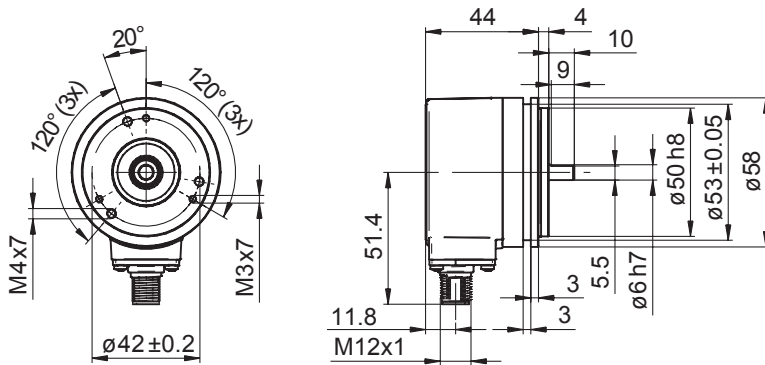
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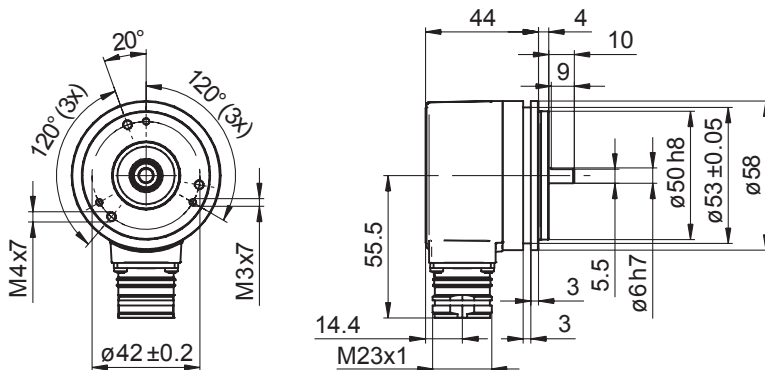
Clamping flange, cable tangential



Synchro flange, flange connector M12, radial



Synchro flange, flange connector M23, radial



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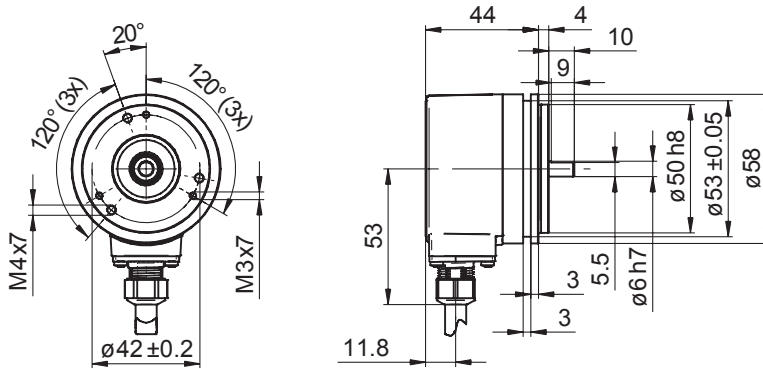
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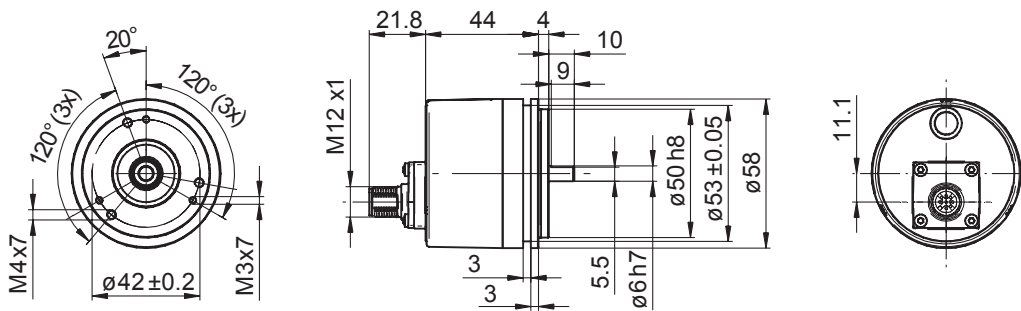
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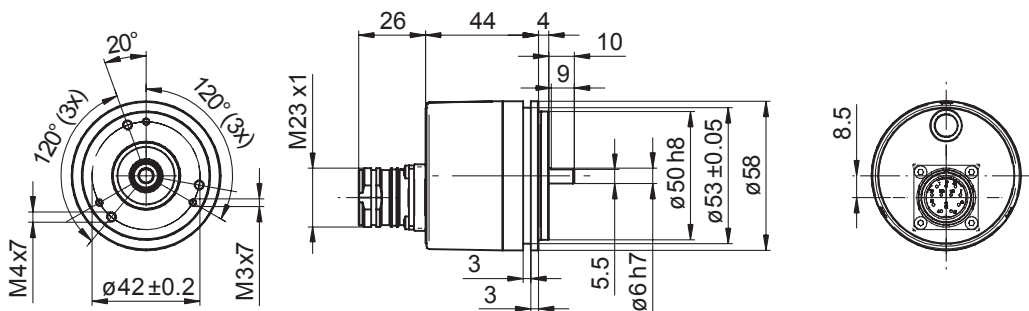
Synchro flange, cable radial



Synchro flange, flange connector M12, axial



Synchro flange, flange connector M23, axial



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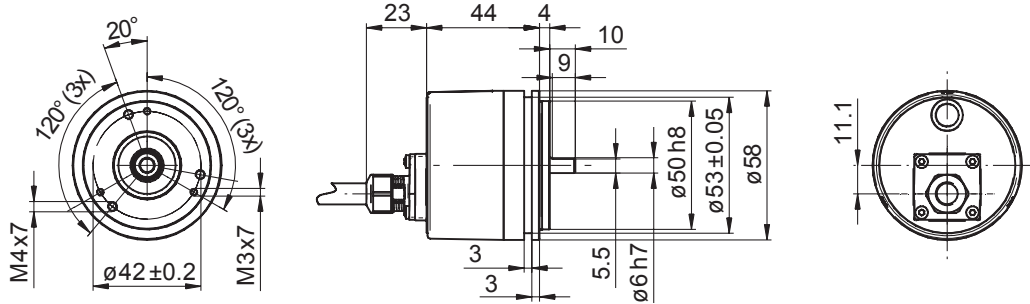
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Synchro flange, cable axial



Synchro flange, cable tangential

