

# EN580E.ML-SC10.GA1B1.13120.H

Solid shaft with clamping flange, optical multiturn encoders 13 bit ST / 12 bit MT, BiSS C Certified

Article number: 11245798

## Overview

- Absolute encoder multiturn
- Optical sensing method
- Resolution: singleturn 13 bit, multiturn 12 bit
- Clamping flange
- Maximum resistant against magnetic fields
- High connection flexibility thanks to flexible connector M12



## Technical data

### Technical data - electrical ratings

Voltage supply	8...30 VDC
Reverse polarity protection	Yes
Short-circuit proof	Yes
Consumption w/o load	≤80 mA (24 VDC)
Interface	BiSS C Certified
Function	Multiturn
Steps per revolution	8192 / 13 bit
Number of revolutions	4096 / 12 bit
Absolute accuracy	±0.03 °
Sensing method	Optical
Code	Binary
Code sequence	CW: ascending values with clockwise sense of rotation (looking at flange)
Input signals	BiSS clock (MA) Zero setting input Counting direction
Output stages	BiSS data: Linedriver RS422
Output signals	BiSS data (SLO)
Clock frequency	80...10000 kHz
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-4

### Technical data - electrical ratings

Approval	UL-Listing: E217823
<b>Technical data - mechanical design</b>	
Size (flange)	ø58 mm
Shaft type	ø10 x 20 mm, solid shaft with flat
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
Admitted shaft load	≤40 N axial ≤80 N radial
Material	Housing: aluminium Shaft: stainless steel
Operating temperature	-25...+85 °C (see general information)
Relative humidity	95 % non-condensing
Resistance	EN 60068-2-6 Vibration ±4 mm - 10-61 Hz, 30 g - 61-2000 Hz EN 60068-2-27 Shock 100 g, 6 ms
Weight approx.	400 g
Connection	Connector M12, 8-pin, flexible

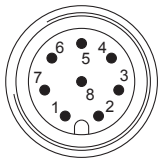
**General information**

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	MA+
4	MA-
5	SLO+
6	SLO-
7	SET
8	DIR



**Terminal significance**

SET	<p>Zero setting input. Input for zero setting at any position. The zero setting operation is triggered by a high pulse and has to be in line with the selected direction of rotation (DIR). Impulse duration &gt;100 ms. Connect to 0 V after zero setting for maximum interference immunity.</p>
DIR	<p>Counting direction input. This input is standard on high. DIR-High means ascending output data with clockwise shaft rotation when looking at flange. DIR-Low means ascending values with counterclockwise shaft rotation when looking at flange. For maximum interference immunity connect to +Vs respectively 0 V depending on counting direction.</p>

**Trigger level**

BiSS C	Circuit
BiSS C-Clock	RS422 with terminating resistor 120 Ω
BiSS C-Data	RS422

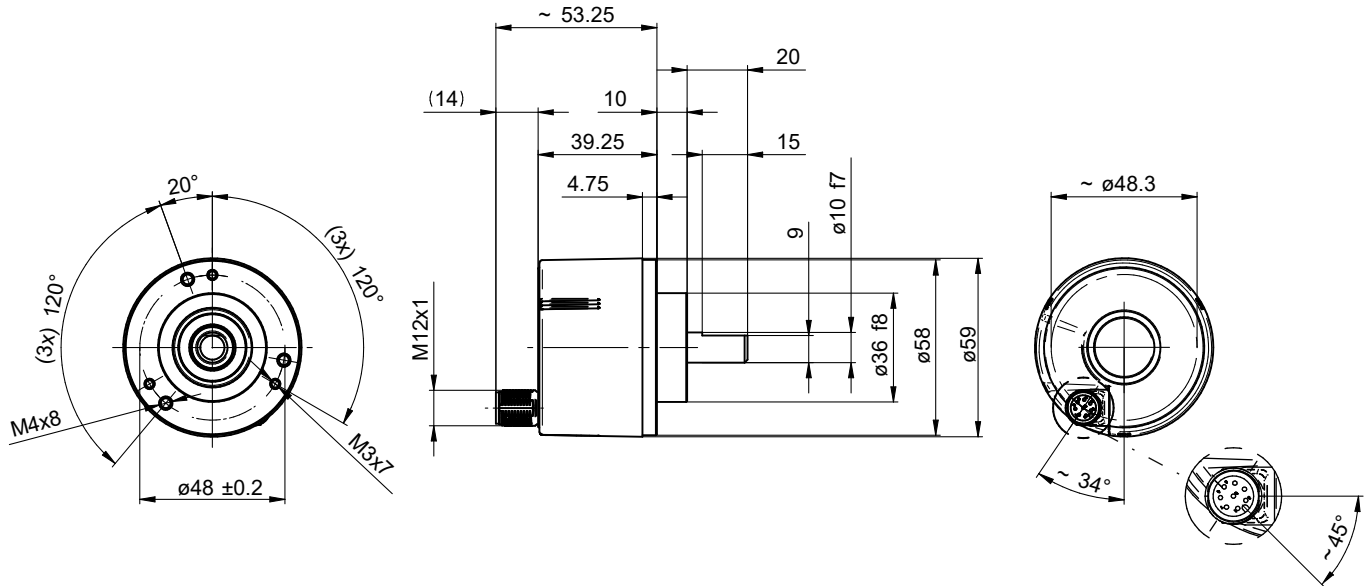
Control inputs	Input circuit
Input level High	>0.7 +Vs
Input level Low	<0.3 +Vs
Input resistance	10 kΩ

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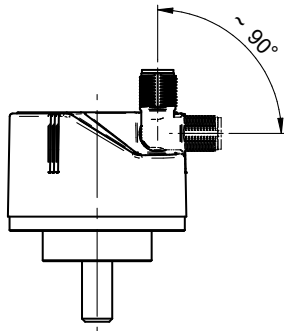
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## Dimensions



Clamping flange, connector M12



Clamping flange, flexible connector M12

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## 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