

Magnetic absolute single-turn shaft encoder

BMSV – MAGRES

SSI

features

- robust single-turn encoder 10 bit
- SSI Interface
- zero point programmable
- miniature housing



general data

voltage supply	5 VDC $\pm$ 10% (05C) 10 - 30 (24C)
max. supply current no load	typ. 100 mA (at 5 VDC) (05C) typ. 50 mA (at 24 VDC) (24C)
output circuit	SSI, complementary RS 422
resolution	10 bit (1 step = 21'06'')
max. error limit	$\pm 1^\circ$
repeatability	0,3°
max. clock frequency	1 MHz
zero input signal	zero setting: < 0,4 V, > 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	6'000 rpm
moment of inertia	typ. $0,65 \times 10^{-7}$ kgm ²
torque	typ. 0,75 cNm (3'000 rpm / 20 °C)
max. shaft load	axial: 10 N radial: 10 N
bearings lifetime	depending on ambient conditions (typ. 10 ⁹ revolutions)
protection class	IP 65
material	housing: steel flange: aluminum
weight	approx. 60 g

order designation

BMSV 30S1	☐	☐	10/00	☐	☐
					connector
				4	cable 2 m axial
				5	cable 2 m radial
				6	M9 connector axial
				9	M9 connector radial
					shaft
				C5	shaft 5 mm IP 65
				C6	shaft 6 mm IP 65
				C8	shaft 8 mm IP 65
					resolution
			10		10 bit
					voltage range, output signals
				05C	SSI interface, 5 VDC
				24C	10 - 30 VDC SSI interface
					signal code
				N	binary code
				G	Gray code

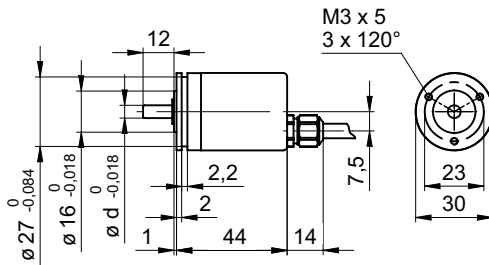
ambient conditions

temperature range	-20...+85 °C
relative humidity	max. 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

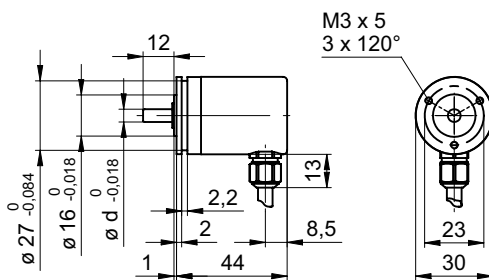


dimensions

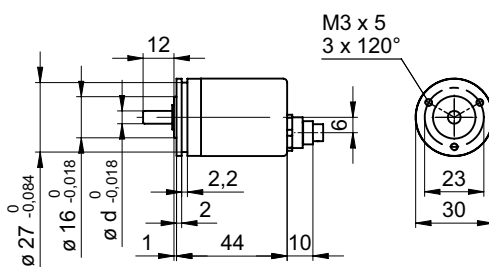
-4



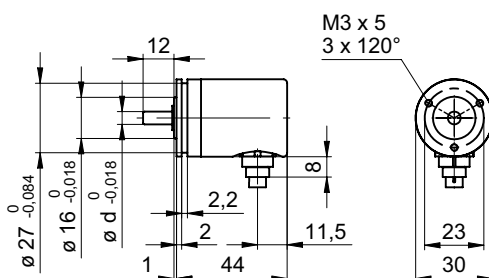
-5



-6



-9



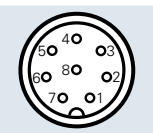
assignment cable

for connection reference **-4** and **-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
cable data	8 x 0,09 mm ²	

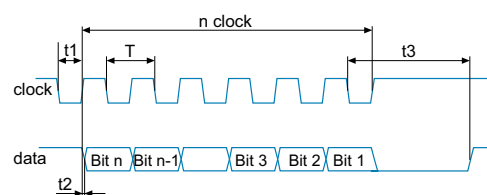
assignment connector M9 male

for connection reference **-6** and **-9**



pin number	signals	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

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 $25 \mu\text{s}$

accessories

cable with connector M9 female (pre-assembled) ref. -6 and -9	
2 m	part nr. 123168 (ES62FB2)
5 m	part nr. 123169 (ES62FB5)
connector M9 female ref. -6 and -9	part nr. 132983
clamp set	part nr. 106004
couplings	see chapter accessories