

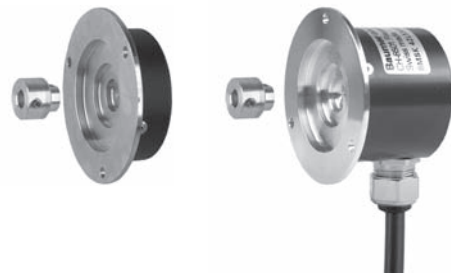
Magnetic absolute single-turn encoder kit

BMSK – MAGRES

parallel

features

- robust single-turn encoder up to 9 bit
- parallel interface
- kit housing
- zero-point programmable



general data

voltage supply	5 VDC ±10% (05T)
max. supply current no load	typ. 100 mA
output circuit	parallel 5 V
max. resolution	9 bit (1 step = 42' 11")
max. error limit	±1°
repeatability	0,3°
max. switching frequency	51,2 kHz
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. $1,3 \times 10^{-7}$ kgm ²
mounting tolerance	axial: ±0,3 mm radial: ±0,1 mm
max. protection class	IP 67
material	housing: aluminum flange: aluminum
weight	approx. 50 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

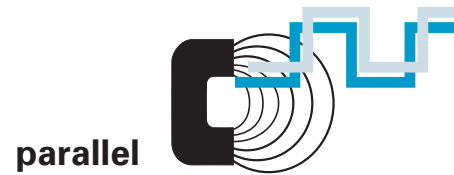
BMSK 42L1 **05T09/0006**

connection	B connector axial IP 40 5 cable 1 m radial IP 67
dimensions	06 magnetic rotor shaft ø 6mm
resolution	09 resolution 9 bit
voltage supply/output	05T 5 VDC TTL
signal code	N binary code G Gray code

The magnetic rotor is included in delivery.

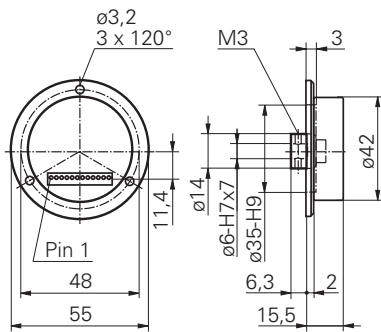
accessories

connector with single wires length 300 mm	part nr. 138525
connector with cable length 1 m (incl. cable gland M12x1,5)	part nr. 138785
Allen key 1,5 mm	part nr. 112433



dimensions

-B

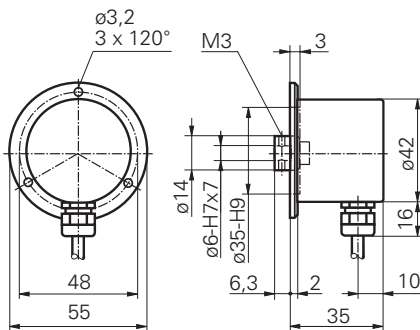


assignment connector

for connection reference **-B**

pin number	signal	description
1	+Vs	voltage supply
2	0 V	voltage supply
3	bit 1 LSB	data
4	bit 2	data
5	bit 3	data
6	bit 4	data
7	bit 5	data
8	bit 6	data
9	bit 7	data
10	bit 8	data
11	bit 9 MSB	data
12	zero	zero setting input

-5



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 MSB	data
red/blue	zero	zero setting input
screen		housing
cable		12 x 0,14 mm ²

Note

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

2

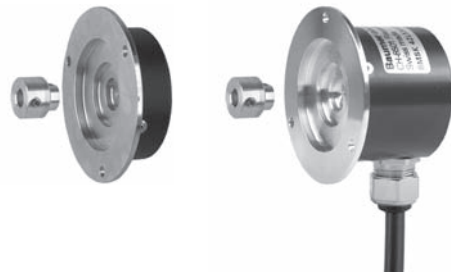
Magnetic absolute single-turn encoder kit

BMSK – MAGRES

SSI

features

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



general data

voltage supply	5 VDC ±10% (05C)
max. supply current no load	typ. 100 mA
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. $1,3 \times 10^{-7}$ kgm ²
mounting tolerance	axial: ±0,3 mm radial: ±0,1 mm
max. protection class	IP 67
material	housing: aluminum flange: aluminum
weight	approx. 50 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 42L1 **05C12/0006**

	connection
B	connector axial IP 40
5	cable 0,5 m radial IP 67
	dimensions
06	magnetic rotor shaft ø 6mm
	resolution
12	resolution 12 bit
	voltage supply/output
05C	5VDC / SSI interface
	signal code
N	binary code
G	Gray code

The magnetic rotor is included in delivery.

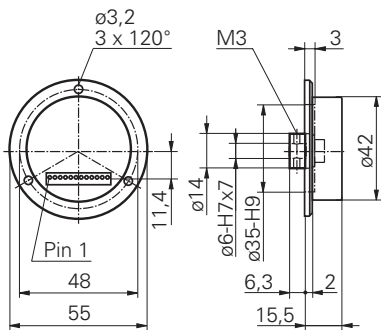
accessories

connector with single wires length 300 mm	part nr. 138525
connector with cable length 1 m (incl. cable gland M12x1,5)	part nr. 138792
Allen key 1,5 mm	part nr. 112433

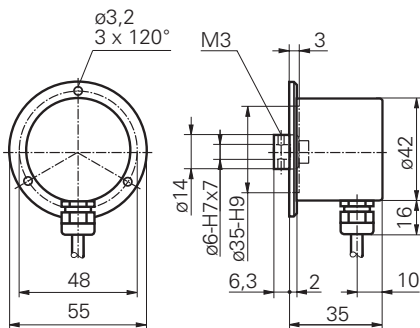


dimensions

-B



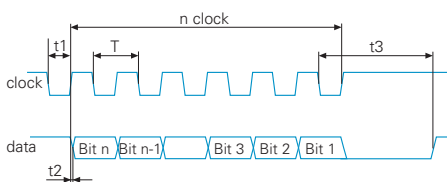
-5



Note

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

read out of position values



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

assignment connector

for connection reference **-B**

pin number	signal	description
1	0 V	voltage supply
2	+Vs	voltage supply
3	data+	data signal
4	data-	data signal
5	clock+	clock signal
6	clock-	clock signal
7-11	d.u.	do not use
12	zero	zero setting input

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
cable		8 x 0,14 mm ²

2