Absolute encoders - bus interfaces

Shaft with clamping or synchro flange

Magnetic single- or multiturn encoders 12 bit ST / 16 bit MT, DeviceNet

BMSV 58, BMMV 58 DeviceNet - *MAGRES*

BMMV 58K DeviceNet with clamping flange

Features

- **Encoder single- or multiturn / DeviceNet**
- **Magnetic sensing**
- **Resolution: singleturn 12 bit, multiturn 16 bit**
- **Integrated fieldbus interface**
- **High resistance to shock and vibrations**
- **Resolution and zero point programmable**
- **Clamping or synchro flange**

Technical data - electrical ratings

Voltage supply	10...30 VDC
Consumption w/o load (typ.)	100 mA (24 VDC)
Initializing time (typ.)	170 ms after power on
Interface	DeviceNet
Profile conformity	Device Profile Encoder V 1.0
Steps per turn	≤4096 / 12 bit
Absolute accuracy	±1 °
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 Preset Scaling
Diagnostic functions	Position or parameter error Multiturn sensing
Approval	UL approval / E217823
BMSV 58K, BMSV 58S	
Function	Singleturn
BMMV 58K, BMMV 58S	
Function	Multiturn
Number of turns	≤65536 / 16 bit

Technical data - mechanical design

Dimensions (flange)	ø58 mm
Protection DIN EN 60529	IP 65
Operating speed	≤12000 rpm (mechanical) ≤6000 rpm (electric)
Operating torque typ.	0.023 Nm
Materials	Housing: aluminium Flange: aluminium
Operating temperature	-20...+85 °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.	300 g
Connection	Connector D-SUB, 9-pin
BMSV 58K, BMMV 58K	
Shaft	ø10 mm (clamping flange)
Flange	Clamping flange
Shaft loading	≤40 N axial ≤60 N radial
BMSV 58S, BMMV 58S	
Shaft	ø6 mm (synchro flange)
Flange	Synchro flange
Shaft loading	≤10 N axial ≤20 N radial

BMSV 58, BMMV 58 DeviceNet - *MAGRES*

Part number

Singleturn clamping flange

BMSV 58K1N | **24D** | **12/00** | **C0** | **F** |

- Connection
  - F Connector D-SUB, radial
- Shaft
  - C0 ø10 mm, IP 65
- Resolution
  - 12/00 12 bit singleturn
- Voltage supply / signals
  - 24D 10...30 VDC / DeviceNet

Multiturn clamping flange

BMMV 58K1N | **24D** | **12/16** | **C0** | **F** |

- Connection
  - F Connector D-SUB, radial
- Shaft
  - C0 ø10 mm, IP 65
- Resolution
  - 12/16 12/16 bit single-/multiturn
- Voltage supply / signals
  - 24D 10...30 VDC / DeviceNet

Singleturn synchro flange

BMSV 58S1N | **24D** | **12/00** | **C6** | **F** |

- Connection
  - F Connector D-SUB, radial
- Shaft
  - C6 ø6 mm, IP 65
- Resolution
  - 12/00 12 bit singleturn
- Voltage supply / signals
  - 24D 10...30 VDC / DeviceNet

Multiturn synchro flange

BMMV 58S1N | **24D** | **12/16** | **C6** | **F** |

- Connection
  - F Connector D-SUB, radial
- Shaft
  - C6 ø6 mm, IP 65
- Resolution
  - 12/16 12/16 bit single-/multiturn
- Voltage supply / signals
  - 24D 10...30 VDC / DeviceNet

Accessories

Connectors and cables	
10145023	Female connector D-SUB, 9-pin angled
Mounting accessories for BMSV 58K, BMMV 58K	
10252773	Clamp set
11053277	Bellows coupling aluminium/stainless steel 10 mm
Mounting accessories for BMSV 58S, BMMV 58S	
10252773	Clamp set
Programming accessories	
10147362	CD-ROM with GSD-/EDS-/XML files and user manuals

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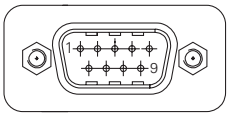
Terminal significance	
+Vs	Encoder supply voltage.
0 V	Encoder ground connection relating to +Vs.
CAN_L	CAN bus signal (dominant Low).
CAN_H	CAN bus signal (dominant High).
CAN_GND	GND relating to CAN interface.

DeviceNet features	
Bus protocol	DeviceNet
Device profile	Device Profile for Encoders V 1.0
Operating modes	- I/O-Polling - Cyclic - Change of State
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 control (Multiturn)
Default	125 kbit/s, Mac Id 63

Terminal assignment

Connector D-Sub male

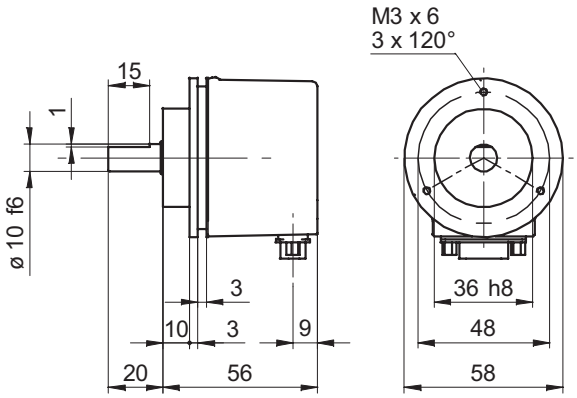
Connector	Signals	Description
Pin 1	d.u.	do not use
Pin 2	CAN_L	Bus (dominant LOW)
Pin 3	CAN_GND	CAN Ground
Pin 4	d.u.	do not use
Pin 5	CAN_SHLD	CAN Shield
Pin 6	0 V	Supply voltage
Pin 7	CAN_H	Bus (dominant HIGH)
Pin 8	n.c.	–
Pin 9	+Vs	Supply voltage



BMSV 58, BMMV 58 DeviceNet - *MAGRES*

Dimensions

BMSV/BMMV 58 DeviceNet clamping flange, D-SUB



BMSV/BMMV 58 DeviceNet synchro flange, D-SUB