

Magnetic absolute single-turn shaft encoder

BMSV – MAGRES

CANopen

features

- miniature single-turn encoder / CANopen
- magnetic sensing principle
- resolution: 12 bit
- housing \varnothing 42 mm
- integrated fieldbus
- high resistance against shock and vibration
- resolution and zero point programmable

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	CANopen
profile	CANopen CIA, DS-301 V4.01 DSP-305 V1.0, DS-406 V3.0
specification	CAN 2.0B
operating modes	Event-triggered / Time-triggered Remotely-requested Sync (cyclic) / Sync (acyclic)
signal code	natural binary code
max. resolution	12 bit (1 step = 5'16'')
max. error limit	$\pm 1^\circ$
repeatability	0,3°
max. baud rate	1 MBit/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 (mech.) 6'000 rpm (elektr.)
moment of inertia	12 x 10 ⁻⁷ kgm ²
torque	typ. 0,93 cNm (3'000 rpm / 20 °C)
max. shaft load	axial: 10 N radial: 25 N
product life	depending on ambient conditions (typ. 10 ⁹ revolutions)
max. protection class	IP 65
material	housing: steel flange: aluminium
weight	approx. 190 g



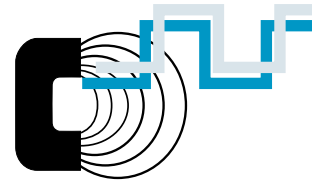
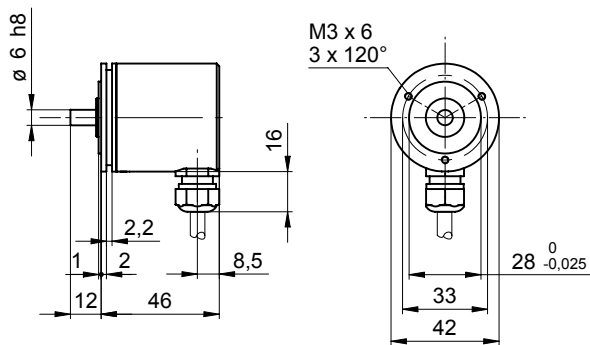
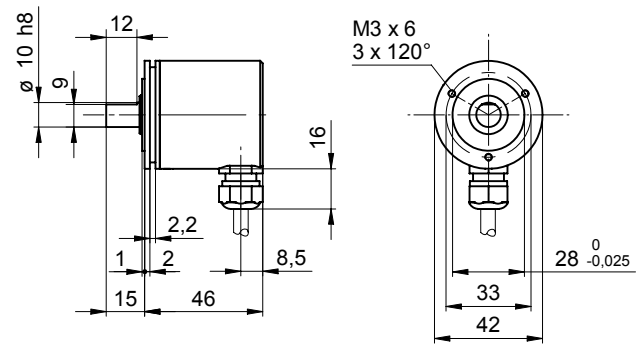
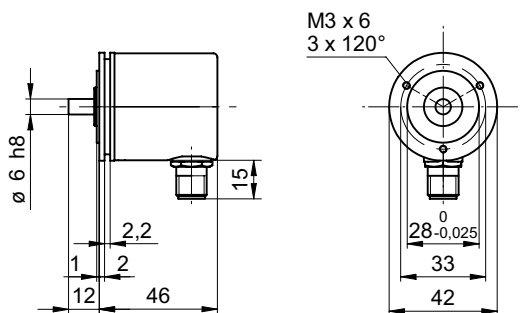
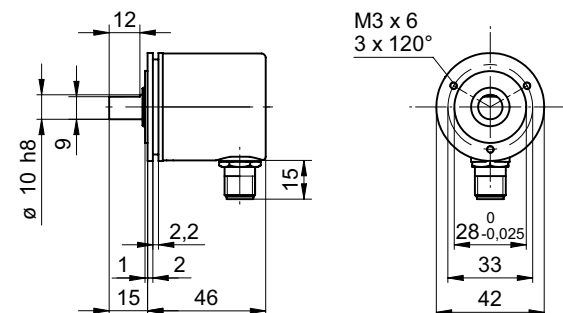
order designation

BMSV 42S1N 24B12/00

	connection
5	cable 1 m radial
N	M12 connector radial
	shaft
C6	shaft 6 mm IP 65
C0	shaft 10 mm IP 65
	resolution
12	12 bit
	voltage range, output signals
24B	10 - 30 VDC CANopen
	signal code
N	binary code

ambient conditions

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


dimensions (C6)
-5

dimensions (C0)
-5

-N

-N

Note

Mounting drawings see end of chapter.

assignment cable

 for connection reference **-5**

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		housing
cable data		8 x 0,14 mm ²

assignment connector M12 male

pin	signal	connector
1	n.c.	-
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
CD-Rom with GSD-/EDS-files and manuals	part nr. 147362
connector (female) M12 CAN	part nr. 153968
T connector M12 CAN	part nr. 153972
connector (male) M12 CAN	part nr. 153969
terminating resistor	part nr. 153974
couplings	see chapter accessories