

Absolute encoders - BiSS C

Solid shaft with clamping or synchro flange

Optical multiturn encoders 18 bit ST / 12 bit MT

GBPAW - BiSS C



GBPAW with clamping flange

Features

- High resolution encoder multiturn / BiSS C
- Optical sensing method
- Resolution: singleturn 18 bit, multiturn 12 bit
- Clamping or synchro flange

Optional

- Revolution: 21 bit
- Corrosion protection for offshore applications
- Extended operating temperature up to -40 °C

Technical data - electrical ratings

Voltage supply	10...30 VDC 5 VDC $\pm 10\%$
Reverse polarity protection	Yes (10...30 VDC)
Consumption w/o load	≤ 50 mA (24 VDC)
Initializing time typ.	20 ms after power on
Interface	BiSS C
Function	Multiturn
Steps per revolution	262144 / 18 bit
Number of revolutions	4096 / 12 bit
Absolute accuracy	$\pm 0.01^\circ$
Sensing method	Optical
Code	Binary
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Diagnostic function	Self-diagnosis (via BiSS)
Approval	UL approval / E63076

Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 10$ mm solid shaft (clamping flange) $\varnothing 6$ mm solid shaft (synchro flange)
Flange	Clamping or synchro flange
Protection DIN EN 60529	IP 54 (without shaft seal), IP 65 (with shaft seal)
Operating speed	≤ 10000 rpm (mechanical) ≤ 6000 rpm (electric)
Starting acceleration	≤ 1000 U/s ²
Starting torque	≤ 0.015 Nm (+25 °C, IP 54) ≤ 0.03 Nm (+25 °C, IP 65)
Rotor moment of inertia	20 gcm ²
Admitted shaft load	≤ 20 N axial ≤ 40 N radial
Materials	Housing: aluminium Flange: aluminium
Operating temperature	-25...+85 °C -40...+85 °C (optional)
Relative humidity	95 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration ± 0.75 mm - 10-58 Hz 10 g - 58-2000 Hz DIN EN 60068-2-27 Shock 200 g, 6 ms
Weight approx.	400 g
Connection	Connector M23, 12-pin Cable 1 m

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Part number

GBPAW.

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Connection

- A1 Connector M23, 12-pin, radial
- 21 Cable 1 m, radial

Voltage supply / signals

- 12 10...30 VDC / binary code 30 bit
- 13 5 VDC / binary code 30 bit

Flange / Solid shaft

- 0 Clamping flange / ø10 mm, IP 54
- A Clamping flange / ø10 mm, IP 65
- 1 Synchro flange / ø6 mm, IP 54
- B Synchro flange / ø6 mm, IP 65

Accessories

Connectors and cables

11034154	Female connector M23, 12-pin, without cable (Z 130.001)
10138559	Female connector M23, 12-pin, 2 m cable (Z 130.003)
10126594	Female connector M23, 12-pin, 5 m cable (Z 130.005)
10129757	Female connector M23, 12-pin, 10 m cable (Z 130.007)

Mounting accessories

10117669	Eccentric fixing, single (Z 119.006)
10141255	Adaptor plate for clamping flange for modification into synchro flange (Z 119.013)
10117667	Mounting adaptor for encoders with synchro flange (Z 119.015)
10125051	Mounting adaptor for encoders with clamping flange (M3) (Z 119.017)

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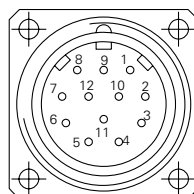
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Trigger level	
BiSS C	Circuit
BiSS C-Clock	RS422 Terminating resistor 220 Ω
BiSS C-Data	RS422

Terminal assignment		
Connector	Core colour	Assignment
Pin 1	brown	UB
Pin 2	black	GND
Pin 3	blue	MA+
Pin 4	beige	SLO+
Pin 5	green	–
Pin 6	yellow	SLO-
Pin 7	violet	MA-
Pin 8	brown/yellow	–
Pin 9	pink	–
Pin 10	black/yellow	–
Pin 11 -12	–	–



Please use cores twisted in pairs (for example clock+ / clock-) for extension cables of more than 10 m length.

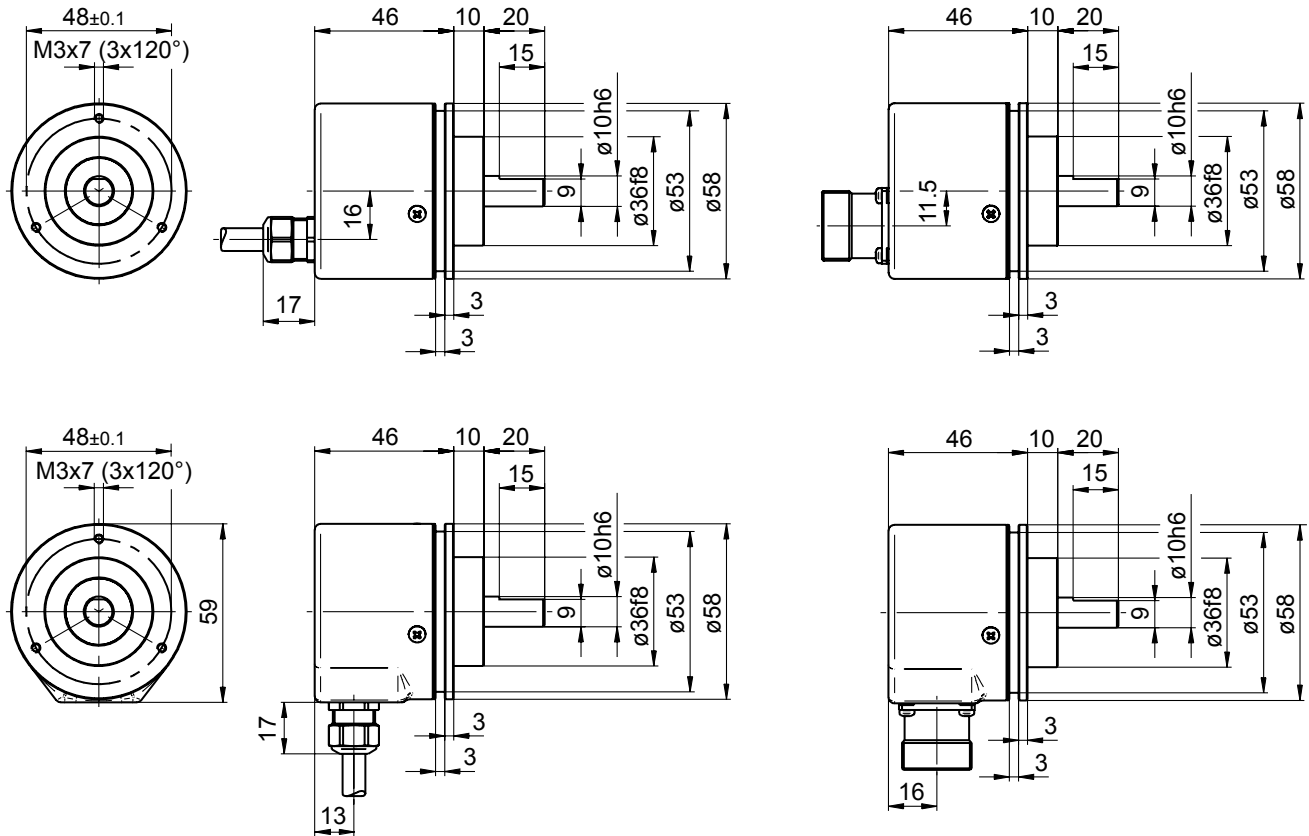
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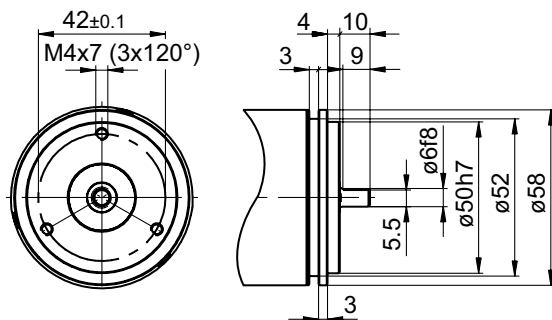
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Dimensions

GBPAW - clamping flange



GBPAW - synchro flange



GBPAW - connector dimensions

