

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 end or hollow shaft $\varnothing 12$ mm
- Optical sensing
- Max. 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

Sine encoders

Blind or through hollow shaft ø12 mm
1000...5000 sinewave cycles per turn

BHF, BHG sine

Part number

Blind hollow shaft

BHF 18.

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

 Blind hollow shaft
 12 ø12 mm, IP 42
 E2 ø12 mm, IP 65, with clamping ring

 Sinewave cycles - see table

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

Through hollow shaft

BHG 18.

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

 Through hollow shaft
 E2 ø12 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 sine
10130369	Female connector M23, 12-pin, straight, 5 m sine

Mounting accessories for BHF

10136635	Set of spring coupling for encoders ø58 mm
10110616	Clamp set ø15 mm
10107540	Torque pin
10109520	Torque spring washer
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 coupling for encoders ø58 mm
10110616	Clamp set ø15 mm
10107540	Torque pin
10109520	Torque spring washer

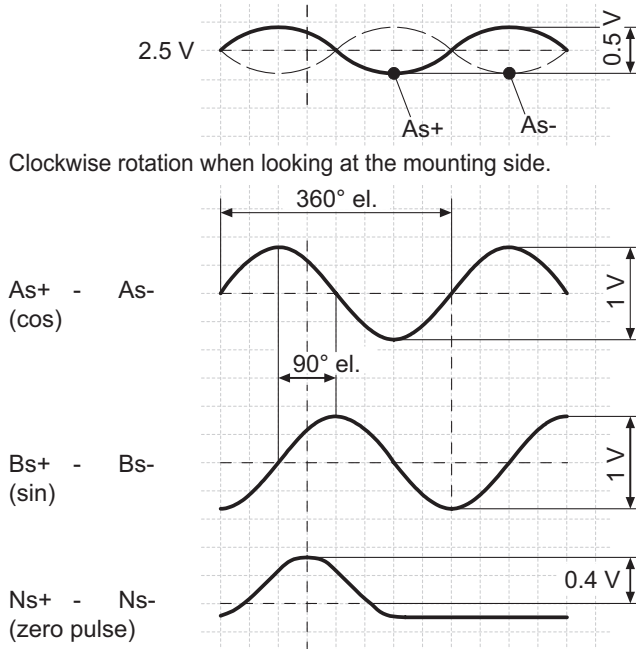
Sine encoders

Blind or through hollow shaft $\varnothing 12$ mm

1000...5000 sinewave cycles per turn

BHF, BHG sine

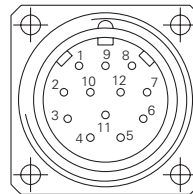
Output signals



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	



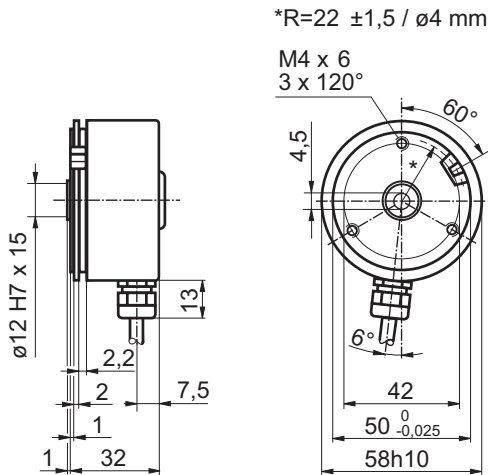
Sine encoders

Blind or through hollow shaft $\varnothing 12$ mm
1000...5000 sinewave cycles per turn

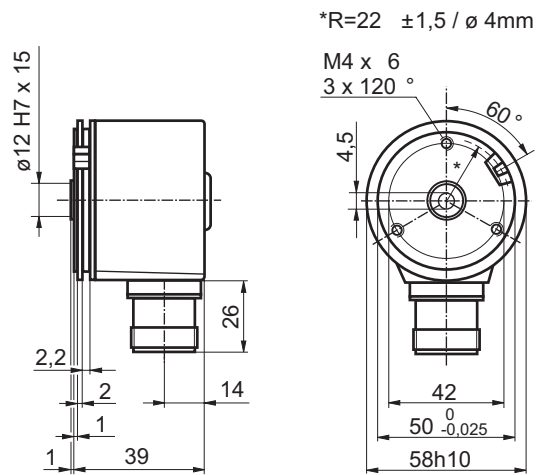
BHF, BHG sine

Dimensions

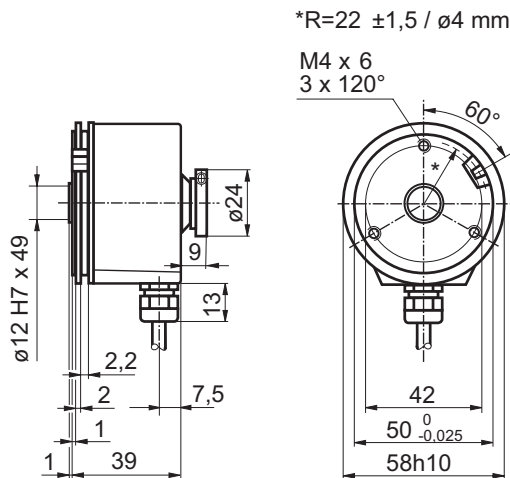
BHF sine, cable radial



BHF sine, connector output radial



BHG sine, cable radial



BHG sine, connector output radial

