

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/PoE/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 | ≤ 100 mA (24 VDC) |
| Initializing time typ. | 250 ms after power on |
| Interfaces | CANopen®, DeviceNet, EtherCAT, EtherNet/IP, PoE, Profibus, PROFINET, POWERLINK, SAEJ1939, SSI |
| Function | Multiturn |
| Device adress | Rotary switch in bus cover (type-specific) |
| Steps per turn | ≤ 8192 / 13 bit |
| Number of turns | ≤ 65536 / 16 bit |
| Incremental output | 2048 pulses A90°B + inverted |
| Absolute accuracy | $\pm 0.025^\circ$ |
| Sensing method | Optical |
| Code | Binary |
| Code sequence | CW/CCW programmable |
| 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 | $\varnothing 12$ mm (blind hollow shaft) $\varnothing 14$ mm (blind hollow shaft) $\varnothing 15$ mm (blind hollow shaft) |
| Protection DIN EN 60529 | IP 54, IP 65 (optional) |
| Operating speed | ≤ 6000 rpm (mechanical) ≤ 6000 rpm (electric) |
| Starting acceleration | ≤ 1000 U/s ² |
| Starting torque | ≤ 0.015 Nm (+25 °C, IP 54) |
| Rotor moment of inertia | 20 gcm ² |
| 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 |

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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 |
| EEA2 | Power over EtherCAT / 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.

* Power over EtherCAT on request

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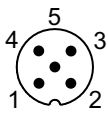
Optical multiturn encoders 13 bit ST / 16 bit MT, incremental tracks

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Terminal assignment

Incremental connector

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



Accessories

Mounting accessories

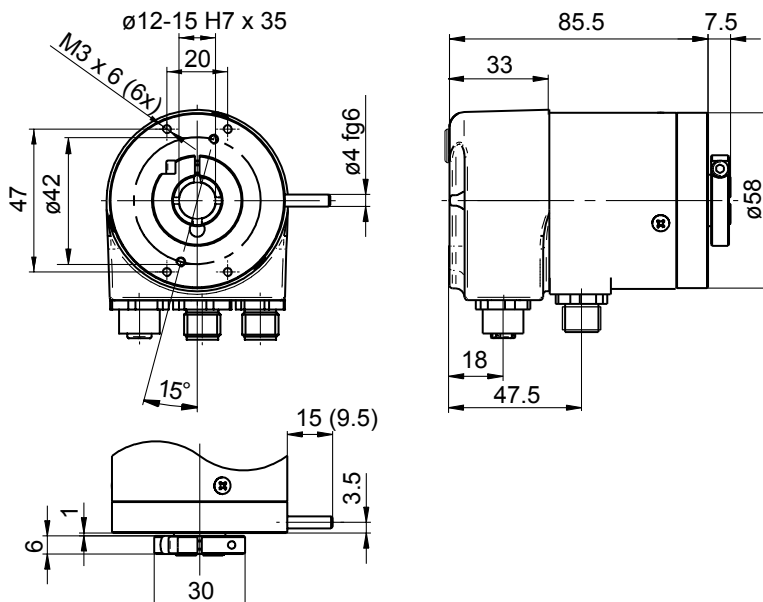
| | |
|-----------|--|
| Z 119.024 | Torque support and spring washer for encoders with 9.5 mm pin |
| Z 119.041 | Torque support by rubber buffer for encoders with 15 mm pin |
| Z 119.050 | Spring coupling for one-side attachment, length 35 mm |
| Z 119.053 | Spring coupling for motor's fan guard |
| Z 119.072 | Spring coupling for encoders with $\varnothing 58$ mm housing, hole distance 73 mm |
| Z 119.073 | Spring coupling for encoders with $\varnothing 58$ mm housing, hole distance 68 mm |
| Z 119.076 | Spring coupling for one-side attachment, length 115 mm |
| Z 119.082 | Spring coupling for encoders with $\varnothing 58$ mm housing, hole distance 63 mm |

Programming accessories

| | |
|-----------|--|
| Z 150.022 | CD with describing files & manuals |
| Z 139.008 | Programming cable for encoders with SSI bus cover, CD with software and manual |

Dimensions

GXMMS



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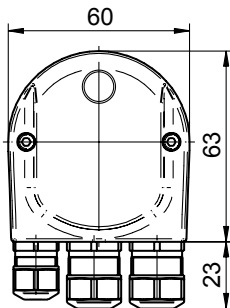
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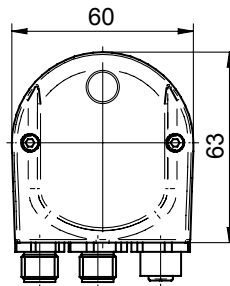
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Dimensions

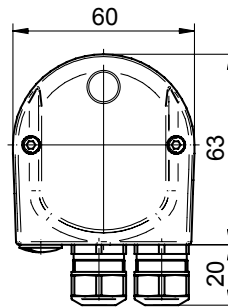
Profibus-DP/CANopen®



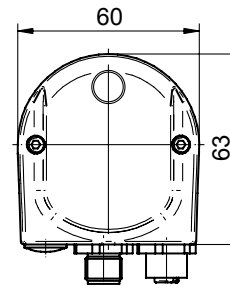
Profibus-DP - M12



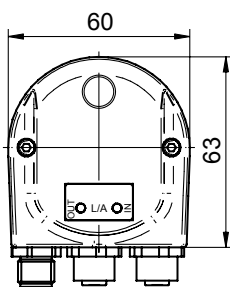
DeviceNet



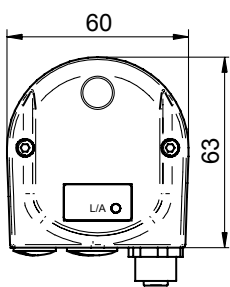
CANopen®/DeviceNet M12



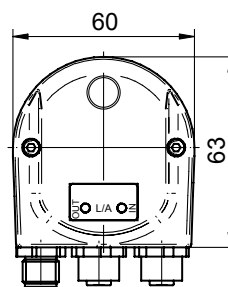
EtherCAT/EtherNet-IP



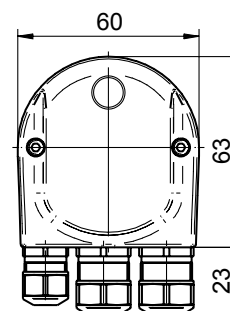
Power over EtherCAT



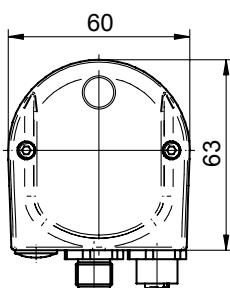
PROFINET/POWERLINK



SAEJ1939



SAEJ1939 - M12



SSI

