

# Magnetic absolute single-turn encoder

## BMSH – MAGRES

### DeviceNet

#### features

- robust single-turn encoder up to 12 bit
- DeviceNet interface integrated
- miniature housing
- 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
angular resolution	12 bit (1 step = 5'16'')
max error limit	±1°
repeatability	0,3°
max. baud rate	500 kbit/s
direction of rotation	looking at the flange, position counts up as the shaft rotates clockwise (CW), programmable

#### mechanical data

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



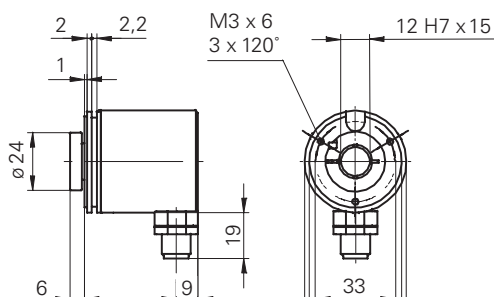
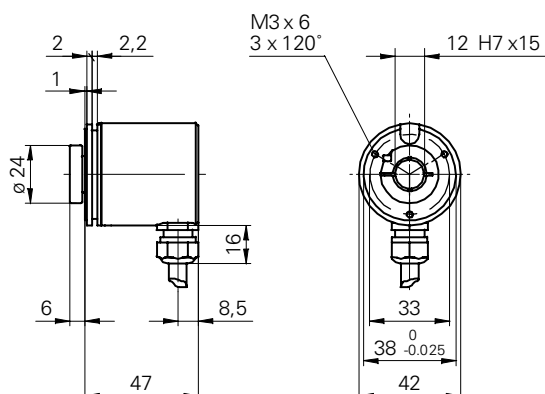
#### order designation

**BMSH 42S1N 24D12/00**

5	connection
N	cable 1 m radial connector radial M12
B2	shaft
P2	end shaft 12 mm IP 42 with clamping ring
12	end shaft 12 mm IP 65 with clamping ring
24D	resolution single-turn
N	12 bit
00	voltage range, output signals
12	24D 10 - 30 VDC, DeviceNet
00	signal code
N	binary code

#### ambient conditions

temperature range	-20...+85 °C
relative humidity	max. 95% non condensing
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**

**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.	
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>

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**assignment 5-pin 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**

clamp set	part nr. 110616
spring plate set	part nr. 138610
shaft adapter	see chapter accessories
CD-ROM with GSD-/EDS-/XML-files and manuals	part nr. 147362
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