Magnetic absolute singleturn encoder
BMSH SSI - *MAGRES*

features

- 10 Bit singleturn resolution
- Zero-point programmable
- SSI interface

general data

|	
voltage supply	5 VDC ±10% **(05C)**
max. supply current (no load)	typ. 100 mA
output circuit	SSI, RS 422
connection	cable 8 x 0,14 mm²
steps/rev	1024
max. resolution	10 Bit (1 steps relates to = 21' 6'')
pulse tolerance	±1°
switching frequency f max.	1 MHz
input signal	clock input, zero (zerosetting: < 0,4 V, > 2 ms off state: 3,3 V or open)
sense of rotation	looking at the *MAGRES* flange counts up as the shaft rotates clockwise (CW)

mechanical data

max. revolutions	6'000 rev/min
rotor inertia	typ. 12 x 10⁻⁷ kgm²
torque	typ. 0,93 cNm (3000 rev/min 20 °C)
product life	depending on ambient conditions (typ. 10^9 revolutions)
max. protection class	shaft IP 64 / housing IP 64
material	housing: inox flange: aluminum
weight	approx. 120 g

ambient conditions
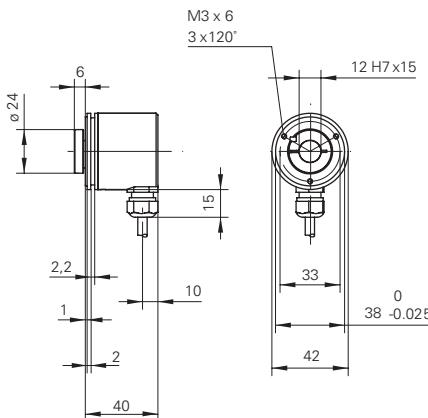
temperature range	-20...+85 °C
relative humidity	max. relative humidity 95%
vibration	IEC 68 part 2-6 (≤ 100 m/s² / 10 - 200 Hz)
shock	IEC 68 part 2-27 (≤ 500 m/s² / 11 ms)

## order designation

BMSH 42S1 ☐ **05C10/00** ☐ **5**

shaft

B2 end shaft 12 mm IP 42 with clamping ring
E2 end shaft 12 mm IP 64 with clamping ring

resolution

10 10 Bit

voltage range, output signals

05C 5 V, SSI interface

signal code

G gray code
N binary code
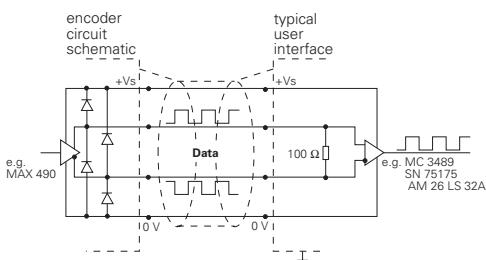
accessories

servo clamp set	part nr. 110616
field plate set	part nr. 138610
shaft adapter	(see accessories section)

SSI

dimensions

M3 x 6
3 x 120°

12 H7 x15

Ø 24

6

15

12 H7 x15

2,2

10

33

1

2

0
38 -0.025

40

42
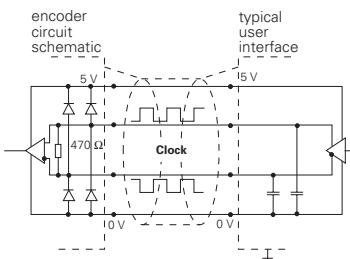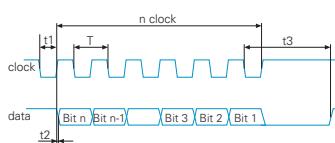
assignment cable

for connection reference **-5**

cable color	signal	description
brown	+Vs	voltage supply
white	0 V	voltage supply
grey	Data+	
pink	Data-	
green	Clock+	
yellow	Clock-	
blue	Zero	zero setting input
red		n.c.

SSI-output 05C

encoder
circuit
schematic

typical
user
interface

+Vs

+Vs

e.g.
MAX 490

Data

100 Ω

e.g. MC 3489
SN 75175
AM 26 LS 32A

0 V

0 V

circuit option

n clock

t1

T

t3

clock

data

Bit n

Bit n-1

Bit 3

Bit 2

Bit 1

t2

pulse times:
T = 1 µs to 10 µs / t1 = 0,5 to 5 µs
t2 < 0,2 µs / t3 > 12 µs to 25 µs

clock input 05C

encoder
circuit
schematic

typical
user
interface

5 V

5 V

470 Ω

Clock

0 V

0 V