

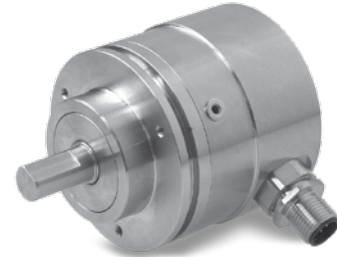
# Magnetic absolute multi-turn shaft encoder

## BMMV – MAGRES hermetic

### SSI

#### features

- multi-turn encoder / SSI
- magnetic principle, hermetically sealed
- resolution: single-turn 12 bit and multi-turn 13 bit
- high shock- and vibration-resistance
- zero setting input
- protection class IP 69K



#### general data

voltage supply	5 VDC $\pm 10\%$ <b>(05C)</b> 10 - 30 VDC <b>(24C)</b>
max. supply current no load	typ. 100 mA (at 5 VDC) <b>(05C)</b> typ. 50 mA (at 24 VDC) <b>(24C)</b>
output circuit	SSI, RS 422
signal code	Gray and binary code
max. resolution	
single-turn	12 bit (1 step = 5' 16")
multi-turn	13 bit (8' 192 revolutions)
max. error limit	$\pm 1^\circ$
repeatability	0,3°
max. clock frequency	1 MHz
zero setting input	zero setting: < 0,4 V, min. 2 ms off state: +Vs or open
counter buffering	with Lithium cell typ. 19 years
direction of rotation	looking at the flange, position counts up as the shaft rotates clockwise (CW)

#### mechanical data

max. revolutions	6'000 rpm
moment of inertia	typ. $20 \times 10^{-7}$ kgm <sup>2</sup>
torque	typ. 3,1 cNm (3'000 rpm / 20 °C)
max. shaft load	axial: 120 N    radial: 280 N (combined) axial: 270 N (single load)
product life	depending on ambient conditions (typ. 10 <sup>9</sup> revolutions)
max. protection class	IP 68 + IP 69K (IP 68: water 20 °C, 1 m, 24 h)
material	high grade steel 1,4305 <sup>1</sup>
weight	approx. 690 g
explosion protection	Ex II3D Txx °C (Zone 22) <sup>1</sup>

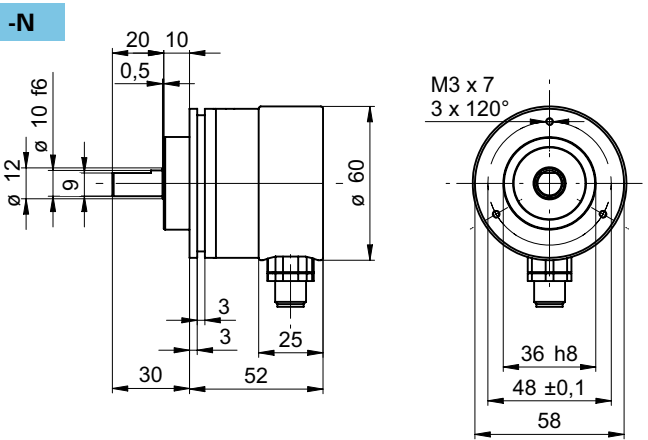
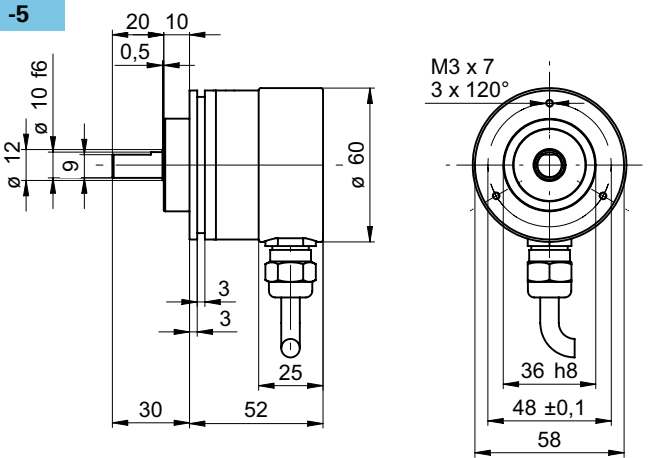
<sup>1</sup> additional versions and materials on request

#### ambient conditions

temperature range	-40...+85 °C
vibration	IEC 60068-2-6 ( $\leq 300$ m/s <sup>2</sup> / 10 - 2'000 Hz)
shock	IEC 60068-2-27 ( $\leq 3'000$ m/s <sup>2</sup> / 6 ms)
noise immunity	EN 61000-6-2
emitted interference	EN 61000-6-3



**dimensions**



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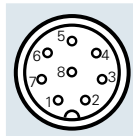
#### assignment cable

for connection reference -5

color	signal	description
brown	+Vs	voltage supply
white	0 V	voltage supply
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		housing
cable data		8 x 0,14 mm <sup>2</sup>

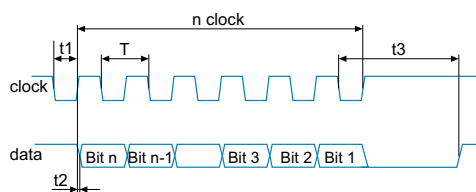
#### assignment connector M12

for connection reference -N



pin	signal	description
1	0 V	voltage supply
2	+Vs	voltage supply
3	clock+	clock signal
4	clock-	clock signal
5	data+	data signal
6	data-	data signal
7	zero	zero setting input
8	d.u.	do not use

#### read out of position values



pulse times:

$$T = 1 \mu\text{s to } 10 \mu\text{s} / t_1 = 0,5 \mu\text{s to } 5 \mu\text{s}$$

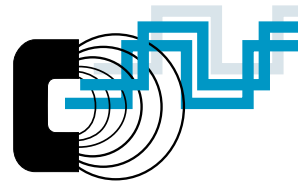
$$t_2 < 0,2 \mu\text{s} / t_3 > 12 \mu\text{s to } 25 \mu\text{s}$$

#### SSI-data output and clock input

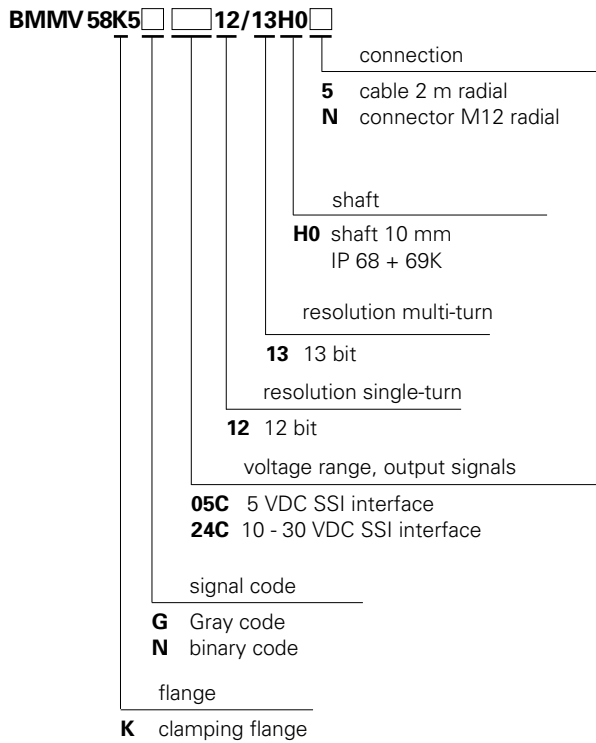
see page 2.03 chapter absolute singleturn encoder

# BMMV 58

## MAGRES hermetic



### order designation BMMV 58K



### accessories

connector (female) M12 8-pin	part nr. 146775
connector (female) M12 8-pin with cable (assembled)	
2 m	part nr. 127844
5 m	part nr. 129332
spring clamp set	part nr. 252773
couplings	see chapter accessories