

Absolute encoders - bus interfaces

Solid shaft $\varnothing 10$ mm with clamping flange

Magnetic multiturn encoders 12 bit ST / 18 bit MT, CANopen®

BMMV 58 CANopen® - MAGRES hermetic



BMMV 58K CANopen® with clamping flange

Features

- Encoder multiturn / CANopen®
- Magnetic sensing
- Resolution: singleturn 12 bit, multiturn 18 bit
- Integrated fieldbus interface
- High resistance to shock and vibrations
- Resolution and zero point programmable
- Clamping flange
- Protection IP 69K
- Material: stainless steel 1.4305

Technical data - electrical ratings

Voltage supply	10...30 VDC
Consumption typ.	100 mA (24 VDC, w/o load)
Initializing time typ.	170 ms after power on
Interface	CANopen®
Function	Multiturn
Profile conformity	CANopen® CiA DSP 301 4.01, DSP 305 V1.0, DSP 406 V3.0
Device adress	Rotary switch in housing
Steps per turn	≤ 4096 / 12 bit
Number of turns	≤ 262144 / 18 bit
Absolute accuracy	$\pm 1^\circ$
Sensing method	Magnetic
Code	Binary
Code sequence	CW default, programmable
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3
Programmable parameters	Operating modes Total resolution Scaling Rotation speed monitoring
Diagnostic functions	Position or parameter error Multiturn sensing
Approval	UL approval / E217823

Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 10$ mm solid shaft (clamping flange)
Flange	Clamping flange
Protection DIN EN 60529	IP 68, IP 69K
Operating speed	≤ 6000 rpm
Operating torque typ.	0.031 Nm
Admitted shaft load	≤ 120 N axial (combined) ≤ 280 N radial (combined) ≤ 270 N axial (concentrated load)
Materials	Stainless steel 1.4305 (other materials on request)
Operating temperature	$-40 \dots +85^\circ \text{C}$
Relative humidity	95 %
Resistance	DIN EN 60068-2-6 Vibration 30 g, 10-2000 Hz DIN EN 60068-2-27 Shock 500 g, 6 ms
Weight approx.	900 g
Connection	Connector M12, 5-pin

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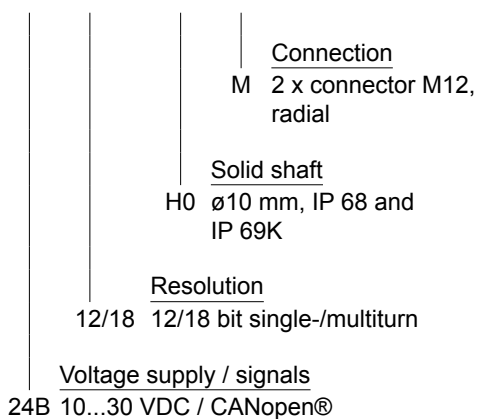
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Part number

Multiturn clamping flange

BMMV 58K5N 24B 12/18 H0 M



Accessories

Connectors and cables

10153968	Female connector M12, 5-pin, straight, without cable
10153969	Cable connector M12, 5-pin, CAN, straight
10145021	Female connector M12, 5-pin, CAN, angled
10156584	Cable connector M12, 5-pin, CAN, angled

Mounting accessories

10252773	Clamp set ø15 mm
11053277	Bellows coupling aluminium/stainless steel 10 mm

Programming accessories

10147362	CD-ROM with GSD-/EDS-/XML files and user manuals
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Terminal significance

+Vs	Encoder supply voltage.
0 V	Encoder ground connection relating to +Vs.
CAN_L	CAN bus signal (dominant Low).
CAN_H	CAN bus signal (dominant High).
CAN_GND	GND relating to CAN interface.

CANopen® features

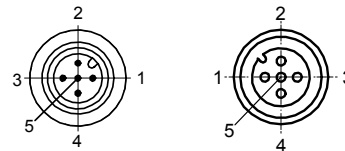
Bus protocol	CANopen®
Device profile	CANopen® - CiA DSP 406, V 3.0 (Device Class 2, CAN 2.0B)
Operating modes	- Event-triggered / Time-triggered - Remotely-requested - Sync (cyclic) / Sync (acyclic)
Preset	Parameter for setting the encoder to a requested position value assigned to a defined shaft position of the system. The offset of encoder zero point and mechanical zero point is stored in the encoder.
Rotating direction	Parameter for defining the rotating direction in which there have to be ascending or descending position values. Default setting: Ascending position values when looking at the flange and rotating the shaft clockwise.
Scaling	Parameter defining the steps per turn as well as the total resolution.
Diagnosis	The encoder supports the following error warnings: - Position and parameter error - Lithium battery voltage (multiturn)
Node Monitoring	Heartbeat or Nodeguarding
Default	50 kbit/s, Node ID 1

Terminal assignment

Connector (2 x M12) male/female

Conn.	Signals	Description
Pin 1	n.c.	–
Pin 2	+Vs	Supply voltage
Pin 3	CAN_GND	CAN Ground
Pin 4	CAN_H	Bus (dominant HIGH)
Pin 5	CAN_L	Bus (dominant LOW)

A-coded



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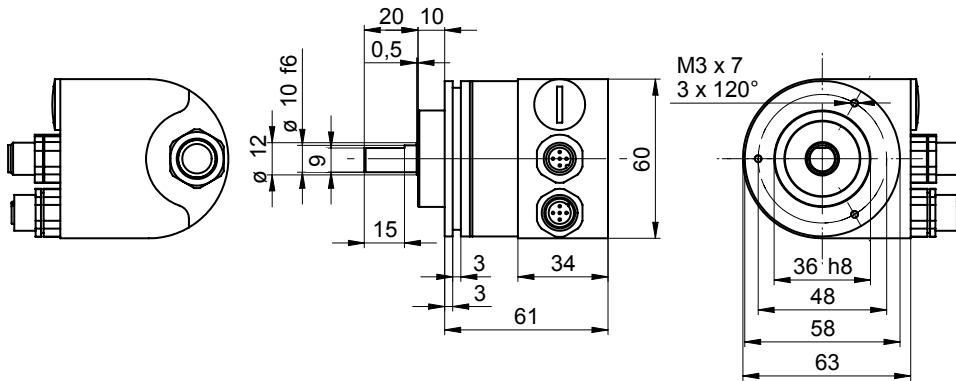
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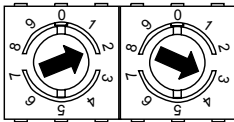
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Dimensions

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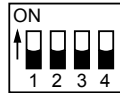


User address



Address can be set with rotary switches.
Example: User address 23
Default setting: 01

Terminating res./Baud rate



Terminator: Dip switch 4
ON = Last User
OFF = User X
Baud rate: Dip switch 1-3