

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	$\pm 0.01^\circ$
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

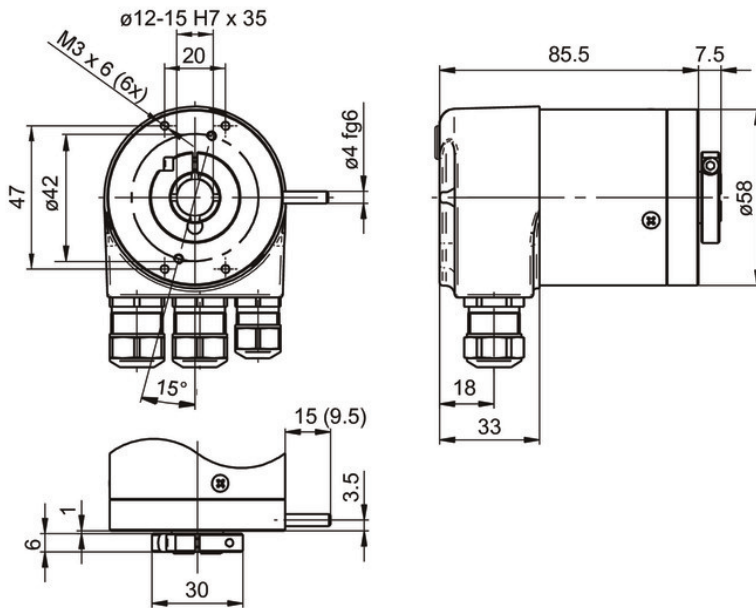
Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 12 \dots 15$ mm (blind hollow shaft)
Protection EN 60529	IP 54 IP 65 (optional)
Operating speed	≤ 6000 rpm (mechanical) ≤ 6000 rpm (electric)
Starting acceleration	≤ 1000 U/s ²
Starting torque	≤ 0.015 Nm (+25 °C)
Rotor moment of inertia	20 gcm 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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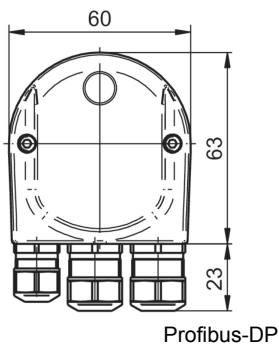
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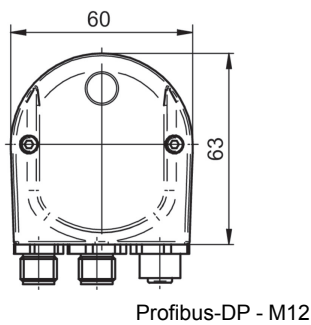
Dimensions



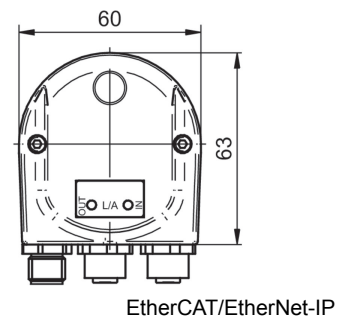
GBAMS, GBMMS



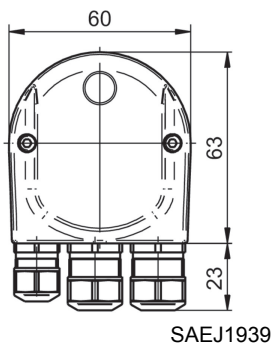
Profibus-DP



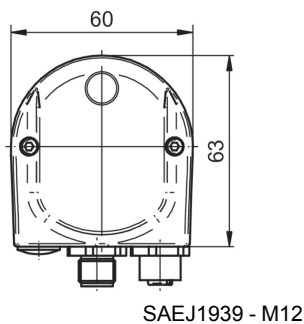
Profibus-DP - M12



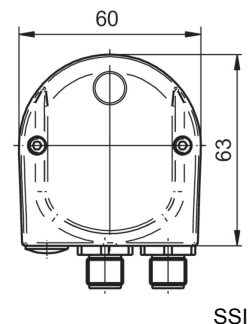
EtherCAT/EtherNet-IP



SAEJ1939



SAEJ1939 - M12



SSI

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Ordering reference

Product	GBMMS	.	#	20	####
Blind hollow shaft	GBMMS				
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)

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)