

# Magnetic absolute multi-turn encoder

## BMMH – MAGRES

### DeviceNet

#### features

- robust multi-turn encoder up to
  - 12 bit single-turn resolution
  - 16 bit multi-turn resolution
- miniature housing
- DeviceNet interface integrated
- programmable resolution and preset values

#### general data

voltage supply	10 - 30 VDC
max. supply current no load	typ. 100 mA (at 24 VDC)
output circuit	CAN-bus, standard ISO/DIS 11898
protocol/profile	DeviceNet, Device Profile for Encoders V1.0
signal code	natural binary code
max. resolution single-turn	12 bit (1 step = 5' 16")
max. resolution multi-turn	16 bit (65'536 revolutions)
max error limit	±1°
repeatability	0,3°
max. baud rate	500 kbit/s
counter buffering	with Lithium cell typ. 19 years
direction of rotation	looking at the flange, position counts up as the shaft rotates clockwise (CW), programmable

#### mechanical data

max. revolutions	6'000 rpm
moment of inertia	12 x 10 <sup>-7</sup> kgm <sup>2</sup>
torque	typ. 0,93 cNm (3'000 rpm / 20 °C / IP 42)
product life conditions	depending on ambient (typ. 10 <sup>9</sup> revolutions.)
max. protection class	IP 65
material	housing: steel flange: aluminum
weight	approx. 190 g



#### order designation

**BMMH 42S1N 24D12/16** □ □

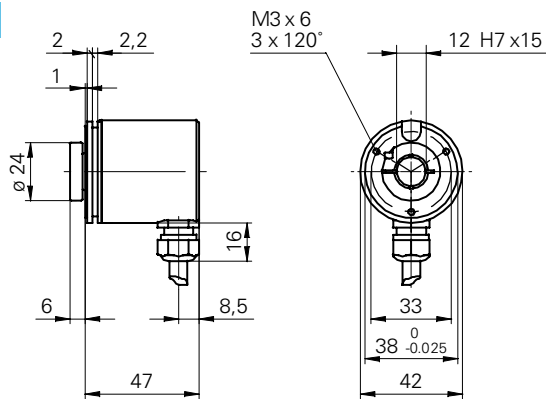
□	connection
5	cable 0,5 m radial
N	connector radial shaft
B2	end shaft 12 mm IP 42 with clamping ring
P2	end shaft 12 mm IP 65 with clamping ring
□	resolution multi-turn
16	16 bit resolution single-turn
12	12 bit resolution single-turn
□	voltage range, output signals
24D	10 - 30 VDC, DeviceNet
□	signal code
N	binary code

#### ambient conditions

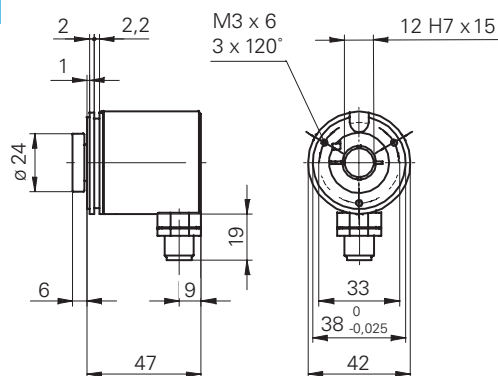
temperature range	-20...+85 °C
relative humidity	max. 95%
vibration	IEC 60068-2-6 (≤ 300 m/s <sup>2</sup> / 10 - 2'000 Hz)
shock	IEC 60068-2-27 (≤ 1'000 m/s <sup>2</sup> / 6 ms)
noise immunity	EN 61000-6-2
emitted interference	EN 61000-6-3

**dimensions**

**-5**



**-N**



**Note**

Mounting drawings see end of chapter.

**assignment cable**

cable color	signal	description
brown	+Vs	voltage supply
white	0 V	voltage supply
green	CAN_H	bus line (dominant HIGH)
yellow	CAN_L	bus line (dominant LOW)
grey	CAN_GND	CAN ground
pink	n.c.	not connected
blue	d.u.	do not use
red	d.u.	do not use
screen	CAN_SHLD	CAN shield
cable data		8 x 0,14 mm <sup>2</sup>

**assignment connector M12 male**

pin	signals	connector
1	CAN_SHLD	CAN shield
2	+Vs	voltage supply
3	CAN_GND	CAN Ground / 0 VDC
4	CAN_H	bus line (dominant HIGH)
5	CAN_L	bus line (dominant LOW)

**accessories**

spring clamp set	part nr. 110616
field plate set	part nr. 138610
CD-ROM with GSD-/EDS-/XML-files and manuals	part nr. 147362
shaft adapters	see chapter accessories
clamping ring set	
12 mm hollow shaft	part nr. 142556
connector (female) M12 CAN	part nr. 153968
connector (male) M12 CAN	part nr. 153969
T connector M12 CAN	part nr. 153972
terminating resistor	part nr. 153974