

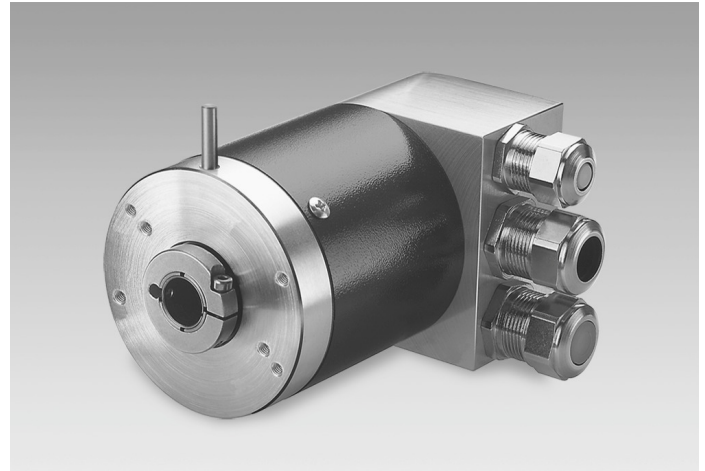
GBMMS

High resolution, blind hollow shaft

Optical multiturn encoders 18 bit ST / 13 bit MT

Overview

- Encoder multiturn / bus cover
- Optical sensing method
- Total resolution up to 31 bit
- Blind hollow shaft $\varnothing 12 \dots \varnothing 15$ mm
- CANopen®, EtherCAT, EtherNet/IP, SAEJ1939, PROFINET, Profibus, SSI
- Cost-efficient mounting
- Code continuity check optional by bus
- Maximum resistant against magnetic fields



Technical data

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
Interface	CANopen® EtherCAT EtherNet/IP Profibus PROFINET SAE J1939 SSI
Function	Multiturn
Device adress	Rotary switches in bus cover
Steps per revolution	≤ 262144 / 18 bit
Number of revolutions	≤ 8192 / 13 bit
Absolute accuracy	$\pm 0,01$ °
Sensing method	Optical
Code	Binary
Code sequence	CW/CCW programmable
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-4
Programmable parameters	Steps per revolution Number of revolutions Preset Scaling Rotating direction

Technical data - electrical ratings

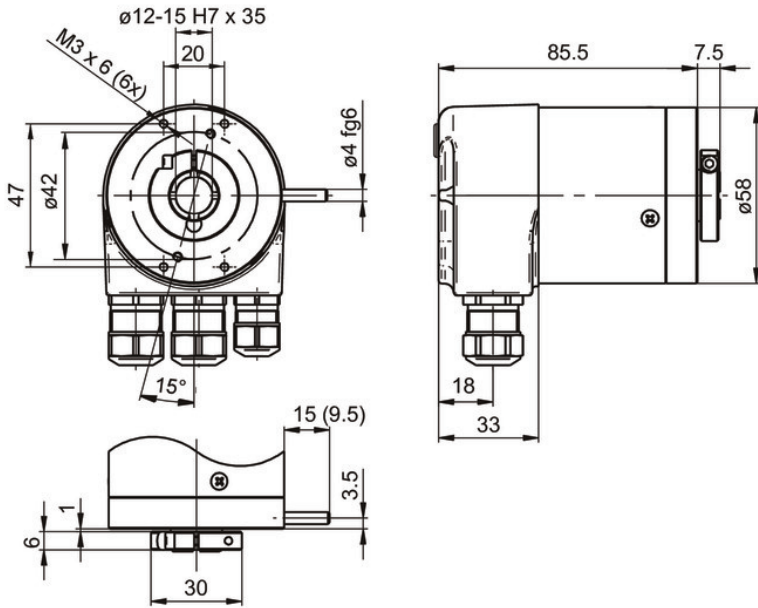
Diagnostic function	Position or parameter error Multiturn sensing
Status indicator	DUO-LED integrated in bus cover
Approval	UL approval / E63076
Technical data - mechanical design	
Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 12 \dots 15$ mm (blind hollow shaft)
Protection EN 60529	IP 54 IP 65 (optional)
Operating speed	≤ 6000 rpm (mechanical) ≤ 6000 rpm (electric)
Starting acceleration	≤ 1000 U/s ²
Starting torque	$\leq 0,015$ Nm (+25 °C)
Rotor moment of inertia	20 gcm ²
Material	Housing: aluminium Flange: aluminium Bus cover: zinc die-cast
Operating temperature	-25...+85 °C -40...+85 °C (optional)
Relative humidity	95 % non-condensing
Resistance	EN 60068-2-6 Vibration 10 g, 16-2000 Hz EN 60068-2-27 Shock 200 g, 6 ms
Weight approx.	600 g
Connection	Bus cover

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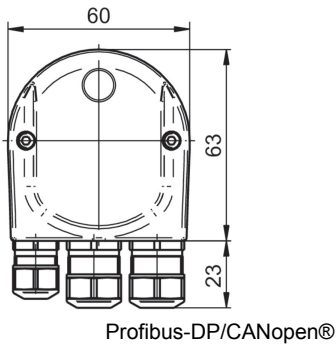
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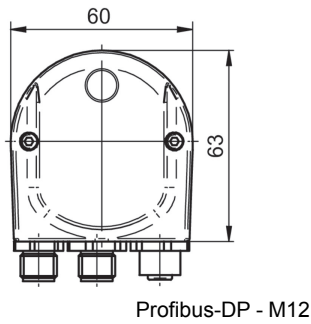
Dimensions



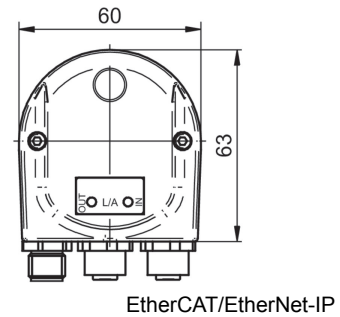
GBAMS, GBMMS



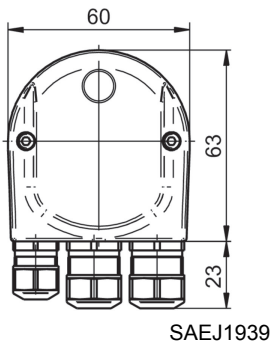
Profibus-DP/CANopen®



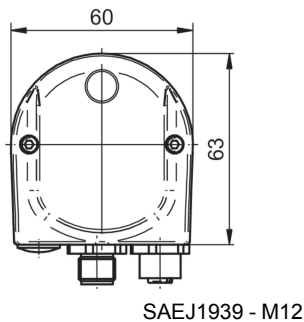
Profibus-DP - M12



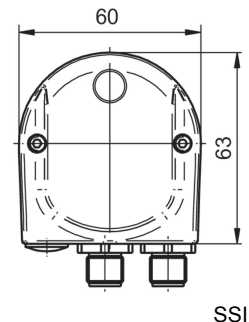
EtherCAT/EtherNet-IP



SAEJ1939



SAEJ1939 - M12



SSI

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Ordering reference

		GBMMS	.	#	20	####
Product		GBMMS				
Blind hollow shaft						
ø12 mm, without pin		0				
ø12 mm, pin 15 mm		1				
ø12 mm, pin 9.5 mm		B				
ø14 mm, without pin		4				
ø14 mm, pin 15 mm		5				
ø14 mm, pin 9.5 mm		F				
ø15 mm, pin 15 mm / IP 54		U				
ø15 mm, without pin / IP 65		W				
Voltage supply						
10...30 VDC		20				
Interface						
Profibus-DPV0 / cable gland		3P32				
Profibus-DPV0 / connector M12		3PA2				
Profibus-DPV2 / cable gland		3V32				
Profibus-DPV2 / connector M12		3VA2				
PROFINET / connector M12		3EA2				
EtherCAT / connector M12		EPA6				
EtherNet/IP / connector M12		8EA2				
CANopen® / cable gland		5P32				
CANopen® / connector M12		5PA2				
SSI / connector M12		2PA2				
SAEJ1939 / cable gland		5B32				
SAEJ1939 / connector M12		5BA2				

Accessories

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)
11066120	Mounting kit 056
11034106	Spring coupling for motor's fan guard (Z 119.053)
10165157	Spring coupling for encoders with ø58 mm housing, hole distance 73 mm (Z 119.072)
11034121	Spring coupling for encoders with ø58 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 ø58 mm housing, hole distance 63 mm (Z 119.082)
11098229	Clamping ring set 16/30x6 - stainless steel (Z 119.092)

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Accessories

Connectors and cables

11034355	Cable connector M12, 4-pin, on both sides, D-coded, 5 m cable (Z 185.E05)
11034304	Female connector M12, 8-pin, straight, 2 m cable (Z 174.003)
11034305	Female connector M12, 8-pin, straight, 5 m cable (Z 174.005)

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)