

Magnetic absolute single-turn shaft encoder

BMSV – MAGRES

SSI

features

- single-turn encoder / SSI
- magnetic sensing principle
- resolution: 12 bit
- high resistance against shock and vibration
- zero setting input
- clamping or servo flange



general data

voltage supply	5 VDC $\pm 10\%$ (05C) 10 - 30 VDC (24C)
max. supply current no load	typ. 100 mA (at 5 VDC) (05C) typ. 50 mA (at 24 VDC) (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 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: aluminium flange: aluminium
weight	approx. 300 g

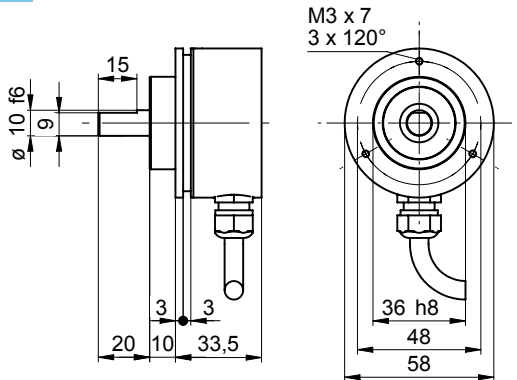
ambient conditions

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 ($\leq 1'000$ m/s ² / 6 ms)
noise immunity	EN 61000-6-2
emitted interference	EN 61000-6-3

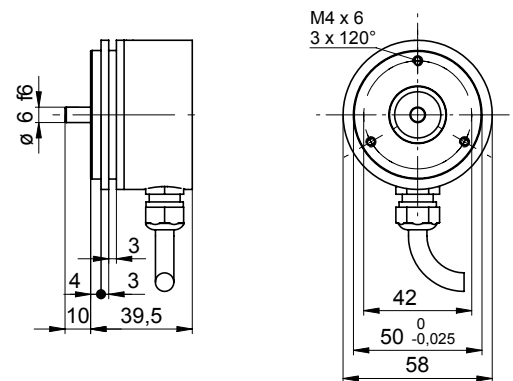
dimensions clamping flange (K)

dimensions servo flange (S)

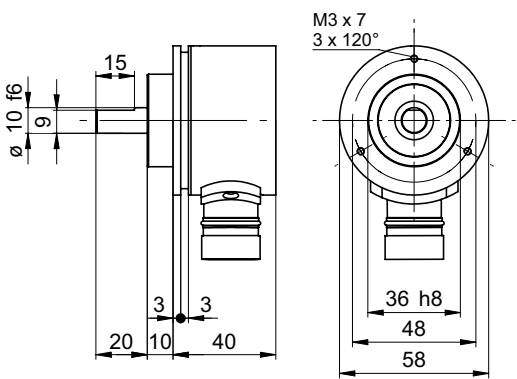
-5



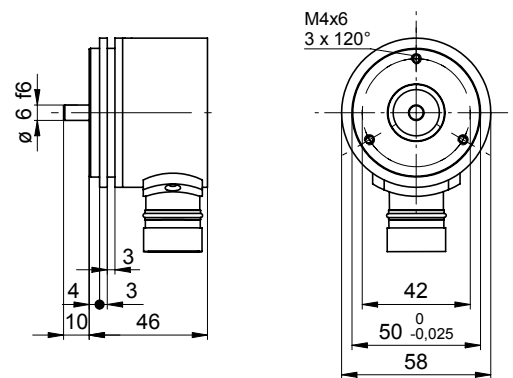
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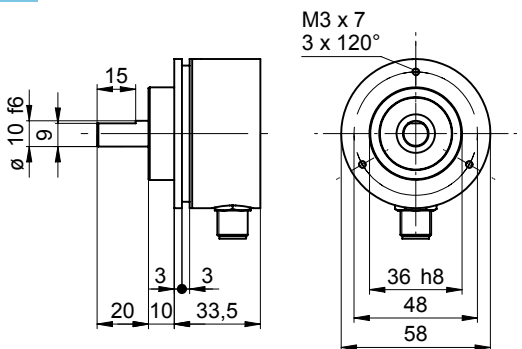
-A



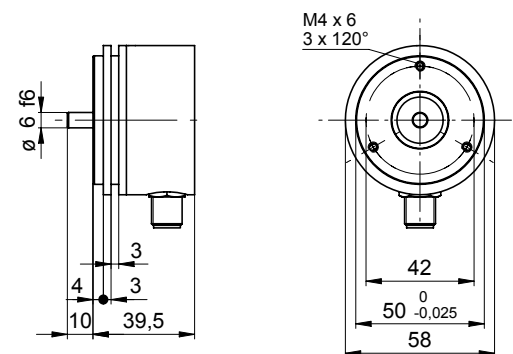
-A



-N



-N



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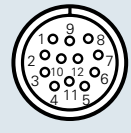
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assignment cable/connector M23 male

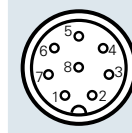
for connection reference **-A** und **-5**



pin	cable color	signal	description
1	yellow	clock-	clock signal
2	green	clock+	clock signal
3	grey	data+	data signal
4	pink	data-	data signal
5	blue	zero	zero setting input
6	-	n.c.	-
7	-	n.c.	-
8	-	n.c.	-
9	red	d.u.	do not use
10	-	n.c.	-
11	brown	+Vs	voltage supply
12	white	0 V	voltage supply
cable data			8 x 0,14 mm ²

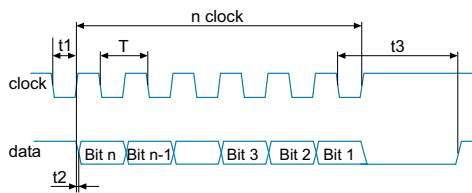
assignment connector M12 male

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

read out of position values



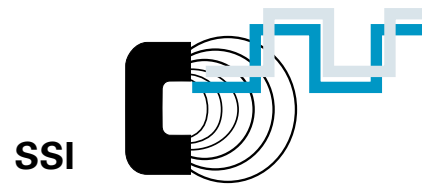
pulse times:

$$T = 1 \mu\text{s} \text{ to } 10 \mu\text{s} / t_1 = 0,5 \text{ to } 5 \mu\text{s}$$

$$t_2 < 0,2 \mu\text{s} / t_3 > 12 \mu\text{s} \text{ to } 25 \mu\text{s}$$

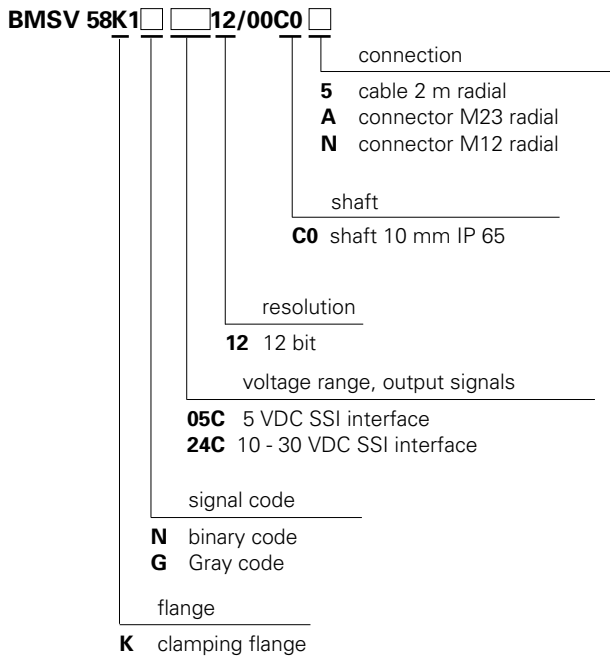
SSI-data output and clock input

see page 2.03 chapter absolute singleturn encoder

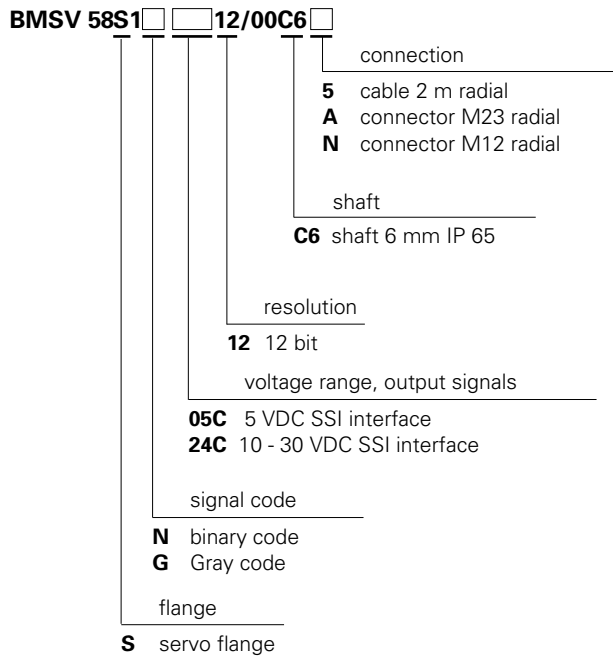


SSI

order designation BMSV 58K



order designation BMSV 58S



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accessories

connector M23 12-Pol female	part nr. 116717
cable with connector M23 female (pre-assembled)	
2 m	part nr. 153334
5 m	part nr. 153335
connector M12 8-Pol female	part nr. 146775
cable with connector M12 female (pre-assembled)	
2 m	part nr. 127844
5 m	part nr. 129332
clamp set	part nr. 252773
couplings	see chapter accessories