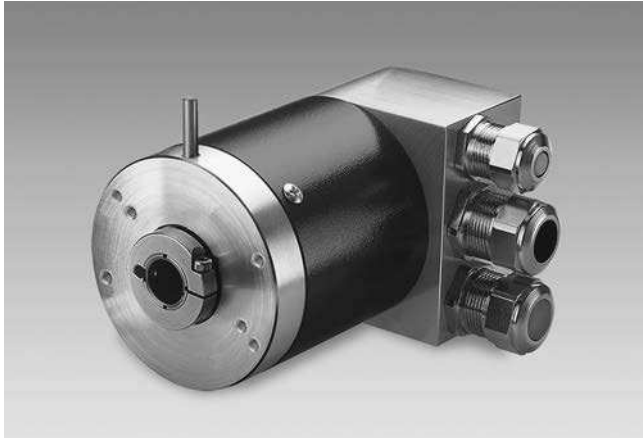


Absolute encoders - modular bus covers

High resolution, blind hollow shaft

Optical single and multiturn encoders 18 bit ST / 13 bit MT

GBAMS, GBMMS



GBMMS with modular bus cover

Features

- Encoder single- or multiturn / bus cover
- Optical sensing method
- Total resolution max. 31 bit
- Blind hollow shaft $\varnothing 12... \varnothing 15$ mm
- CANopen®/DeviceNet/EtherCAT/EtherNet-IP
SAEJ1939/PROFINET/PoE/POWERLINK/Profibus/SSI
- Cost-efficient mounting
- Code continuity check optional by bus
- 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
Device address	Rotary switch in bus cover
Steps per turn	≤ 262144 / 18 bit
Absolute accuracy	$\pm 0.01^\circ$
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
GBAMS	
Function	Singleturn
GBMMS	
Function	Multiturn
Number of turns	≤ 8192 / 13 bit

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)
Rotor moment of inertia	20 gcm ²
Materials	Housing: aluminium 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.	600 g
Connection	Bus cover

Absolute encoders - modular bus covers

High resolution, blind hollow shaft

Optical single and multiturn encoders 18 bit ST / 13 bit MT

GBAMS, GBMMS

Part number

Singleturn

GBAMS. 20

	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

Blind hollow shaft

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

Multiturn

GBMMS. 20

	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

Blind hollow shaft

0	∅12 mm, without pin
1	∅12 mm, pin 15 mm
B	∅12 mm, pin 9.5 mm
4	∅14 mm, without pin
5	∅14 mm, pin 15 mm
F	∅14 mm, pin 9.5 mm
U	∅15 mm, pin 15 mm / IP 54
W	∅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

Absolute encoders - modular bus covers

High resolution, blind hollow shaft

Optical single and multiturn encoders 18 bit ST / 13 bit MT

GBAMS, GBMMS

Accessories

Mounting accessories

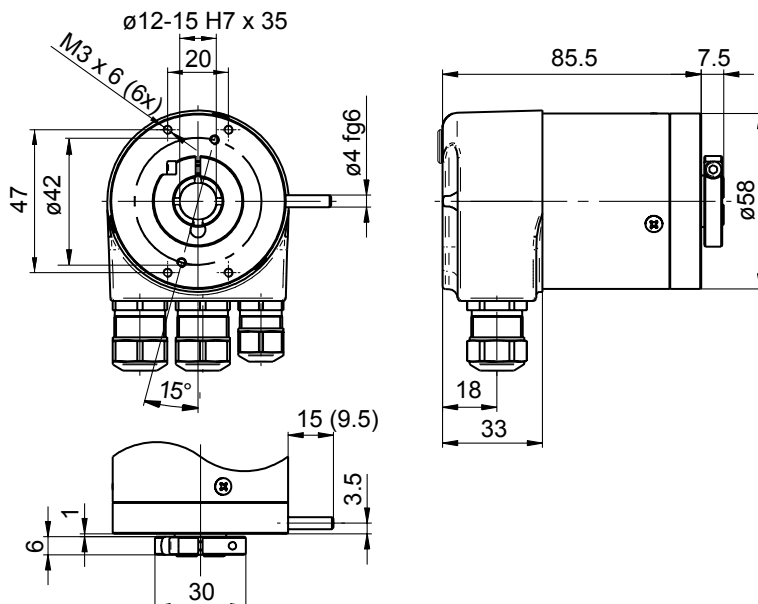
Z 119.024	Torque support and spring washer for encoders with 9.5 mm pin
Z 119.041	Torque support by rubber buffer for encoders with 15 mm pin
Z 119.050	Spring coupling for one-side attachment, length 35 mm
Z 119.053	Spring coupling for motor's fan guard
Z 119.072	Spring coupling for encoders with $\varnothing 58$ 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

GBAMS, GBMMS



Absolute encoders - modular bus covers

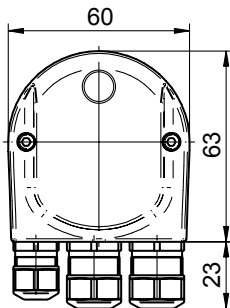
High resolution, blind hollow shaft

Optical single and multiturn encoders 18 bit ST / 13 bit MT

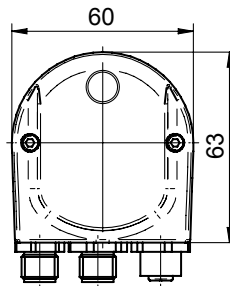
GBAMS, GBMMS

Dimensions

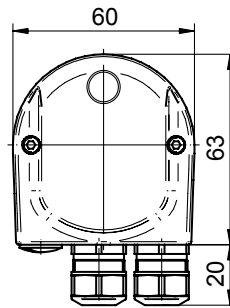
Profibus-DP/CANopen®



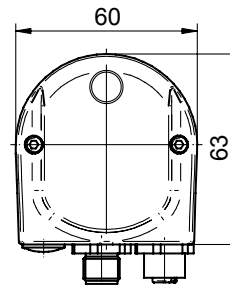
Profibus-DP - M12



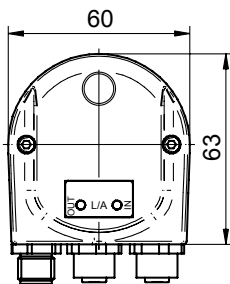
DeviceNet



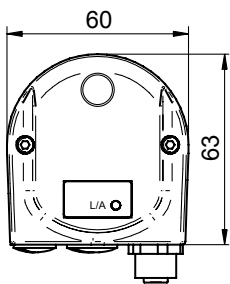
CANopen®/DeviceNet M12



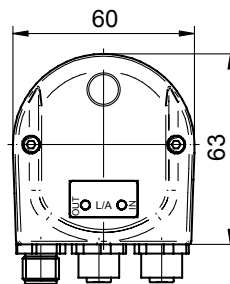
EtherCAT/EtherNet-IP



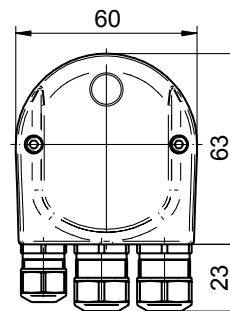
Power over EtherCAT



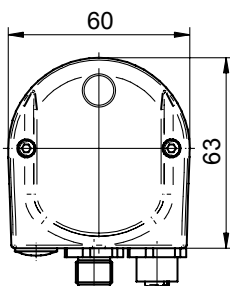
PROFINET/POWERLINK



SAEJ1939



SAEJ1939 - M12



SSI

