Magnetic absolute multi-turn shaft encoder
BMMV – *MAGRES*
CANopen

features

- multi-turn encoder / CANopen
- magnetic sensing principle
- resolution: single-turn 12 bit and multi-turn 18 bit
- high resistance against shock and vibration
- integrated fieldbus
- resolution and zero point programmable
- clamping flange or servo flange

58K

58S

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 multi-turn	 12 bit (1 step = 5'16'') 18 bit (262'144 revolutions)
max error limit	±1°
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 C6 C0	 typ. 11,8 x 10^{-7} kgm^2 typ. 17,8 x 10^{-7} kgm^2
torque	typ. 2,3 cNm (3'000 rpm / 20 °C)
max. shaft load C6 C0	 axial: 10 N radial: 20 N axial: 40 N radial: 60 N
product life	depending on ambient conditions (typ. 10^9 revolutions.)
max. protection class	IP 65
material	housing: steel flange: aluminum
weight	approx. 300 g

ambient conditions

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

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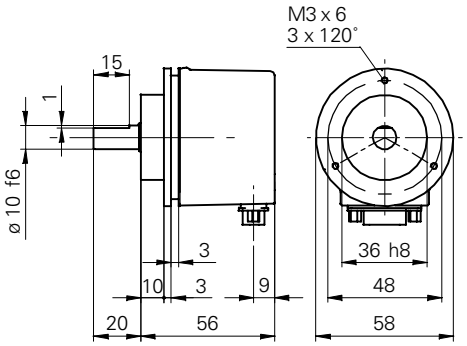
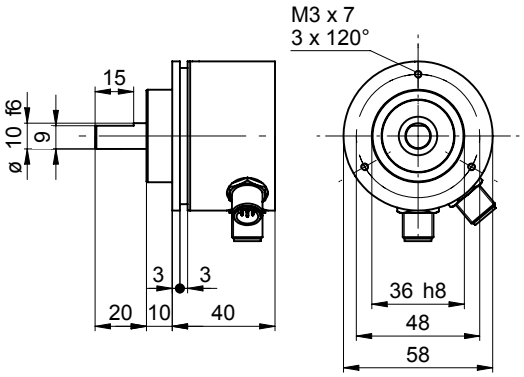
dimensions clamping flange (K)

-F



-M



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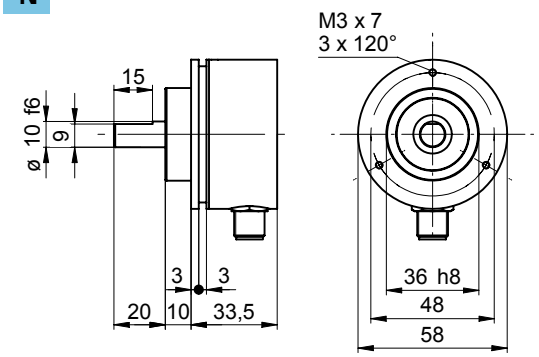
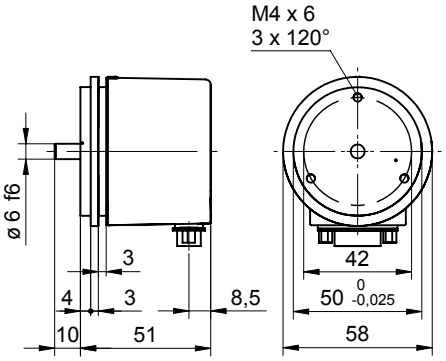
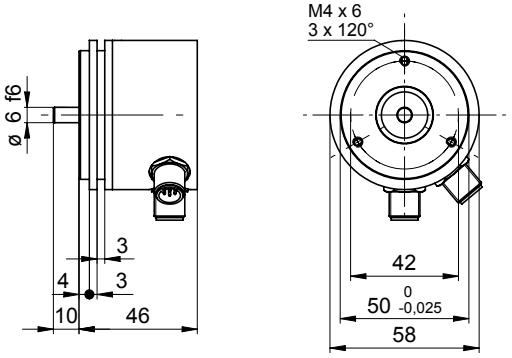


dimensions servo flange (S)

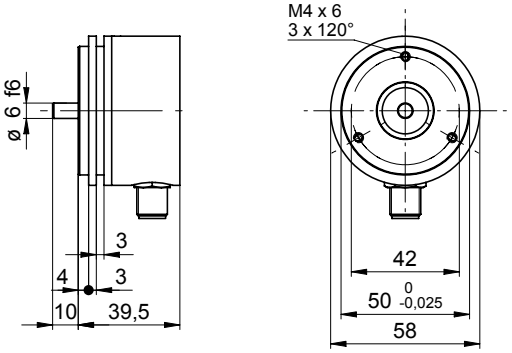
-F



-M



-N



Note

Mounting drawings see end of chapter.

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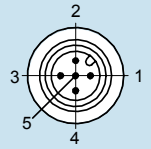
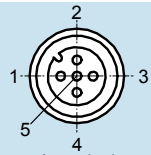
assignment D-Sub connector CANopen (F)

pin	signal	description
1	d.u.	do not use
2	CAN_L	bus line (dominant LOW)
3	CAN_GND	CAN ground
4	d.u.	do not use
5	n.c.	-
6	0 V	voltage supply
7	CAN_H	bus line (dominant HIGH)
8	n.c.	-
9	+Vs	voltage supply

assignment connector 2 x M12 (M)

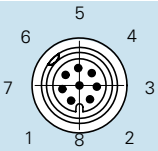




A-coded

pin	signal	description
1	n.c.	-
2	+Vs	voltage supply 10...30 VDC
3	GND	ground related to +Vs
4	CAN_H	bus line (dominant HIGH)
5	CAN_L	bus line (dominant LOW)

assignment connector 1 x M12 (N)



pin	signal	description
1	GND	voltage supply
2	+Vs	voltage supply
3	CAN_H	bus line (dominant HIGH)
4	CAN_L	bus line (dominant LOW)
5	CAN_GND	CAN ground
6	CAN_GND	CAN ground
7	CAN_L	bus line (dominant LOW)
8	CAN_H	bus line (dominant HIGH)

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order designation BMMV 58K

BMMV 58K1N24B12/18 C0 □

- connection
  - **F** D-Sub connector radial
  - **M** 2 x M12 connector radial
  - **N** 1 x M12 connector radial
- shaft
  - **C0** shaft 10 mm IP 65
- resolution multi-turn
  - **18** 18 bit
- resolution single-turn
  - **12** 12 bit
- signal code
  - **N** binary code
- flange
  - **K** clamping flange

order designation BMMV 58S

BMMV 58S1N24B12/18 C6 □

- connection
  - **F** D-Sub connector radial
  - **M** 2 x M12 connector radial
  - **N** 1 x M12 connector radial
- shaft
  - **C6** shaft 6 mm IP 65
- resolution multi-turn
  - **18** 18 bit
- resolution single-turn
  - **12** 12 bit
- signal code
  - **N** binary code
- flange
  - **S** servo flange

accessories

CD-ROM with GSD-/EDS-/XML-files and manuals	part nr. 147362
spring clamp set	part nr. 252773
D-Sub connector angled CAN-Bus	part nr. 145023
couplings	see chapter accessories