

Sine encoders

Blind or through hollow shaft $\varnothing 12$ mm

1000...5000 sinewave cycles per turn

BHF, BHG sine



BHF Sine with end hollow shaft

Features

- Encoder with blind or hollow shaft $\varnothing 12$ mm
- Optical sensing method
- Up to 5000 sinewaves cycles per turn
- Sine output
- Small profile depth
- Versatile mounting accessories

Technical data - electrical ratings

Voltage supply	5 VDC ± 5 %
Consumption typ.	100 mA (5 VDC, w/o load)
Sinewave cycles per turn	1000...5000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 200 kHz (-3 dB)
Output signals	A 90° B, N + inverted
Output stages	SinCos 1 Vpp
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
Protection DIN EN 60529	IP 65, IP 42
Operating speed	≤ 12000 rpm (IP 42) ≤ 6000 rpm (IP 65)
Materials	Housing: aluminium Flange: aluminium
Operating temperature	-20...+85 °C
Relative humidity	95 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 10 g, 10-200 Hz DIN EN 60068-2-27 Shock 50 g, 11 ms
Connection	Connector M23, 12-pin Cable 2 m
Weight approx.	300 g

BHF

Shaft type	$\varnothing 12$ mm (blind hollow shaft)
Operating torque typ.	0.0093 Nm

BHG

Shaft type	$\varnothing 12$ mm (through hollow shaft)
Operating torque typ.	0.037 Nm

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Part number

Blind hollow shaft

BHF 18. 05S - - -

Connection
 5 Cable 2 m, radial
 A Connector M23, radial

 Blind hollow shaft
 12 $\varnothing 12$ mm, IP 42
 E2 $\varnothing 12$ mm, IP 65, with clamping ring

 Sinewave cycles - see table

 Voltage supply / signals
 05S 5 VDC / sine 1 Vpp

Through hollow shaft

BHG 18. 05S - E2 - -

Connection
 5 Cable 2 m, radial
 A Connector M23, radial

 Through hollow shaft
 E2 $\varnothing 12$ mm, IP 65, with clamping ring

 Sinewave cycles - see table

 Voltage supply / signals
 05S 5 VDC / sine 1 Vpp

Sinewave cycles

1000	2048	3600
2000	2500	5000

Other sinewave cycles on request.

Accessories

Connectors and cables

10116717	Female connector M23, 12-pin, straight
10130368	Female connector M23, 12-pin, straight, 2 m cable, sine
10130369	Female connector M23, 12-pin, straight, 5 m cable, sine

Mounting accessories for BHF

10136635	Set of spring washers for encoders $\varnothing 58$ mm
10110616	Clamp set $\varnothing 15$ mm
10107540	Torque pin
10109520	Torque spring
10110574	Solid shaft reducer 12/6 mm
10112322	Solid shaft reducer 12/8 mm
10114472	Solid shaft reducer 12/10 mm

Mounting accessories for BHG

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

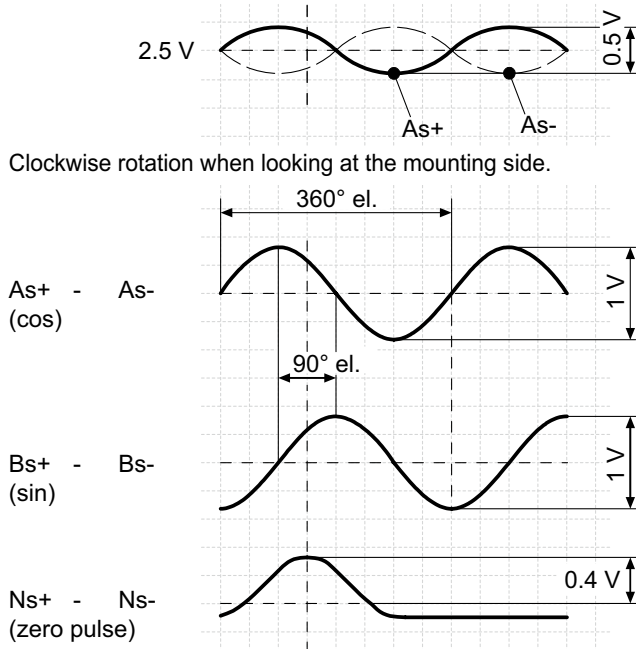
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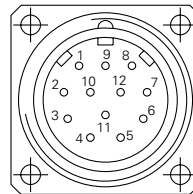
Output signals



Terminal assignment

Cable / Connector M23 male
for connection references **-A** and **-5**

Connector	Core colour	Signals
Pin 1	pink	Bs-
Pin 2	blue	+Vs
Pin 3	red	Ns+
Pin 4	black	Ns-
Pin 5	brown	As+
Pin 6	green	As-
Pin 7	yellow	n.c.
Pin 8	grey	Bs+
Pin 9	–	n.c.
Pin 10	white	0 V
Pin 11	–	0 V
Pin 12	–	+Vs
Screen	connected to housing	
Cable data	9 x 0,14 mm ²	



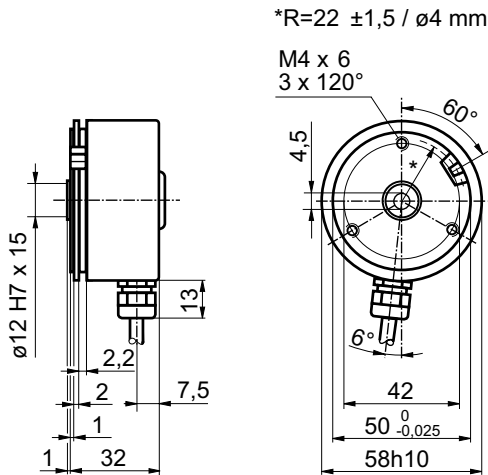
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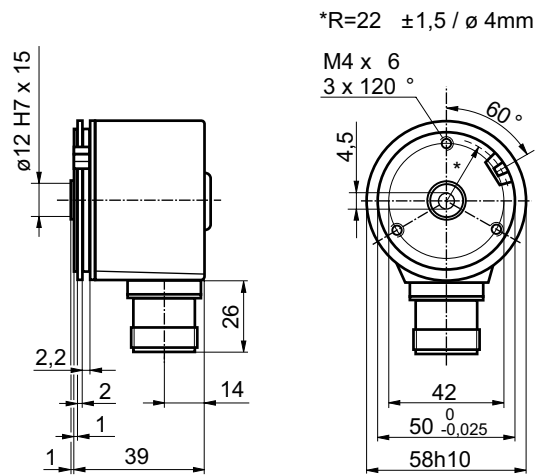
BHF, BHG sine

Dimensions

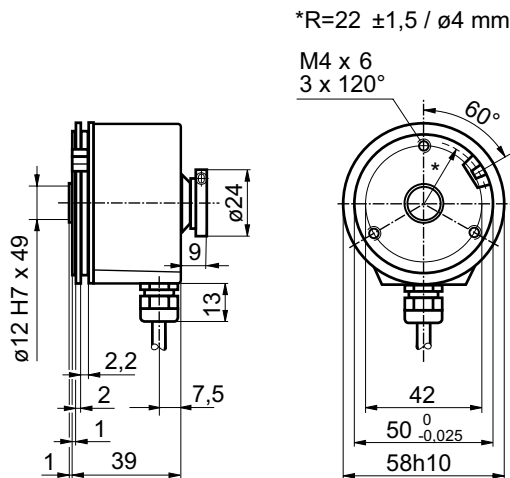
BHF sine, cable radial



BHF sine, connector output radial



BHG sine, cable radial



BHG sine, connector output radial

