

EN580E.IL-SC - SinCos

Solid shaft with clamping flange

1024 sinewave cycles per revolution

Overview

- Size $\varnothing 58$ mm
- Precise optical sensing
- Output signal level SinCos
- Sinewave cycles per revolution 1024
- High connection flexibility due to flexible M12 connector



Technical data

Technical data - electrical ratings

Voltage supply	5 VDC ± 5 %
Reverse polarity protection	Yes
Short-circuit proof	Yes
Consumption w/o load	≤ 70 mA
Sinewave cycles per revolution	1024
Phase shift	$90^\circ \pm 10^\circ$
Sensing method	Optical
Output frequency	≤ 180 kHz (-3 dB)
Output signals	A+, B+, R+, A-, B-, R-
Output stages	SinCos 1 Vpp
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-4
Approval	UL-Listing: E217823

Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
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Technical data - mechanical design

Shaft type	$\varnothing 10 \times 20$ mm, solid shaft with flat
Admitted shaft load	≤ 40 N axial ≤ 80 N radial
Flange	Clamping flange
Protection EN 60529	IP 54 (flange side) IP 65 (housing side)
Operating speed	≤ 6000 rpm (+25 °C)
Starting torque	≤ 0.02 Nm
Material	Housing: aluminium Solid shaft: stainless steel
Operating temperature	-25...+100 °C (see general information)
Relative humidity	95 % non-condensing
Resistance	EN 60068-2-6 Vibration 30 g, 10-2000 Hz EN 60068-2-27 Shock 100 g, 11 ms
Connection	Connector M12, 8-pin, flexible
Weight approx.	300 g

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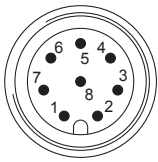
General information

Self-heating correlated to installation and ambient conditions as well as to electronics and supply voltage must be considered for precise thermal dimensioning. Operating the encoder close to the maximum limits requires measuring the real prevailing temperature at the encoder flange.

Terminal assignment

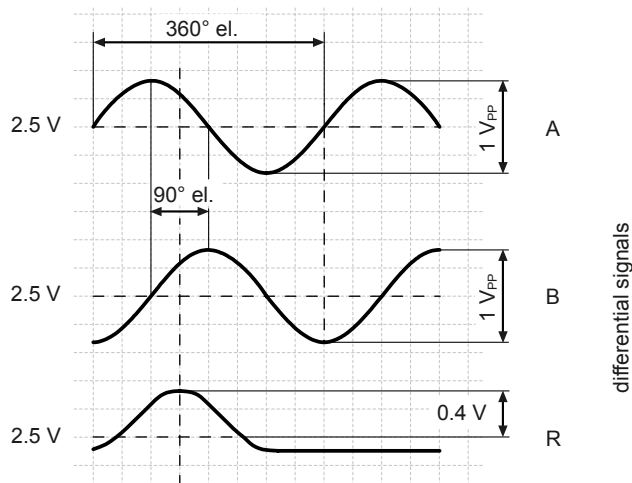
Connector M12, 8-pin

Pin	Assignment
1	0 V
2	+Vs
3	A+
4	A-
5	B+
6	B-
7	R+
8	R-



Output signals

Clockwise rotation when looking at flange.



Output signal level

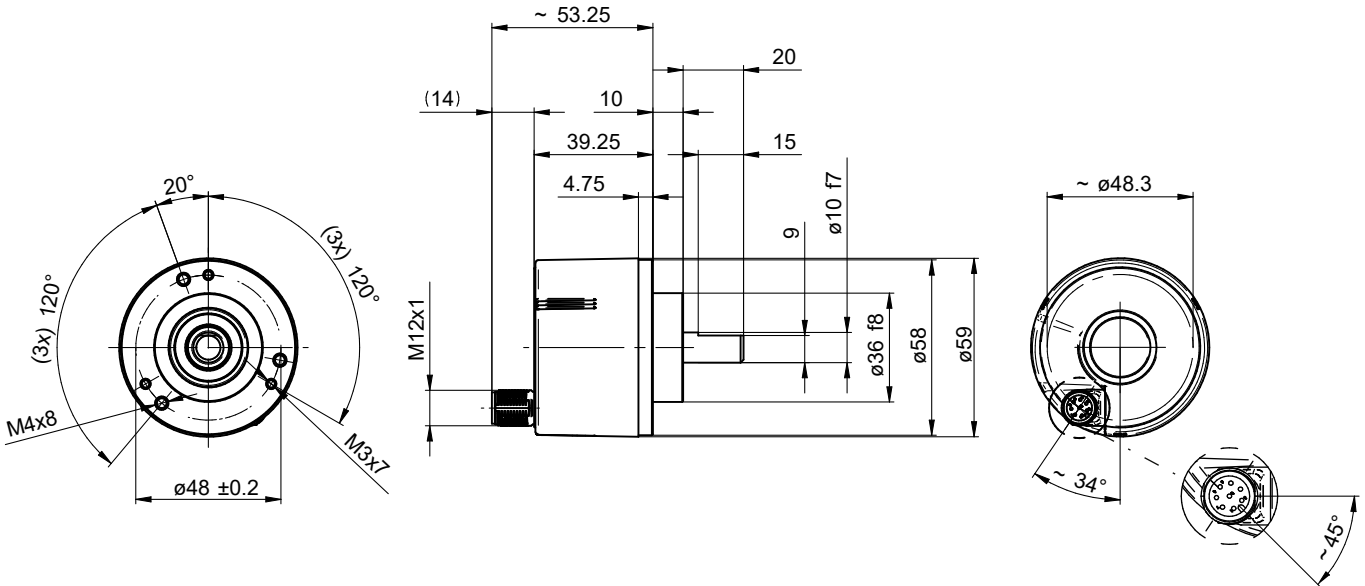
Outputs	Sine
Output amplitude A + B	1 V _{ss} at Z ₀ = 120 Ω
Output amplitude R	Appr. 0.4 V (useable part) at Z ₀ = 120 Ω

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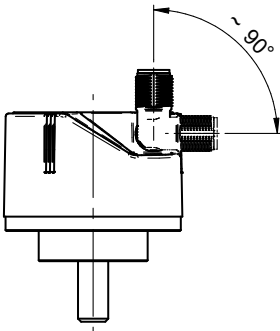
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Dimensions



Clamping flange, connector M12



Clamping flange, flexible connector M12

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Ordering reference

	EN	580	E	.	I	L	-	S	C	10	.	G	A1	S1	.	01024	.	K
Product																		
Encoder	EN																	
Series																		
580	580																	
Focus																		
Essential	E																	
Function																		
Incremental	I																	
Sensing																		
Optical	L																	
Shaft type																		
Solid shaft	S																	
Flange (shaft)																		
Clamping flange, centering collar $\varnothing 36 \times 10$ mm, pitch circle diameter 48 mm - 3xM3/3xM4	C																	
Shaft																		
$\varnothing 10 \times 20$ mm, with flat	10																	
Protection class																		
Flange: IP 54, Housing: IP 65	G																	
Connection																		
Connector moveable, M12, 8-pin, male contacts, CCW (A-cod)	A1																	
Voltage supply / output																		
5 VDC $\pm 5\%$, sine 1 Vpp, 6 channel	S1																	
Sinewave cycles																		
1024	01024																	
Operating temperature																		
-25...+100°C	K																	

Accessories

Mounting accessories

11101781	Double loops coupling (D1=10 / D2=10)
11050507	Bellows coupling (D1=06 / D2=10)
11065923	Coupling CPS25 (L=19, D1=10 / D2=10)
11065922	Coupling CPS25 (L=19, D1=10 / D2=06)
10141132	Spring washer coupling (D1=6 / D2=10)
10141133	Spring washer coupling (D1=10 / D2=10)
11069337	Coupling CPS37 (L=24, D1=10 / D2=06)
11069340	Coupling CPS37 (L=24, D1=10 / D2=10)
11053277	Bellows coupling (D1=10 / D2=10)
11101893	Spring encoder arm
10125051	Mounting adaptor