

Magnetic absolute multi-turn shaft encoder

BMMV – MAGRES

CANopen

features

- miniature multi-turn encoder / CANopen
- magnetic sensing principle
- resolution: single-turn 12 bit and multi-turn 18 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/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 single-turn	12 bit (1 step = 5' 16")
multi-turn	18 bit (262'144 revolutions)
max. error limit	$\pm 1^\circ$
repeatability	0,3°
max. baud rate	1 Mbit/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	12'000 rpm (mech.) 6'000 rpm (electr.)
moment of inertia	$12 \times 10^{-7} \text{ kgm}^2$
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: aluminum
weight	approx. 190 g



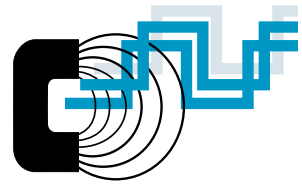
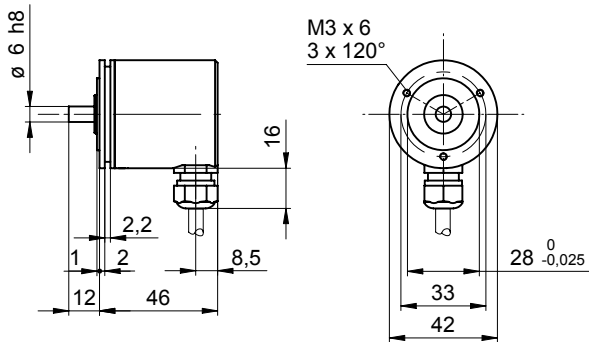
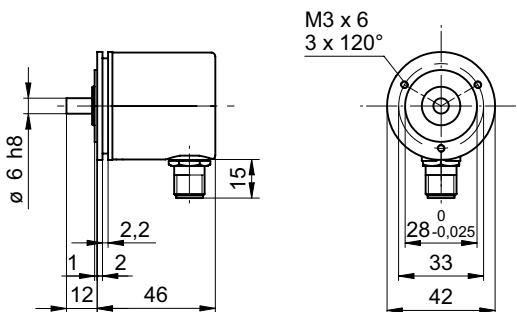
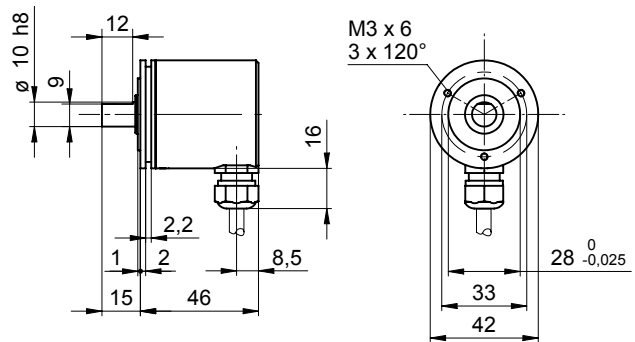
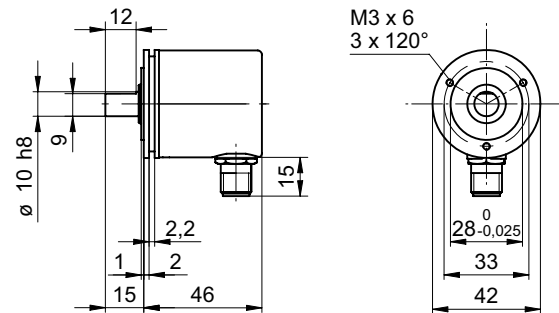
order designation

BMMV 42S1N 24B12/18

	connection
5	cable 1 m radial
N	connector radial shaft
C6	shaft 6 mm IP 65
C0	shaft 10 mm IP 65
	resolution multi-turn
18	18 bit
	resolution single-turn
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%
vibration	IEC 60068-2-6 ($\leq 300 \text{ m/s}^2 / 10 - 2'000 \text{ Hz}$)
shock	IEC 60068-2-27 ($\leq 1'000 \text{ m/s}^2 / 6 \text{ ms}$)
noise immunity	EN 61000-6-2
emitted interference	EN 61000-6-3


dimensions (C6)
-5

-N

dimensions (C0)
-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.	-
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

spring clamp set	part nr. 110616
CD-ROM with GSD/EDS-files and manuals	part nr. 147362
connector M12 female CAN	part nr. 153968
T connector M12 CAN	part nr. 153972
flylead connector M12 CAN	part nr. 153969
terminating resistor	part nr. 153974
shaft adapters	see chapter accessories