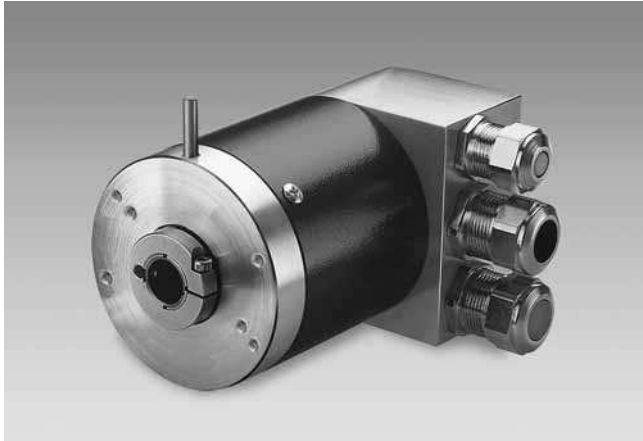


Absolute encoders - modular bus covers

High resolution, end shaft

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

GBAMS, GBMMS - *multivoPlus*



GBMMS with modular bus cover

Features

- Encoder single- or multiturn / bus cover
- Optical sensing
- Total resolution max. 31 bit
- End shaft $\varnothing 12$ mm / $\varnothing 14$ mm
- New innovative sensing technology
- CANopen/DeviceNet/EtherCAT/EtherNet-IP/SAEJ1939 fiber-optic/PROFINET/Power over EtherCAT POWERLINK/Profibus/SSI
- Cost-efficient mounting
- Code continuity check optional by bus

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, Fiber-optic, EtherCAT, EtherNet/IP, PoE, Profibus, PROFINET, POWERLINK, SAEJ1939, SSI
User 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 Rotational 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

Dimensions (flange)	$\varnothing 58$ mm
Shaft	$\varnothing 12$ mm end shaft $\varnothing 14$ mm end shaft
Protection DIN EN 60529	IP 54
Operating speed	≤ 6000 rpm (mechanical) ≤ 6000 rpm (electric)
Starting torque	≤ 0.015 Nm
Rotor moment of inertia	20 gcm ²
Materials	Housing: aluminium Flange: aluminium Bus cover: zinc die-cast or 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	Bus cover

Absolute encoders - modular bus covers

High resolution, end shaft

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

GBAMS, GBMMS - *multivoPlus*

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
5EA2	POWERLINK / connector M12
5P32	CANopen / cable gland
5PA2	CANopen / connector M12
8P22	DeviceNet / cable gland
8PA2	DeviceNet / connector M12
LM32	Fiber-optic / cable gland
2PA2	SSI / connector M12
5B32	SAEJ1939 / cable gland
5BA2	SAEJ1939 / connector M12

End shaft

0	End shaft ø12 mm without pin
1	End shaft ø12 mm with pin 15 mm
B	End shaft ø12 mm with pin 9.5 mm
4	End shaft ø14 mm without pin
5	End shaft ø14 mm with pin 15 mm
F	End shaft ø14 mm with pin 9.5 mm

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
5EA2	POWERLINK / connector M12
5P32	CANopen / cable gland
5PA2	CANopen / connector M12
8P22	DeviceNet / cable gland
8PA2	DeviceNet / connector M12
LM32	Fiber-optic / cable gland
2PA2	SSI / connector M12
5B32	SAEJ1939 / cable gland
5BA2	SAEJ1939 / connector M12

End shaft

0	End shaft ø12 mm without pin
1	End shaft ø12 mm with pin 15 mm
B	End shaft ø12 mm with pin 9.5 mm
4	End shaft ø14 mm without pin
5	End shaft ø14 mm with pin 15 mm
F	End shaft ø14 mm with pin 9.5 mm

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

Absolute encoders - modular bus covers

High resolution, end shaft

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

GBAMS, GBMMS - *multivoPlus*

Accessories

Connectors and cables

Z 119.034 Connector for data cable fibre-optic

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 element for encoders with 15 mm pin

Z 119.050 Spring coupling

Z 119.053 Spring coupling height 19.1 mm

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 encoders with $\varnothing 58$ mm housing

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

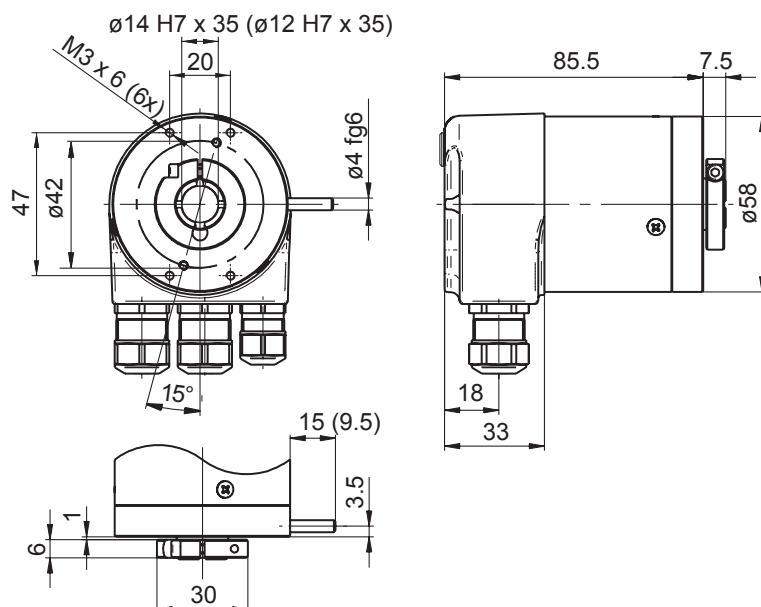
Programming accessories

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

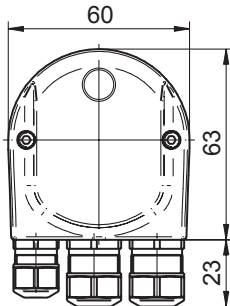
High resolution, end shaft

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

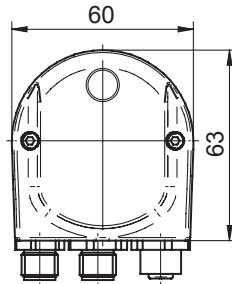
GBAMS, GBMMS - *multivoPlus*

Dimensions

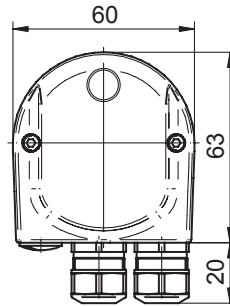
Profibus-DP/CANopen



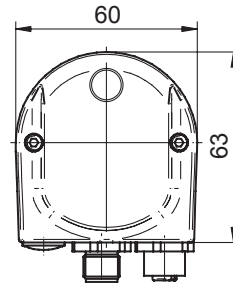
Profibus-DP - M12



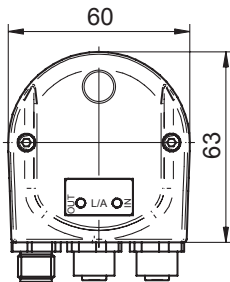
DeviceNet



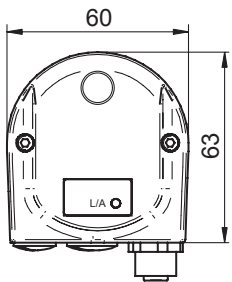
CANopen/DeviceNet M12



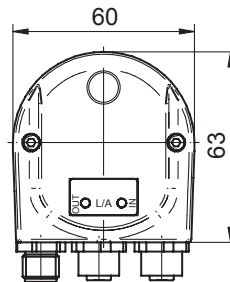
EtherCAT/EtherNet-IP



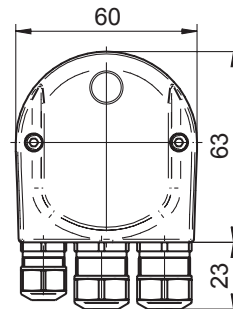
Power over EtherCAT



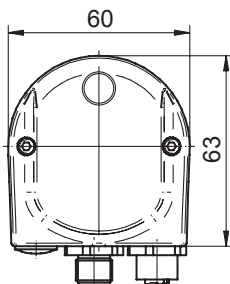
PROFINET/POWERLINK



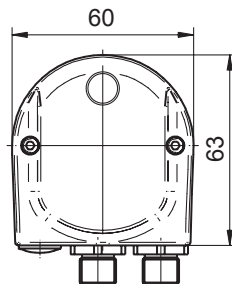
SAEJ1939



SAEJ1939 - M12



SSI



Fiber-optic

