

Magnetic absolute single-turn shaft encoder

BMSV – MAGRES

SSI

features

- miniature single-turn encoder / SSI
- magnetic sensing principle
- resolution: 12 bit
- housing \varnothing 42 mm
- high resistance against shock and vibration
- zero setting input
- shaft \varnothing 10 mm or 6 mm

general data

voltage supply	5 VDC \pm 10% (05C) 10 - 30 VDC (24C)
max. supply current no load	typ. 100 mA (05C) typ. 50 mA (24C)
output circuit	SSI, RS 422
signal code	Gray or binary code
max. resolution	12 bit (1 step = 5' 16'')
max. error limit	$\pm 1^\circ$
repeatability	0,3°
max. clock frequency	1 MHz
zero setting signal	zero setting: < 0,4 V, min. 2 ms off state: +Vs or open
direction of rotation	looking at the flange, position counts up as the shaft rotates clockwise (CW)

mechanical data

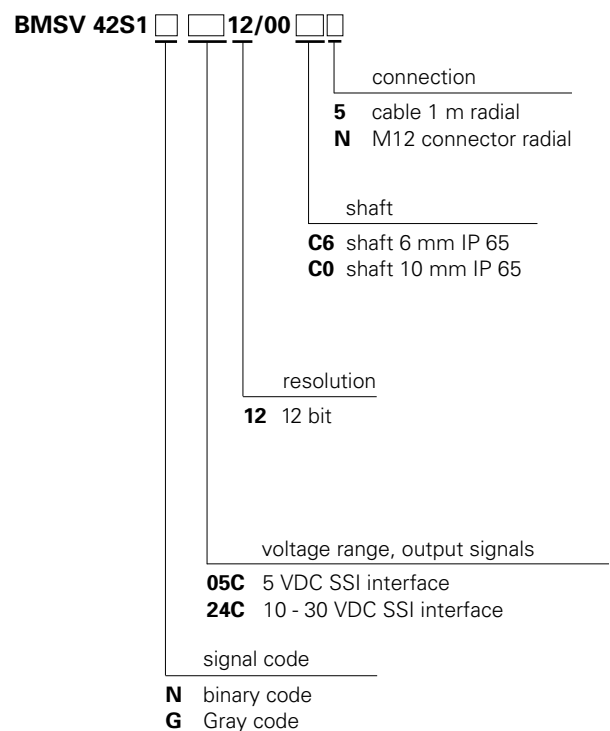
max. revolutions	12'000 rpm (mechanical) 6'000 rpm (electrical)
moment of inertia	typ. 12×10^{-7} kgm ²
torque	typ. 0,93 cNm (3'000 rpm / 20 °C)
max. shaft load	axial: 10 N radial: 25 N
product life	dependening on ambient conditions (typ. 10 ⁹ revolutions)
max. protection class	IP 65
material	housing: steel flange: aluminium
weight	approx. 120 g

ambient conditions

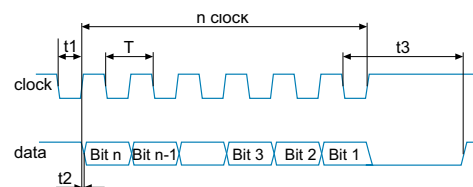
temperature range	-20...+85 °C
relative humidity	max. relative humidity 95%
vibration	IEC 60068-2-6 (≤ 300 m/s ² / 10 - 2'000 Hz)
shock	IEC 60068-2-27 ($\leq 1'000$ m/s ² / 6 ms)
noise immunity	EN 61000-6-2
emitted interference	EN 61000-6-3



order designation



read out of position values



pulse times:

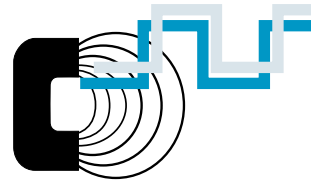
$T = 1 \mu\text{s}$ to $10 \mu\text{s}$ / $t_1 = 0,5$ to $5 \mu\text{s}$
 $t_2 < 0,2 \mu\text{s}$ / $t_3 > 12 \mu\text{s}$ to $25 \mu\text{s}$

SSI-data output and clock input

see page 2.03 chapter absolute single-turn encoder

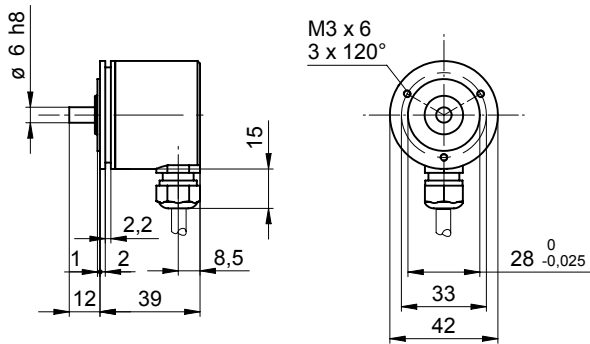
accessories

clamp set	part nr. 110616
couplings	see chapter accessories



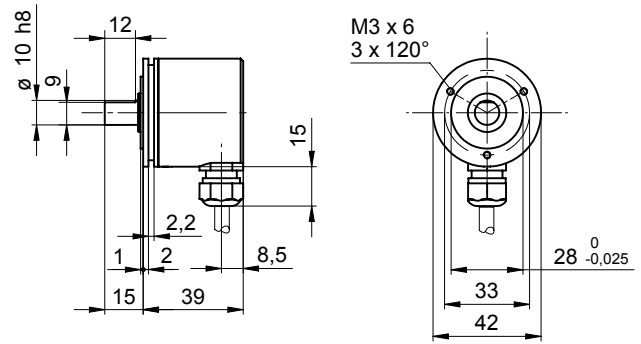
dimensions (C6)

-5

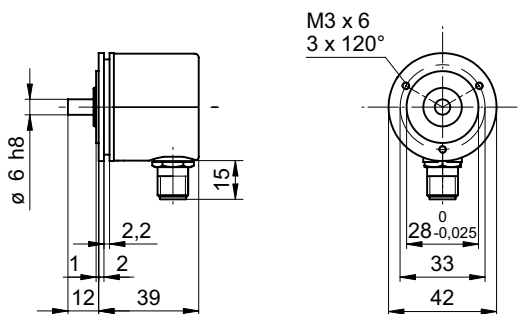


dimensions (C0)

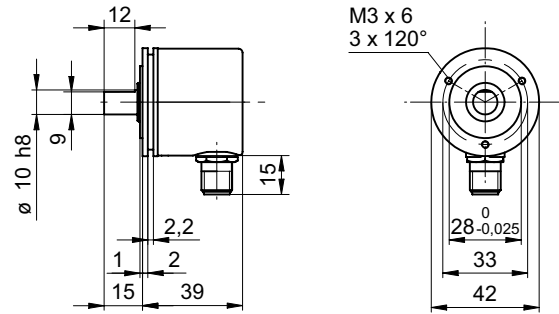
-5



-N



-N



Note

Mounting drawings see end of chapter.

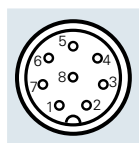
assignment cable

for connection reference **-5**

cable color	signal	description
brown	+Vs	voltage supply
white	0 V	voltage supply
grey	data+	data signal
pink	data-	data signal
green	clock+	clock signal
yellow	clock-	clock signal
blue	zero	zero setting input
red	d.u.	do not use
screen		housing
cable data		8 x 0,14 mm ²

assignment connector M12 male

for connection reference **-N**



pin	signal	description
1	0 V	voltage supply
2	+Vs	voltage supply
3	clock+	clock signal
4	clock-	clock signal
5	data+	data signal
6	data-	data signal
7	zero	zero setting input
8	d.u.	do not use