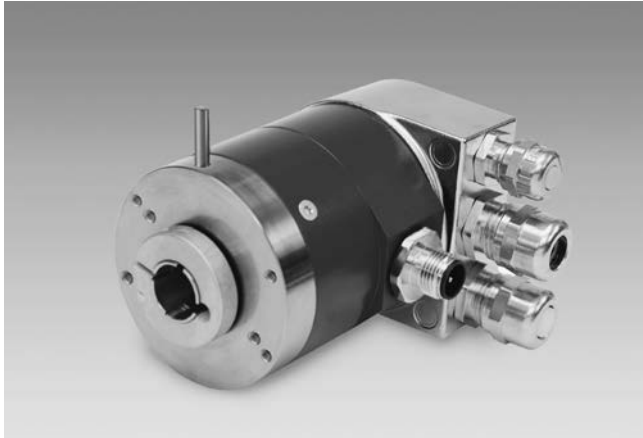


# Absolute encoders - modular bus covers

Blind hollow shaft up to  $\varnothing 15$  mm

Optical multiturn encoders 13 bit ST / 16 bit MT, incremental tracks

## GXMMS + incremental



GXMMS with modular bus cover

### Features

- Encoder multiturn / bus cover
- Optical sensing method
- Resolution: singleturn 13 bit, multiturn 16 bit
- Blind hollow shaft  $\varnothing 12... \varnothing 15$  mm
- High resistance to shock and vibrations
- CANopen®/DeviceNet/EtherCAT/EtherNet-IP  
SAEJ1939/PROFINET/POWERLINK/Profibus/SSI
- Code continuity check optional by bus
- Two incremental tracks A and B
- Maximum resistant against magnetic fields

### Technical data - electrical ratings

Voltage supply	10...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	$\leq 100$ mA (24 VDC)
Initializing time typ.	250 ms after power on
Interfaces	CANopen®, DeviceNet, EtherCAT, EtherNet/IP, Profibus, PROFINET, POWERLINK, SAE J1939, SSI
Function	Multiturn
Device adress	Rotary switch in bus cover (type-specific)
Steps per revolution	$\leq 8192$ / 13 bit
Number of revolutions	$\leq 65536$ / 16 bit
Absolute accuracy	$\pm 0.025^\circ$
Sensing method	Optical
Code	Binary
Code sequence	CW/CCW programmable
Incremental output	2048 pulses A90°B + inverted
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-4
Programmable parameters	Steps per revolution Number of revolutions Preset Scaling Rotating direction
Diagnostic functions	Position or parameter error Multiturn sensing
Status indicator	DUO-LED integrated in bus cover
Approval	UL approval / E63076

### Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 12...15$ mm (blind hollow shaft)
Protection DIN EN 60529	IP 54, IP 65 (optional)
Operating speed	$\leq 6000$ rpm (mechanical) $\leq 6000$ rpm (electric)
Starting acceleration	$\leq 1000$ U/s <sup>2</sup>
Starting torque	$\leq 0.015$ Nm (+25 °C, IP 54)
Rotor moment of inertia	20 gcm <sup>2</sup>
Materials	Housing: steel Flange: aluminium Bus cover: zinc die-cast
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.	520 g
Connection	Bus cover

# Absolute encoders - modular bus covers

Blind hollow shaft up to  $\varnothing 15$  mm

Optical multiturn encoders 13 bit ST / 16 bit MT, incremental tracks

GXMMS + incremental

## Part number

GXMMS.

### Interface

3P32	Profibus-DPV0 / cable gland
3PA2	Profibus-DPV0 / connector M12
3V32	Profibus-DPV2 / cable gland
3VA2	Profibus-DPV2 / connector M12
3EA2	PROFINET / connector M12
EPA6	EtherCAT / connector M12
8EA2	EtherNet/IP / connector M12
5EA4	POWERLINK / connector M12
5P32	CANopen® / cable gland
5PA2	CANopen® / connector M12
8P22	DeviceNet / cable gland
8PA2	DeviceNet / connector M12
2PA2	SSI / connector M12
5B32	SAEJ1939 / cable gland
5BA2	SAEJ1939 / connector M12

### Pulses / Incremental output

50	2048 pulses / push-pull +inverted
F0	2048 pulses / RS422

### Blind hollow shaft

0	$\varnothing 12$ mm, without pin
1	$\varnothing 12$ mm, pin 15 mm
B	$\varnothing 12$ mm, pin 9.5 mm
4	$\varnothing 14$ mm, without pin
5	$\varnothing 14$ mm, pin 15 mm
F	$\varnothing 14$ mm, pin 9.5 mm
U	$\varnothing 15$ mm, pin 15 mm / IP 54
W	$\varnothing 15$ mm, without pin / IP 65

CD with file descriptions is not included in the delivery.  
You may order them on CD as accessory under part number  
Z 150.022.

# Absolute encoders - modular bus covers

Blind hollow shaft up to  $\varnothing 15$  mm

Optical multiturn encoders 13 bit ST / 16 bit MT, incremental tracks

## GXMMS + incremental

### Accessories

#### Connectors and cables

11034355 Cable connector M12, 4-pin, on both sides, D-coded, 5 m cable (Z 185.E05)

#### Mounting accessories

10140347 Torque support and spring washer for encoders with 9.5 mm pin (Z 119.024)

10139345 Torque support by rubber buffer for encoders with 15 mm pin (Z 119.041)

10147837 Spring coupling for one-side attachment, length 35 mm (Z 119.050)

11034106 Spring coupling for motor's fan guard (Z 119.053)

10165157 Spring coupling for encoders with  $\varnothing 58$  mm housing, hole distance 73 mm (Z 119.072)

11034121 Spring coupling for encoders with  $\varnothing 58$  mm housing, hole distance 68 mm (Z 119.073)

11034123 Spring coupling for one-side attachment, length 115 mm (Z 119.076)

11003562 Spring coupling for encoders with  $\varnothing 58$  mm housing, hole distance 63 mm (Z 119.082)

11098229 Clamping ring set 16/30x6 - stainless steel (Z 119.092)

#### Programming accessories

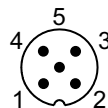
10146710 CD with describing files & manuals (Z 150.022)

11034193 Programming cable for encoders with SSI bus cover, CD with software and manual (Z 139.008)

### Terminal assignment

#### Incremental connector

Connector	Assignment
Pin 1	A
Pin 2	B
Pin 3	A inv.
Pin 4	B inv.
Pin 5	GND



# Absolute encoders - modular bus covers

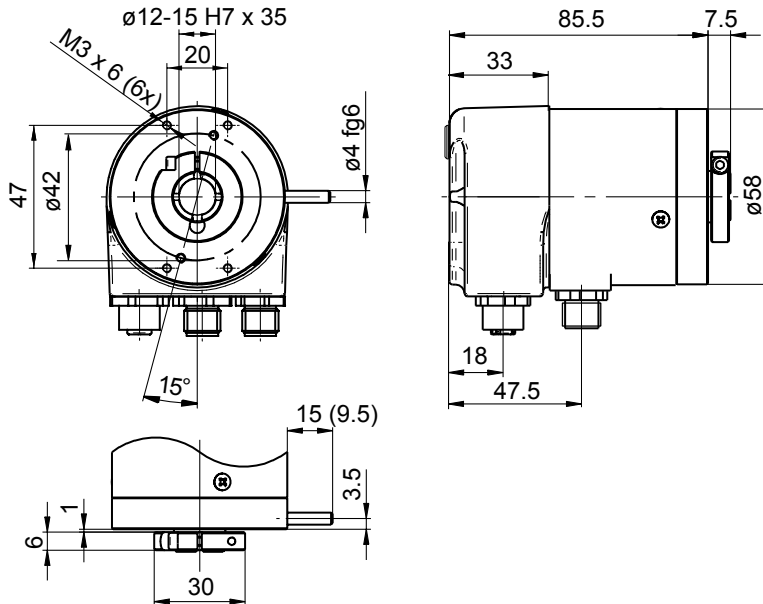
Blind hollow shaft up to  $\varnothing 15$  mm

Optical multiturn encoders 13 bit ST / 16 bit MT, incremental tracks

GXMMS + incremental

## Dimensions

### GXMMS



# Absolute encoders - modular bus covers

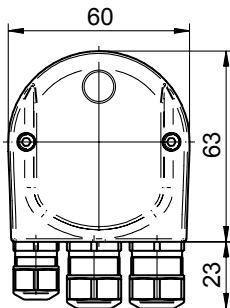
Blind hollow shaft up to  $\varnothing 15$  mm

Optical multiturn encoders 13 bit ST / 16 bit MT, incremental tracks

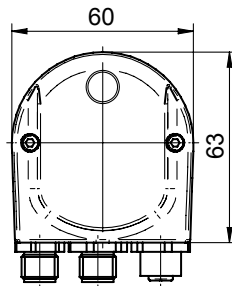
## GXMMS + incremental

### Dimensions

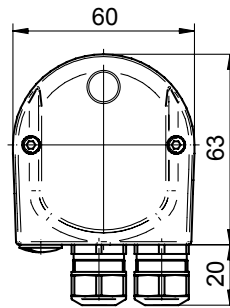
Profibus-DP/CANopen®



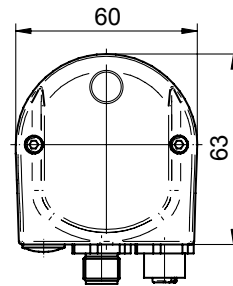
Profibus-DP - M12



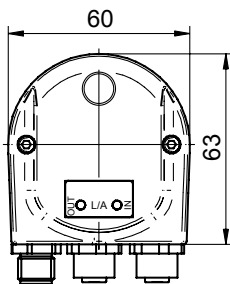
DeviceNet



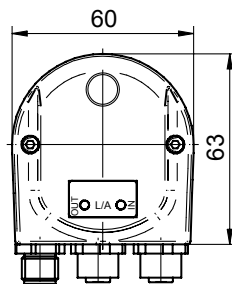
CANopen®/DeviceNet M12



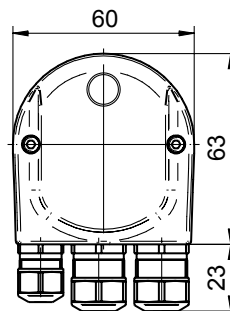
EtherCAT/EtherNet-IP



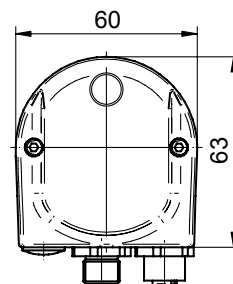
PROFINET/POWERLINK



SAEJ1939



SAEJ1939 - M12



SSI

