

Magnetic absolute single-turn encoder kit

BMSK – MAGRES

parallel

features

- robust single-turn encoder up to 12 bit
- parallel interface
- kit housing
- zero-point programmable
- IP 67

general data

voltage supply	10 - 30 VDC (24K)
max. supply current no load	typ. 50 mA (to 24 VDC)
output circuit	parallel 10 - 30 VDC
max. resolution	12 bit (1 step = 5' 16'')
max. error limit	±1°
repeatability	0,3°
max. switching frequency	1 MHz
input signal	zero (zero setting: < 0,4 V, > 2 ms off state: 3,3 V or open)
direction of rotation	looking at the MAGRES -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
mounting tolerance	axial: ±0,3 mm radial: ±0,1 mm
max. protection class	IP 67
material	housing: steel/aluminum flange: aluminum
weight	approx. 300 g

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

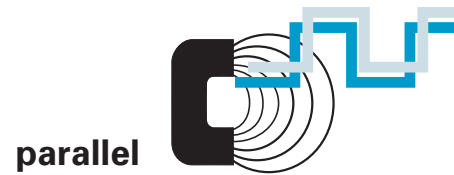


order designation

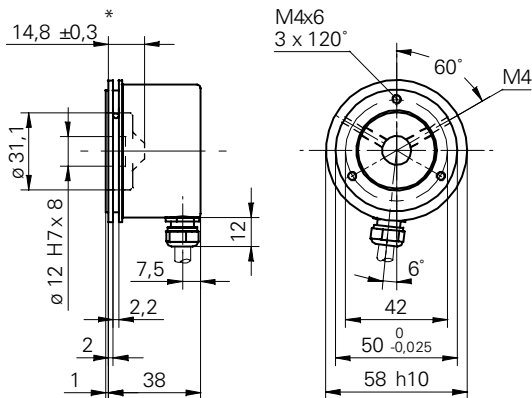
BMSK 58S1 **24K12/00125**

24K	12	00	125	
			connection	
			5	cable 2 m radial
			dimensions	
			12	magnetic rotor shaft ø 12 mm
			resolution	
			12	12 bit
			voltage supply/output	
			24K	10 - 30 VDC push-pull, short-circuit protection
			signal code	
			N	binary code
			G	Gray code

The magnetic rotor is included in delivery.



dimensions



* Place the magnetic rotor as close to the flange as possible.
distance max. $\pm 0,3$ mm, lateral tolerance max. $\pm 0,1$ mm

Note

Magnetic rotor integrated in drawing.
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
green	bit 1 LSB	data
yellow	bit 2	data
grey	bit 3	data
pink	bit 4	data
blue	bit 5	data
red	bit 6	data
black	bit 7	data
purple	bit 8	data
grey/pink	bit 9	data
white/green	bit 10	data
brown/green	bit 11	data
yellow/brown	bit 12 MSB	data
white/yellow	¹⁾ bit 12 MSB inv.	(Gray code only)
red/blue	zero	zero setting input
cable		16 x 0,14 mm ²

accessories

clamb set	part nr. 110616
Allen key 2 mm	part nr. 112432

direction of rotation

¹⁾The direction of rotation from encoders using a Gray code can be defined by connecting the MSB or inverted MSB. Both signals are available as an output. If the MSB is connected, the encoder counts up as the shaft rotates clockwise. If the MSB inv. is connected, the encoder counts up if the shaft rotates counter clockwise.

Magnetic absolute single-turn encoder kit

BMSK – MAGRES

SSI

features

- robust single-turn encoder up to 12 bit
- SSI interface
- kit housing
- zero-point programmable
- IP 67

general data

voltage supply	5 VDC ±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
max. resolution	12 bit (1 step = 5' 16'')
max error limit	±1°
repeatability	0,3°
max. clock frequency	1 MHz
input signal	clock input, zero (zero setting: < 0,4 V, > 2 ms off state: 3,3 V or open)
direction of rotation	looking at the MAGRES -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. $12 \times 10^{-7} \text{ kgm}^2$
mounting tolerance	axial: ±0,3 mm radial: ±0,1 mm
max. protection class	IP 67
material	housing: aluminum/steel flange: aluminum
weight	approx. 300 g

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



order designation

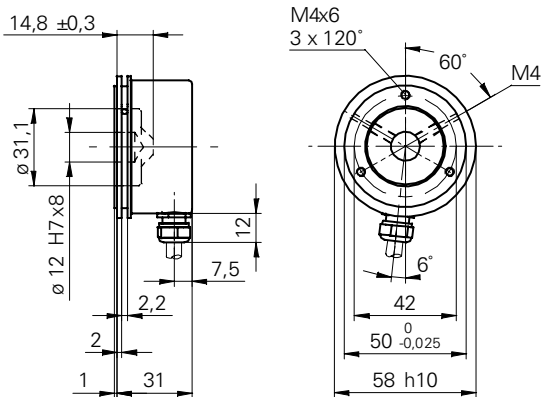
BMSK 58S1	<input type="checkbox"/>	<input type="checkbox"/>	12/00125
			connection
			5 cable 2 m radial
			dimensions
			12 magnetic rotor shaft ø 12mm
			resolution
			12 12 bit
			voltage supply/output
			24C 10 - 30 VDC SSI
			05C 5 VDC SSI
			signal code
			N binary code
			G Gray code

The magnetic rotor is included in delivery.



dimensions

-5



Note
Magnetic rotor integrated in drawing.
Mounting drawings see end of chapter.

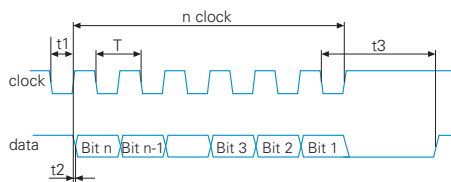
assignment cable

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
screened		housing
cable		8 x 0,14 mm ²

2

read out of position values



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

accessories

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Allen key 2 mm	part nr. 112432