EIL580-SY

Solid shaft with synchro flange

100…5000 pulses per revolution

Overview

- Size ø58 mm
- Precise optical sensing
- Output signal level TTL or HTL
- Synchro flange
- Connection axial, radial or tangential
- Pulses per revolution up to 5000
- High protection up to IP 67
- High resistance to shock and vibrations



Technical data

Technical data - electrical ratings

Voltage supply	5 VDC ±5 % 8...30 VDC 4.75...30 VDC
Reverse polarity protection	Yes
Short-circuit proof	Yes (HTL) Yes (TTL, max. 1 s and 1 signal)
Consumption w/o load	≤70 mA
Pulses per revolution	100 … 5000
Phase shift	90 ° ±10°
Duty cycle	40…60 %
Reference signal	Zero pulse, width 90° ±10 %
Sensing method	Optical
Output frequency	≤300 kHz (TTL) ≤160 kHz (HTL)
Output signals	A+, B+, R+, A-, B-, R-
Output stages	TTL/RS422 HTL/push-pull
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 type	ø6 x 10 mm, solid shaft with flat
Admitted shaft load	≤40 N axial ≤80 N radial
Flange	Synchro flange
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	≤0,015 Nm (+20 °C, IP 65) ≤0,02 Nm (+20 °C, IP 67)
Material	Housing: aluminium die-cast Flange: aluminium Solid shaft: stainless steel
Operating temperature	-40...+85 °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

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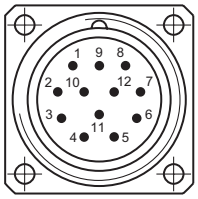
Terminal assignment

Flange connector M23, 12-pin / cable

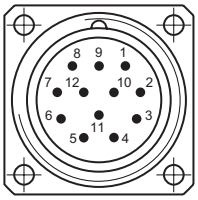
Pin	Core color	Assignment
1	pink	B-
2	–	–
3	blue	R+
4	red	R-
5	green	A+
6	yellow	A-
7	–	–
8	grey	B+
9	–	–
10	white	GND
11	–	–
12	brown	UB

Screen: Connected to housing

Cable data: PVC, [4x2x0.14 mm²], bending radius >32.5 mm, outer diameter approx. 6.4 mm



Flange connector M23, pin contacts, 12-pin, counterclockwise (CCW)



Flange connector M23, pin contacts, 12-pin, clockwise (CW)

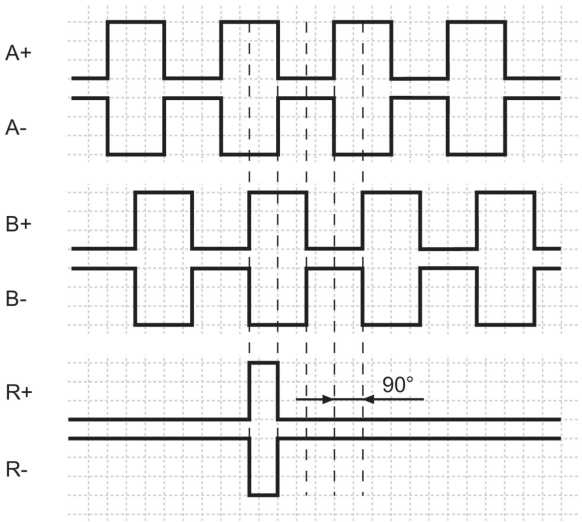
Flange connector M12, 8-pin

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



Output signals

Clockwise rotating direction when looking at 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

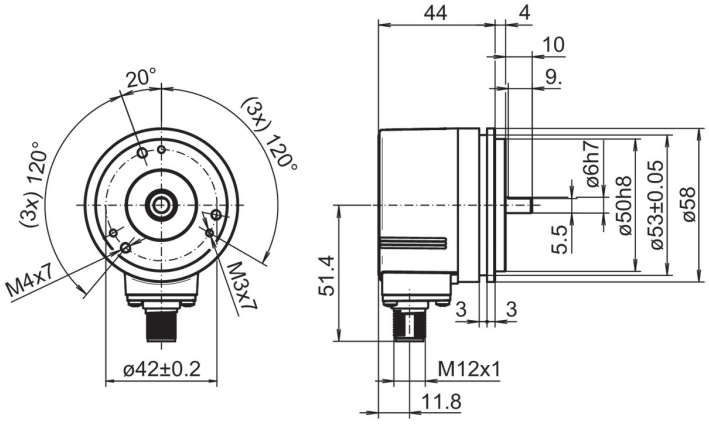
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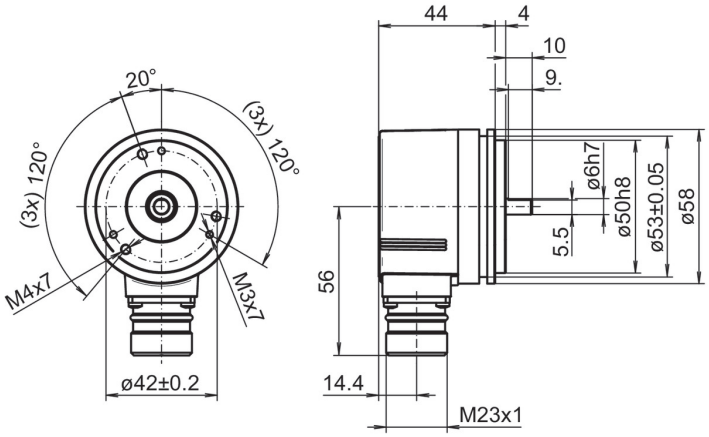
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100…5000 pulses per revolution

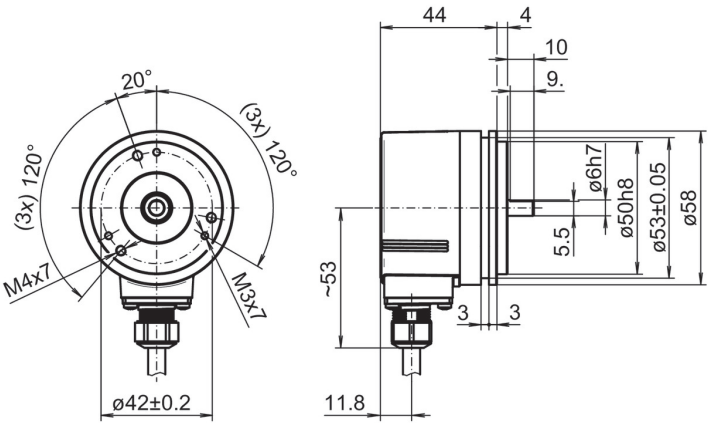
Dimensions



Synchro flange, flange connector M12, radial



Synchro flange, flange connector M23, radial



Synchro flange, cable, radial

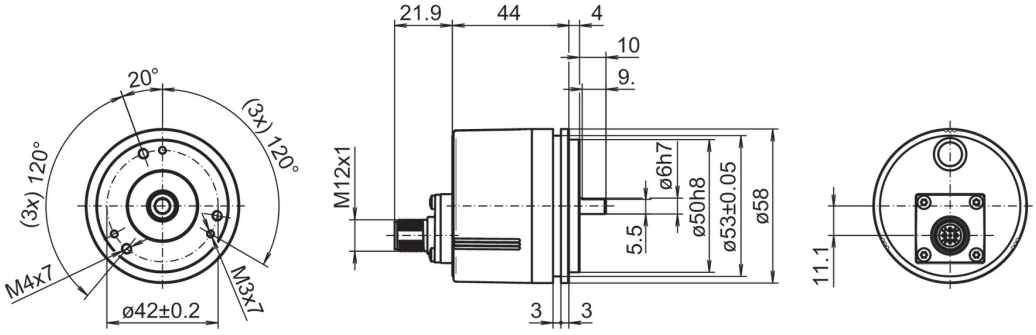
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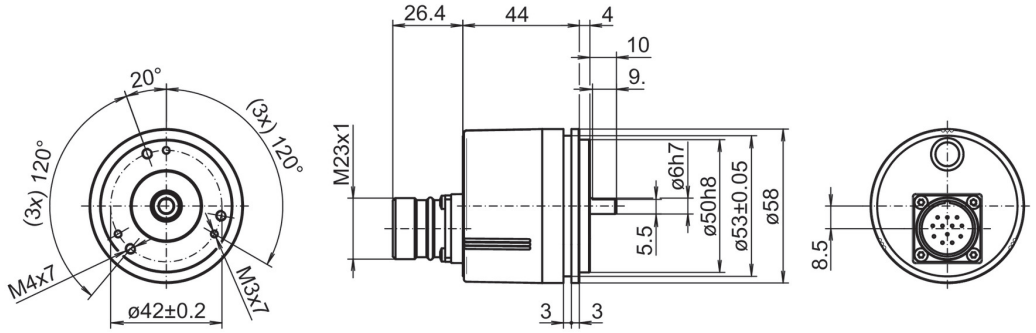
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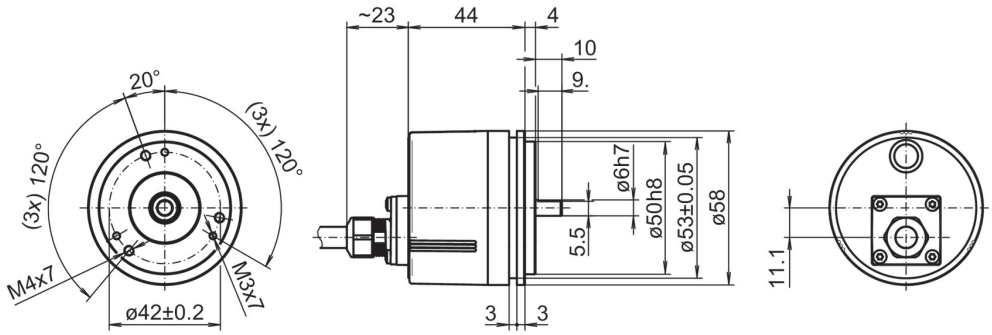
Dimensions



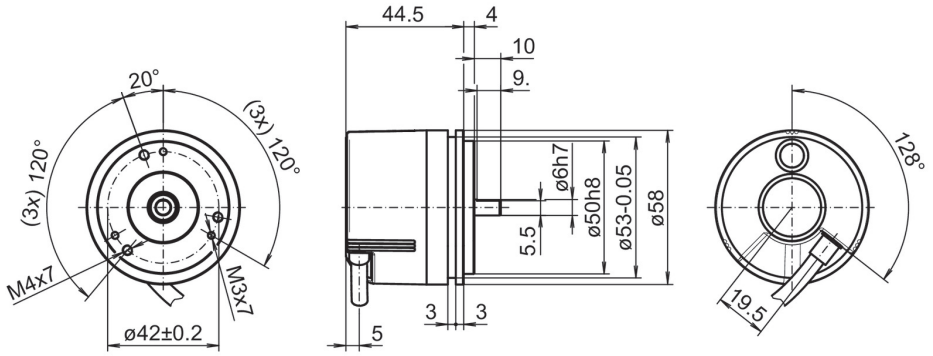
Synchro flange, flange connector M12, axial



Synchro flange, flange connector M23, axial



Synchro flange, cable, axial



Synchro flange, cable, tangential

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Ordering reference

	EIL580	-	S	Y	##	.	#	##	#	.	####	.	A
Product													
	EIL580												
Shaft type													
Solid shaft			S										
Flange (shaft)													
Synchro flange, centering collar Ø50 x 4 mm, flute Ø53 mm, pitch circle diameter Ø42 - 3xM3/3xM4				Y									
Shaft													
ø6 x 10 mm, with flat					06								
ø3/8" x 4/5" (Ø9.525 x 20.32 mm), with flat					U3								
Protection class													
IP 65							5						
IP 67							7						
Connection													
Cable radial, 1 m								R					
Cable radial, 2 m								L					
Flange socket radial, M23, 12-pin, male contacts, CCW(1)								F					
Flange socket radial, M12, 8-pin, male contacts, CCW								B					
Cable axial, 1 m								T					
Cable axial, 2 m								U					
Flange socket axial, M23, 12-pin, male contacts, CCW(1)								D					
Flange socket axial, M12, 8-pin, male contacts, CCW								A					
Cable tangential, 1 m								P					
Cable tangential, 2 m								Q					
Flange socket radial, M23, 12-pin, male contacts, CW(2)								E					
Flange socket axial, M23, 12-pin, male contacts, CW(2)								C					
Voltage supply / output													
5 VDC, TTL/RS422, 6 channel									E				
8...30 VDC, TTL/RS422, 6 channel (Vout=5V)									H				
8...30 VDC, HTL/push pull, 6 channel									N				
4,75...30 VDC, HTL/push pull, 6 channel (Vout=Vin)									Q				

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EIL580	-	S	Y	##	.	#	##	#	.	####	.	A

Pulse number

100	100
120	120
150	150
200	200
250	250
256	256
300	300
360	360
400	400
500	500
512	512
600	600
720	720
800	800
900	900
1000	1000
1024	1024
1200	1200
1250	1250
1440	1440
1500	1500
1800	1800
2000	2000
2048	2048
2500	2500
3000	3000
3600	3600
4000	4000
4096	4096
5000	5000

Operating temperature

-40...+85 °C	A

(1) Use suitable connection cables and M23 connectors with clockwise direction (CW). You can find these in our accessories “Connectors and cables”.
(2) Use suitable connection cables and M23 connectors with counterclockwise direction (CCW). You can find these in our accessories “Connectors and cables”.

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Accessories

Mounting accessories

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=6 / D2=6 (Z 121.C02)
10141132	Spring washer coupling D1=6 / D2=10 (Z 121.C01)
11034139	Spring washer coupling D1=6 / D2=16 (Z 121.C05)
11050507	Bellows coupling aluminium/stainless steel D1=06 / D2=10
10117667	Mounting adaptor for encoders with synchro flange (Z 119.015)
10117668	Set of eccentric fixings for mounting clamp (10117667): 3x eccentric fixings, screws and nuts
11065545	Set of eccentric fixings type A
10158124	Bearing flange for encoders with synchro flange (Z 119.035)

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	Female connector M23, 12-pin, CW
11095302	Female connector M23, 12-pin, CW, with cable 1 m
11100408	Female connector M23, 12-pin, CW, with cable 2 m
11100430	Female connector M23, 12-pin, CW, with cable 5 m
11100431	Female connector M23, 12-pin, CW, with cable 10 m
11074551	Female connector M23, 12-pin, CCW
11222560	Female connector M23, 12-pin, CCW, with cable 1 m
11222561	Female connector M23, 12-pin, CCW, with cable 2 m
11222562	Female connector M23, 12-pin, CCW, with cable 5 m
11222563	Female connector M23, 12-pin, CCW, with cable 10 m

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