

Absolute encoders - bus interfaces

Hollow shaft $\varnothing 14$ mm

Multiturn encoder 13 bit ST / 12 bit MT, Interbus

GXP6H



GXP6H with hollow shaft

Technical data - electrical ratings

| | |
|-----------------------------|--|
| Voltage supply | 10...30 VDC |
| Reverse polarity protection | Yes |
| Consumption w/o load | ≤ 60 mA (24 VDC) |
| Initializing time (typ.) | 50 ms after power on |
| Interface | Interbus |
| Function | Multiturn |
| Transmission rate | 500 kBaud |
| Profile conformity | Encoder profile 71 |
| Steps per turn | 8192 / 13 bit |
| Number of turns | 4096 / 12 bit |
| Absolute accuracy | $\pm 0.025^\circ$ |
| Sensing method | Optical |
| Code | Gray or binary |
| Code sequence | CW default, programmable |
| Output circuit | RS485 |
| Interference immunity | DIN EN 61000-6-2 |
| Emitted interference | DIN EN 61000-6-4 |
| Programmable parameters | Total resolution Rotating direction and code Preset and offset Zero point setting |
| Approval | UL approval / E63076 |

Features

- Encoder multiturn / Interbus
- Optical sensing
- Resolution: singleturn 13 bit, multiturn 12 bit
- Hollow shaft $\varnothing 14$ mm
- Interbus encoder profile 71
- ENCOM profile K3
- High reliability by self-diagnostics
- Zero point, offset and turning direction programmable
- Cost-efficient mounting

Optional

- Transmission rate 2 MBaud

Technical data - mechanical design

| | |
|-------------------------|--|
| Housing | $\varnothing 75$ mm |
| Shaft | $\varnothing 14$ mm hollow shaft |
| Protection DIN EN 60529 | IP 54 |
| Operating speed | ≤ 6000 rpm (mechanical) ≤ 6000 rpm (electric) |
| Starting torque | ≤ 0.05 Nm IP 54 |
| Rotor moment of inertia | 20 gcm ² |
| Materials | Housing: steel Flange: aluminium |
| Operating temperature | -25...+85 °C -40...+85 °C (optional) |
| Relative humidity | 95 % non-condensing |
| Resistance | DIN EN 60068-2-6 Vibration 10 g, 16-2000 Hz DIN EN 60068-2-27 Shock 200 g, 6 ms |
| Weight approx. | 430 g |
| Connection | Connector, 2 x 9-pin |

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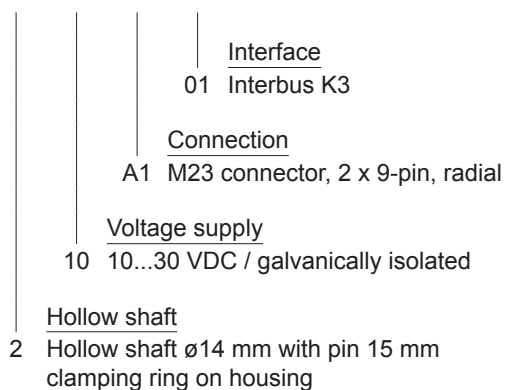
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Part number

GXP6H.

| | | | |
|---|----|----|----|
| 2 | 10 | A1 | 01 |
|---|----|----|----|



Accessories

Connectors and cables

| | |
|-----------|---|
| Z 153.B01 | Mating connector M23, 9-pin, less cable |
| Z 153.S01 | Cable connector M23, 9-pin, less cable |

Mounting accessories

| | |
|-----------|---|
| Z 119.037 | Rubber buffer element 18.5 mm long, as torque support |
| Z 119.039 | Set of adjusting angles as torque support |
| Z 119.040 | Shoulder screw M5 as torque support |
| Z 119.041 | Torque support by rubber buffer element for encoders with 15 mm pin |
| Z 119.043 | Spring coupling for GX and G1 |

Interbus features

| | |
|-------------------------|---|
| Bus protocol | Interbus |
| Device profile | Encoder profile 71 |
| Coupling | |
| IB user type | 2 wire remote bus |
| IB bus width | 4 byte |
| PCP length | No parameter channel |
| ID-Code | 55 |
| Interface | |
| Type A1 | 2 wire remote bus (galvanically isolated) |
| Type W1 | 2 wire remote bus |
| Programmable parameters | <ul style="list-style-type: none"> – Resolution steps and revolutions – Rotating direction and code – Preset – Zero point shift – Offset – Measuring range – Encoder reset |

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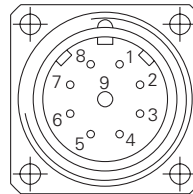
GXP6H

Terminal significance

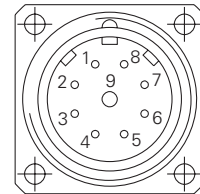
| | |
|--|---|
| D01, $\overline{D01}$ D11, $\overline{D11}$ | Arriving remote bus (galvanically isolated). |
| GND I | Ground connection for arriving remote bus (galvanically isolated). |
| UB | Connections for voltage supply UB carried by the bus, current load between the arriving and departing connections max. 700 mA. |
| GND B | |
| D02, $\overline{D02}$ D12, $\overline{D12}$ | Outgoing remote bus. |
| GND | Ground connection for ongoing remote bus. |
| PE | Shield connected to encoder housing. |
| \overline{RBST} | Input for recognition of other bus users. Connection open: final user / termination Connected to GND: user X. |

Terminal assignment

| Male connector | Assignment | Female connector | Assignment |
|----------------|------------------|------------------|-------------------|
| Pin 1 | D01 | Pin 1 | D02 |
| Pin 2 | $\overline{D01}$ | Pin 2 | $\overline{D02}$ |
| Pin 3 | D11 | Pin 3 | D12 |
| Pin 4 | $\overline{D11}$ | Pin 4 | $\overline{D12}$ |
| Pin 5 | GND I | Pin 5 | GND |
| Pin 6 | PE | Pin 6 | PE |
| Pin 7 | UB | Pin 7 | UB |
| Pin 8 | GND B | Pin 8 | GND B |
| Pin 9 | – | Pin 9 | \overline{RBST} |



Arriving interface
(male connector)



Departing interface
(female connector)

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Dimensions

