

# Absolute encoders - BiSS C

Through hollow shaft up to  $\varnothing 14$  mm

Optical multiturn encoders 18 bit ST / 12 bit MT

## GBPAH - BiSS C



GBPAH with through hollow shaft

### Features

- High resolution encoder multiturn / BiSS C
- Optical sensing method
- Resolution: singleturn 18 bit, multiturn 12 bit
- Through hollow shaft up to  $\varnothing 14$  mm

### Optional

- Revolution: 21 bit
- Corrosion protection for offshore applications
- Extended operating temperature range 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	$\leq 50$ 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	$\pm 0.01$ °
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	$\varnothing 10...14$ mm (through hollow shaft)
Protection DIN EN 60529	IP 54
Operating speed	$\leq 6000$ rpm (mechanical) $\leq 6000$ rpm (electric)
Starting acceleration	$\leq 1000$ U/s <sup>2</sup>
Starting torque	$\leq 0.04$ Nm (+25 °C, IP 54)
Rotor moment of inertia	20 gcm <sup>2</sup>
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 $\pm 0.75$ 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

GBPAH. 

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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

#### Through hollow shaft

- 8  $\varnothing 10$  mm, without pin
- 0  $\varnothing 12$  mm, without pin
- 4  $\varnothing 14$  mm, without pin

### 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

11003562	Spring coupling for encoders with $\varnothing 58$ mm housing, hole distance 63 mm (Z 119.082)
11034121	Spring coupling for encoders with $\varnothing 58$ mm housing, hole distance 68 mm (Z 119.073)
10165157	Spring coupling for encoders with $\varnothing 58$ mm housing, hole distance 73 mm (Z 119.072)
10147837	Spring coupling for one-side attachment, length 35 mm (Z 119.050)
11034106	Spring coupling for motor's fan guard (Z 119.053)
11034123	Spring coupling for one-side attachment, length 115 mm (Z 119.076)

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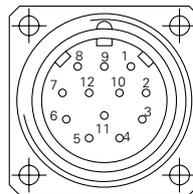
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Trigger level	
<b>BiSS C</b>	<b>Circuit</b>
BiSS C-Clock	RS422 Terminating resistor 220 $\Omega$
BiSS C-Data	RS422

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

