

Absolute encoders - parallel

Blind hollow shaft $\varnothing 12$ mm

Magnetic singleturn encoders 12 bit

BMSH 58 parallel - MAGRES



BMSH 58 parallel with blind hollow shaft

Features

- Encoder singleturn / parallel
- Magnetic sensing
- Resolution: 12 bit
- High resistance to shock and vibrations
- Reset input

Technical data - electrical ratings

Voltage supply	10...30 VDC
Consumption typ.	50 mA (24 VDC, w/o load)
Initializing time typ.	170 ms after power on
Interface	12 parallel outputs
Function	Singleturn
Steps per turn	4096 / 12 bit
Absolute accuracy	$\pm 1^\circ$
Sensing method	Magnetic
Code	Gray or binary
Code sequence	CW: ascending values with clockwise sense of rotation; looking at flange
Inputs	Zero setting input
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3
Approval	UL approval / E217823

Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 12$ mm (blind hollow shaft)
Protection DIN EN 60529	IP 42, IP 65
Operating speed	≤ 12000 rpm (mechanical) ≤ 6000 rpm (electric)
Operating torque typ.	0.0093 Nm
Materials	Housing: steel/aluminium Flange: aluminium
Operating temperature	-20...+85 °C
Relative humidity	95 %
Resistance	DIN EN 60068-2-6 Vibration 30 g, 10-2000 Hz DIN EN 60068-2-27 Shock 500 g, 6 ms
Weight approx.	300 g
Connection	Cable 2 m

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Part number

BMSH 58S1 24K 12/00 5

Connection
5 Cable radial

Blind hollow shaft
B2 $\varnothing 12$ mm, IP 42, with clamping ring
P2 $\varnothing 12$ mm, IP 65, with clamping ring

Resolution
12/00 12 bit singleturn

Voltage supply / signals
24K 10...30 VDC / parallel, push-pull short-circuit proof

Code
G Gray code
N Binary code

Accessories

Mounting accessories

10136635	Set of spring washers for encoders $\varnothing 58$ mm
10110616	Clamp set $\varnothing 15$ mm
10107540	Torque pin
10109520	Torque spring

Terminal assignment

Cable

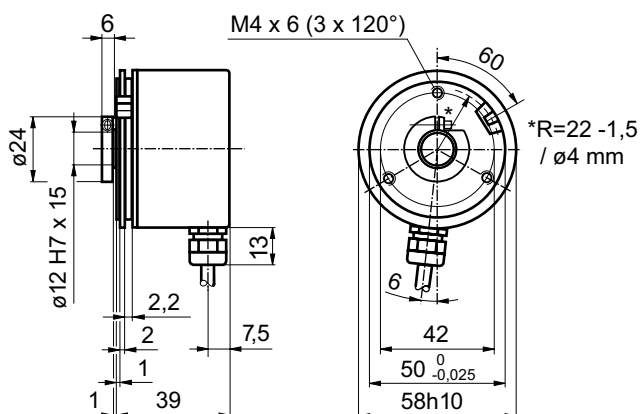
for connection reference -5

Core colour	Signals	Description
brown	+Vs	Supply voltage
white	0 V	Supply voltage
green	Bit 1 LSB	Data bit
yellow	Bit 2	Data bit
grey	Bit 3	Data bit
pink	Bit 4	Data bit
blue	Bit 5	Data bit
red	Bit 6	Data bit
black	Bit 7	Data bit
purple	Bit 8	Data bit
grey/pink	Bit 9	Data bit
white/green	Bit 10	Data bit
brown/green	Bit 11	Data bit
yellow/brown	Bit 12 MSB	Data bit
white/yellow	Bit 12 MSB comp. ¹⁾ Data bit	
red/blue	Zero	Zero setting input
Screen	connected to housing	
Cable data	16 x 0.14 mm ²	

Terminal significance

+Vs	Encoder supply voltage.
0 V	Encoder ground connection relating to +Vs.
Bit 1-12	12 parallel output signals.
Zero	Input for setting a zero point anywhere within the encoder resolution. The zero setting operation is triggered by a Low impulse. Connect to +Vs after setting operation for maximum interference immunity. Impulse duration >2 ms.

Dimensions



¹⁾ The direction of rotation for encoders with gray-code can be defined by connecting the MSB or MSB comp. If MSB is connected, the encoder counts up as the shaft rotates clockwise (CW). If MSB inv. is connected, the encoder counts up if the shaft rotates counter clockwise (CCW).

Trigger level

Control inputs	Input circuit
Zero setting	<0,4 V (>2 ms)
Off state	+Vs or open

Parallel outputs 24K

Output level High	Output circuit
Output level Low	Push-pull short-circuit protection
Load High	>UB - 5,5 V (I = -30 mA)
Load Low	<5,5 V (I = 30 mA)
	<30 mA / Output
	<30 mA / Output