Absolute encoders - bus interfaces

Shaft with clamping or synchro flange

Multiturn encoder 13 bit ST / 12 bit MT, Interbus

GXP6W

GXP6W with clamping flange

Features

- **Encoder multiturn / Interbus**
- **Optical sensing**
- **Resolution: singleturn 13 bit, multiturn 12 bit**
- **Clamping or synchro flange**
- **Interbus encoder profile 71**
- **ENCOM profile K3**
- **High reliability by self-diagnostics**
- **Zero point, offset and turning direction programmable**

Optional

- **Transmission rate 2 MBaud**

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	±0.025 °
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

Technical data - mechanical design

Housing	ø58 mm
Shaft	ø10 mm (clamping flange) ø6 mm (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 torque	≤0.015 Nm IP 54 ≤0.03 Nm IP 65
Rotor moment of inertia	20 gcm²
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 10 g, 16-2000 Hz DIN EN 60068-2-27 Shock 200 g, 6 ms
Weight approx.	600 g
Connection	Connector, 2 x 9-pin

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Part number

GXP6W. [ ] [10] [ ] [01]

Interface
- 01 Interbus K3

Connection
- A0 M23 connector, 2 x 9-pin, axial
- A1 M23 connector, 2 x 9-pin, radial
- 20 Bus cover with cable gland

Voltage supply
- 10 10...30 VDC / galvanically isolated

Flange / 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

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

Mounting accessories

Z 119.006	Eccentric fixing, single
Z 119.013	Adaptor plate for clamping flange for modification into synchro flange
Z 119.015	Mounting adaptor for synchro flange
Z 119.017	Mounting angle for clamping flange
Z 119.025	Adaptor plate for clamping flange, mounting by eccentric fixings (order separately)
Z 119.035	Bearing flange for encoders with synchro flange

Interbus features

Bus protocol	Interbus
Device profile	Encoder profile 71
Connection IB user type	 2 wire remote bus
IB bus width	4 byte
PCP length	No parameter channel
ID-Code	55
Interface Type A1 Type W1	 2 wire remote bus (galvanically isolated) 2 wire remote bus
Programmable parameters	– Resolution steps and revolutions – Rotating direction and code – Preset – Zero point shift – Offset – Measuring range – Encoder reset

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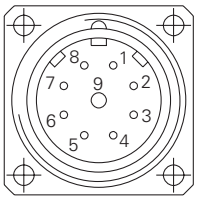
Terminal significance	
D01, $\overline{D01}$ DI1, $\overline{DI1}$	Arriving remote bus (galvanically isolated).
GND I	Ground connection for arriving remote bus (galvanically isolated).
UB GND B	Connections for voltage supply UB carried by bus, current load between arriving and departing connections max. 700 mA.
D02, $\overline{D02}$ DI2, $\overline{DI2}$	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 connected to GND: user X.

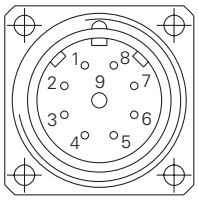
Terminal assignment

M23 connector

Male connector	Assignment	Female connector	Assignment
Pin 1	D01	Pin 1	D02
Pin 2	$\overline{D01}$	Pin 2	$\overline{D02}$
Pin 3	DI1	Pin 3	DI2
Pin 4	$\overline{DI1}$	Pin 4	$\overline{DI2}$
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	$\overline{RBST}$

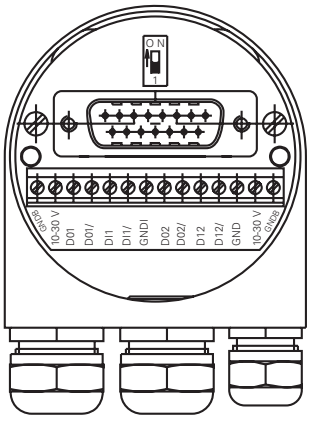


Arriving interface (male connector)



Departing interface (female connector)

Bus cover



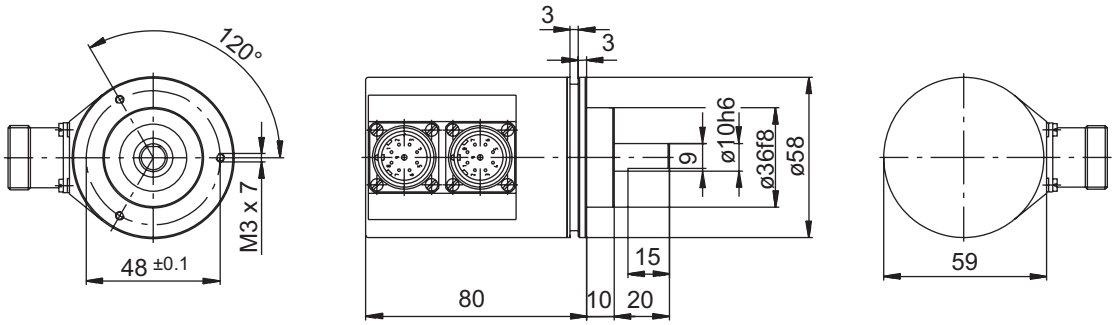
Termination

ON = Final user
OFF = User X

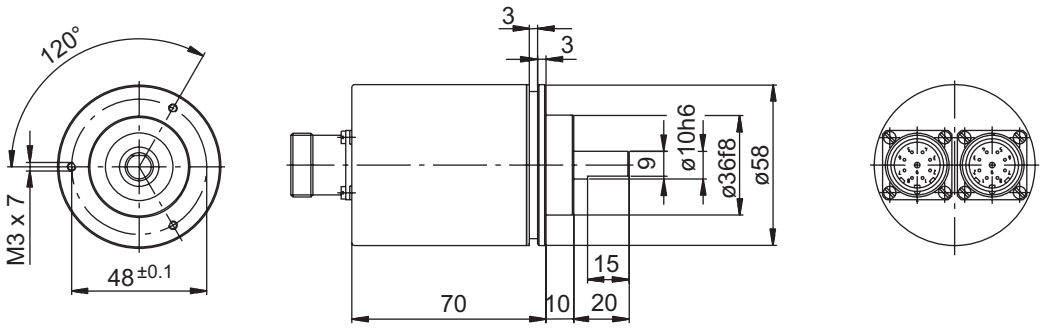
GXP6W

Dimensions

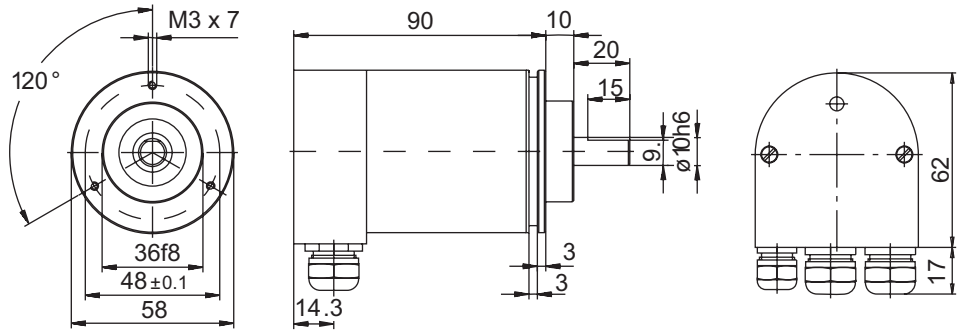
GXP6W clamping flange and connector M23 radial



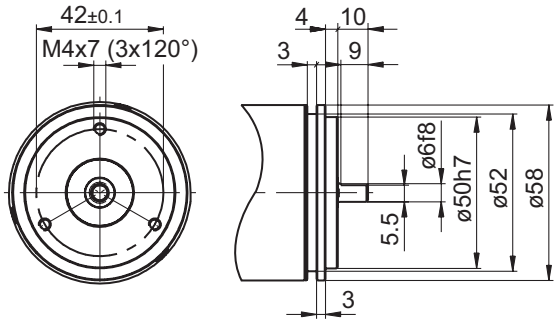
GXP6W clamping flange and connector M23 axial



GXP6W clamping flange and bus cover



GXP6W synchro flange



GXP6W connector dimensions