

Absolute encoders - SSI

Shaft \varnothing 10 mm with clamping flange

Magnetic multiturn encoders 12 bit ST / 13 bit MT

BMMV 58 SSI - MAGRES hermetic



BMMV 58K SSI with clamping flange

Features

- Encoder multiturn / SSI
- Magnetic sensing, hermetically sealed
- Resolution: singleturn 12 bit, multiturn 13 bit
- High resistance to shock and vibrations
- Reset input
- Protection IP 69K
- Material: stainless steel 1.4305

Technical data - electrical ratings

Voltage supply	5 VDC \pm 10 % 10...30 VDC
Consumption w/o load (typ.)	100 mA (5 VDC) 50 mA (24 VDC)
Initializing time (typ.)	170 ms after power on
Interface	SSI
Function	Multiturn
Steps per turn	4096 / 12 bit
Number of turns	8192 / 13 bit
Absolute accuracy	\pm 1 °
Sensing method	Magnetic
Code	Gray or binary
Code sequence	CW: ascending values with clockwise sense of rotation (looking at flange)
Inputs	SSI clock Reset input
Output circuit	SSI data: linedriver RS485
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3
Approval	UL approval / E217823

Technical data - mechanical design

Dimensions (flange)	\varnothing 58 mm
Shaft	\varnothing 10 mm (clamping flange)
Flange	Clamping flange
Protection DIN EN 60529	IP 68, IP 69K
Operating speed	\leq 6000 rpm
Operating torque typ.	0.031 Nm
Shaft loading	\leq 120 N axial (combined) \leq 280 N radial (combined) \leq 270 N axial (concentrated load)
Materials	Stainless steel 1.4305 (other materials on request)
Operating temperature	-40...+85 °C
Resistance	DIN EN 60068-2-6 Vibration 30 g, 10-2000 Hz DIN EN 60068-2-27 Shock 500 g, 6 ms
Explosion protection	Ex II3D Txx °C (Zone 22) (only cable version)
Weight approx.	690 g
Connection	Connector M12, 8-pin Cable

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Part number

Multiturn clamping flange

BMMV 58K5 12/13 H0

2 Connection
Cable radial, Ex
Zone 22

5 Cable radial
N Connector
M12, 5-pin,
radial

Shaft
H0 $\varnothing 10$ mm, IP 68 and
IP 69K

Resolution
12/13 12/13 bit single-/multiturn

Voltage supply / signals
05C 5 VDC / SSI
24C 10...30 VDC / SSI

Code
N Binary code
G Gray code

Accessories

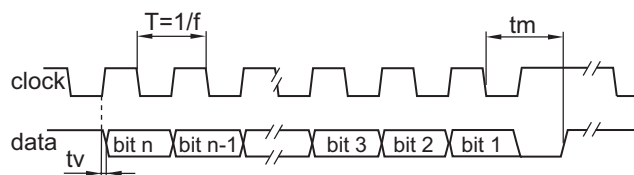
Connectors and cables

10146775	Female connector M12, 8-pin, straight
10127844	Female connector M12, 8-pin, straight, shielded, 2 m
10129332	Female connector M12, 8-pin, straight, shielded, 5 m cable

Mounting accessories

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

Data transfer



Clock frequency f	100...1000 kHz
Scan ratio of T	40...60 %
Time lag t_v	200 ns
Monoflop time t_m	$20 \mu s + T/2$

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Terminal significance

+Vs	Encoder supply voltage.
0 V	Encoder ground connection relating to +Vs.
Data+	Positive, serial data output of differential linedriver.
Data-	Negative, serial data output of differential linedriver.
Clock+	Positive SSI clock input. Clock+ together with Clock- forms a current loop. A current of approx. 7 mA towards Clock+ input means logic 1 in positive logic.
Clock-	Negative SSI clock input. Clock- together with Clock+ forms a current loop. A current of approx. 7 mA towards Clock- input means logic 0 in positive logic.
Zero	Input for setting a zero point anywhere within the encoder resolution. The zero setting operation is triggered by a Low impulse. Connect to +Vs after setting operation for maximum interference immunity. Impulse duration >2 ms.
Rot. direction	Ascending position values when looking at the flange and rotating the shaft clockwise.

Terminal assignment

Cable

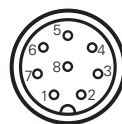
for connection reference -5

Core colour	Signals	Description
brown	+Vs	Supply voltage
white	0 V	Supply voltage
grey	Data+	Data signal
pink	Data-	Data signal
green	Clock+	Clock signal
yellow	Clock-	Clock signal
blue	Zero	Zero setting input
red	d.u.	do not use
Screen	connected to housing	
Cable data	8 x 0,14 mm ²	

Connector M12 male

for connection reference -N

Connector	Signals	Description
Pin 1	0 V	Supply voltage
Pin 2	+Vs	Supply voltage
Pin 3	Clock+	Clock signal
Pin 4	Clock-	Clock signal
Pin 5	Data+	Data signal
Pin 6	Data-	Data signal
Pin 7	Zero	Zero setting input
Pin 8	d.u.	do not use



Trigger level

Control inputs	Input circuit
Input level Low	<0,4 V (>2 ms)
Input level High	+Vs or open

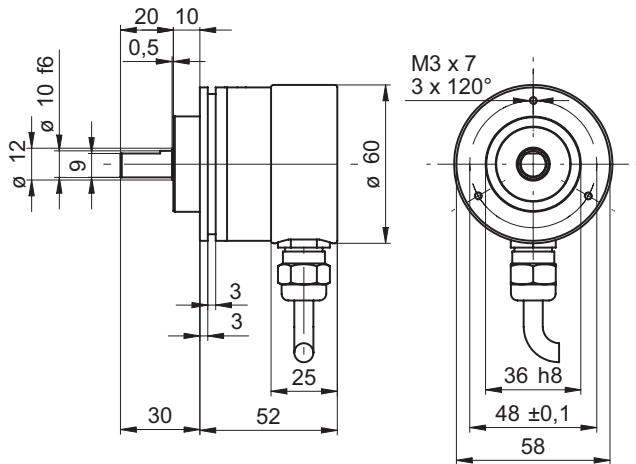
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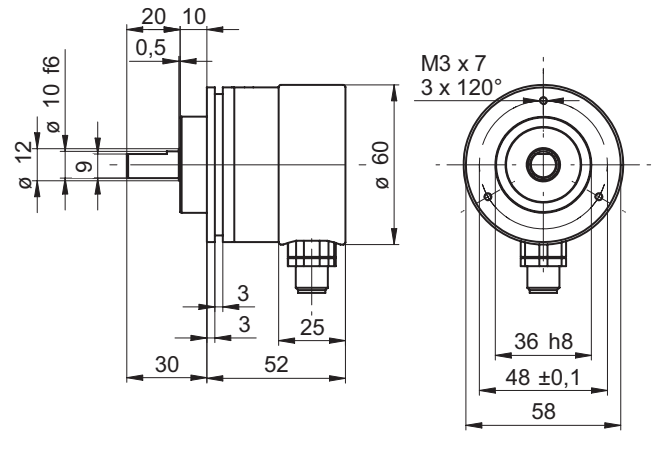
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Dimensions

BMMV 58 SSI, cable radial



BMMV 58 SSI, connector M12 radial



BMMV 58 SSI, cable radial, Ex

