EIL580-SC

Solid shaft with clamping flange

100…5000 pulses per revolution

Overview

- Size ø58 mm
- Precise optical sensing
- Output signal level TTL or HTL
- Clamping 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

Technical data - mechanical design

Shaft type	ø10 x 20 mm, solid shaft with flat ø3/8" x 4/5" (ø9.525 x 20.32 mm), solid shaft with flat
Admitted shaft load	≤40 N axial ≤80 N radial
Flange	Clamping 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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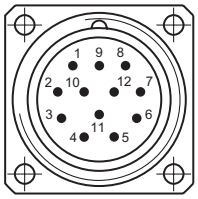
Terminal assignment

Flange connector M23, 12-pin / cable

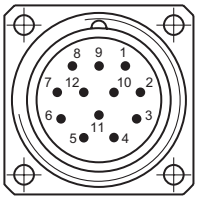
Pin	Core color	Assignment
1	pink	B-
2	–	–
3	blue	R+
4	red	R-
5	green	A+
6	yellow	A-
7	–	–
8	grey	B+
9	–	–
10	white	GND
11	–	–
12	brown	UB

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)

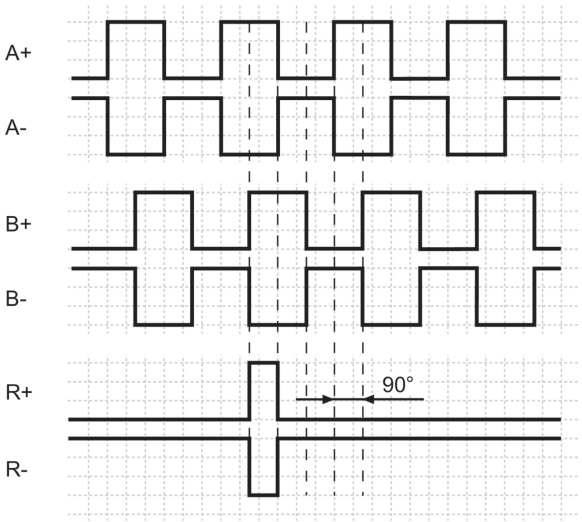
Flange connector M12, 8-pin

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

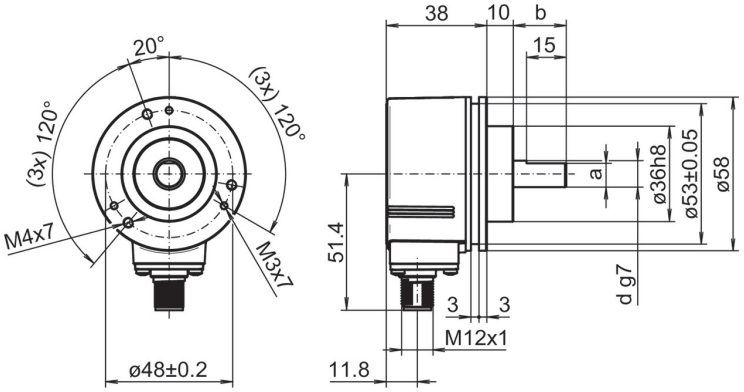
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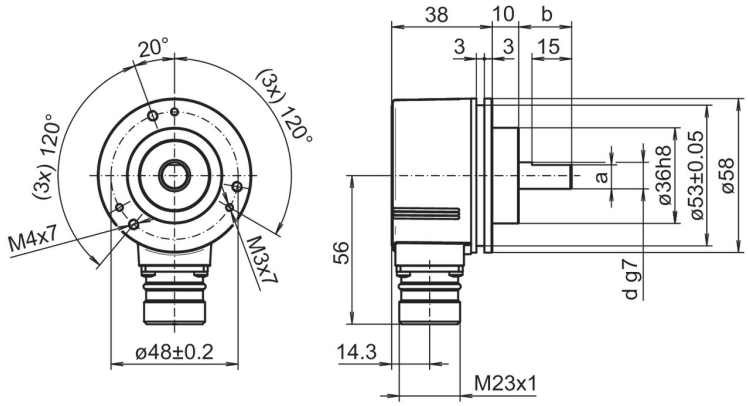
100…5000 pulses per revolution

Dimensions



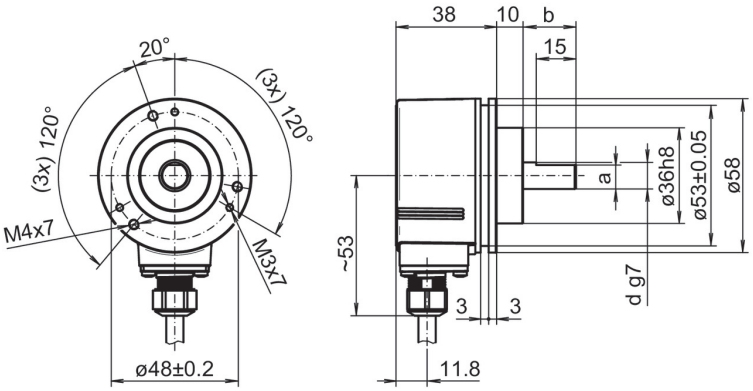
d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20

Clamping flange, flange connector M12, radial



d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20

Clamping flange, flange connector M23, radial



d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20

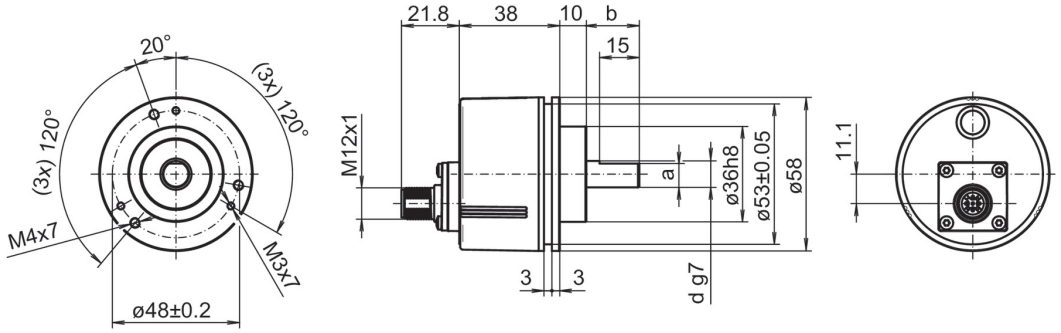
Clamping flange, cable, radial

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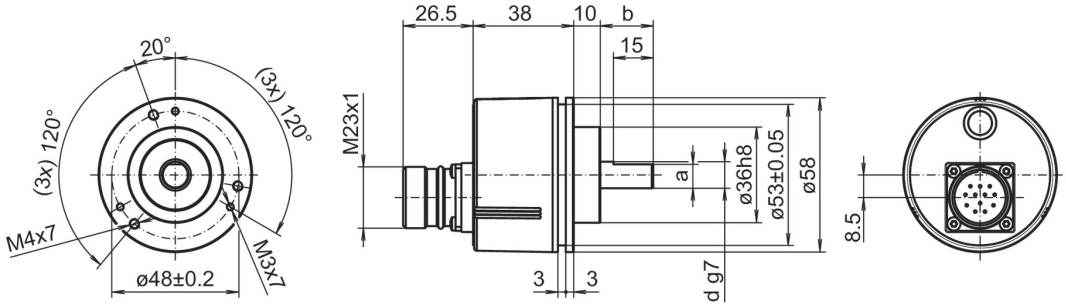
Solid shaft with clamping flange
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Dimensions



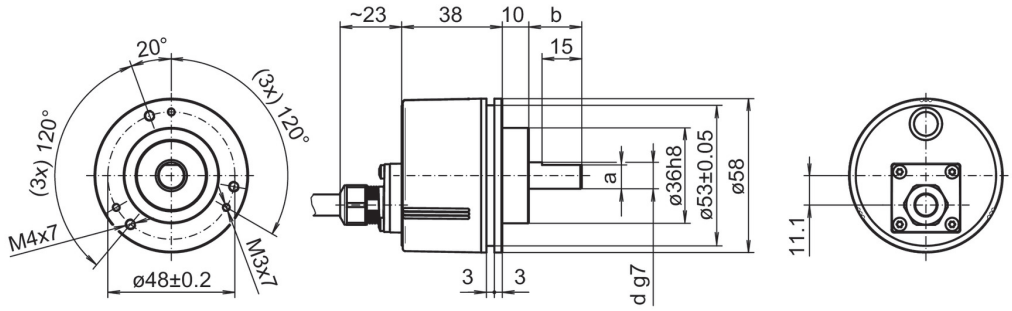
d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20

Clamping flange, flange connector M12, axial



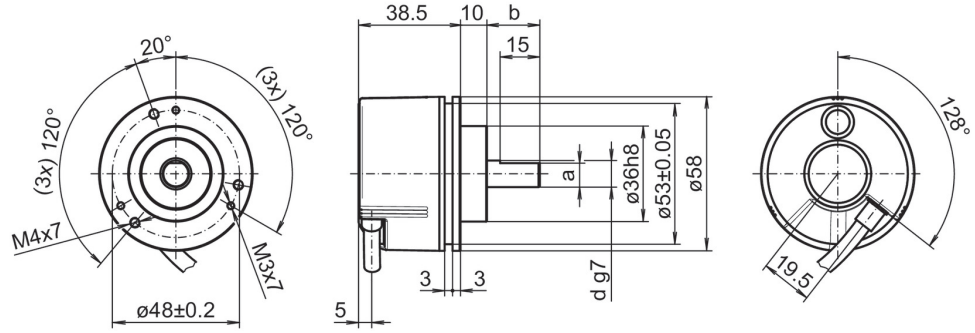
d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20

Clamping flange, flange connector M23, axial



d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20

Clamping flange, cable, axial



d g7	a	b
ø9.525	8.64	20.32
ø10	9.	20

Clamping flange, cable, tangential

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Ordering reference

	EIL580	-	S	C	##	.	#	##	#	.	####	.	A
Product													
	EIL580												
Shaft type													
Solid shaft			S										
Flange (shaft)													
Clamping flange, centering collar Ø36 x 10 mm, pitch circle diameter 48 mm - 3xM3/3xM4				C									
Shaft													
ø3/8" x 4/5" (Ø9.525 x 20.32 mm), with flat					U3								
ø10 x 20 mm, with flat					10								
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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Ordering reference

	EIL580	-	S	C	##	.	#	##	#	.	####	.	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	
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=6 / D2=10 (Z 121.C01)
10141133	Spring washer coupling D1=10 / D2=10 (Z 121.C03)
11034138	Spring washer coupling D1=10 / D2=16 (Z 121.C04)
11034140	Spring washer coupling D1=10 / D2=14 (Z 121.C06)
11034141	Spring washer coupling D1=10 / D2=12 (Z 121.C07)
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 (M3) (Z 119.017)
11065545	Set of eccentric fixings type A
11101893	Spring encoder arm
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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