

# Sine encoders

## SIL2 approval

Blind hollow shaft  $\varnothing 16$  mm or cone shaft  $\varnothing 17$  mm (1:10)

1024...5000 sinewave cycles per turn

## HOGS 100 S



HOGS 100 S with radial terminal box

### Features

- For safety-relevant applications according SIL2
- Blind hollow shaft  $\varnothing 16$  mm or cone shaft  $\varnothing 17$  mm (1:10)
- Up to 5000 sinewaves cycles per turn
- Low harmonic content (patented LowHarmonics technology)
- Top-quality SinCos output-signals
- Protection against inductive shaft current
- Large terminal box, turn by 180° or axial terminal cover

### Technical data - electrical ratings

Voltage supply	5 VDC $\pm 10$ % 7...30 VDC
Consumption w/o load	$\leq 90$ mA
Sinewave cycles per turn	1024...5000
Phase shift	90°
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output signals	K1, K2, K0 + inverted
Output stages	SinCos 1 Vpp
Difference of SinCos amplitude	$\leq 20$ mV
Harmonics typ.	-50 dB
DC offset	$\leq 20$ mV
Bandwidth	250 kHz (-3 dB)
Function safety	SS1, SS2, SOS, SLS, SDI, SLI according to EN 61800-5-2:2007
Safety operating figures	Service life: 20 a PFH: $1,75 \cdot 10^{-7}$ 1/h
Interference immunity	EN 61000-6-2 EN 61326-3-1
Emitted interference	EN 61000-6-3
EMC requirements	EN 61800-3
Approvals	CE, PL d / SIL2 approval according to EN ISO 13849-1 and EN 62061, UL approval / E256710

### Technical data - mechanical design

Size (flange)	$\varnothing 105$ mm
Shaft type	$\varnothing 16$ mm (blind hollow shaft) $\varnothing 17$ mm (cone shaft 1:10)
Admitted shaft load	$\leq 250$ N axial $\leq 400$ N radial
Motor shaft tolerance	0.2 mm axial ( $\leq 6000$ rpm) 0.03 mm axial ( $> 6000$ rpm)
Protection DIN EN 60529	IP 66
Operating speed	$\leq 10000$ rpm (mechanical)
Operating torque typ.	6 Ncm
Rotor moment of inertia	180 gcm <sup>2</sup>
Materials	Housing: aluminium die-cast Shaft: stainless steel
Operating temperature	-20...+85 °C
Resistance	IEC 60068-2-6 Vibration 10 g, 10-2000 Hz IEC 60068-2-27 Shock 100 g, 6 ms
Corrosion protection	IEC 60068-2-52 Salt mist Complies to ISO 12944-5:1998 Protective paint systems (C4)
Explosion protection	II 3 G Ex nA IIC T4 Gc (gas) II 3 D Ex tc IIIC T135°C Dc (dust)
Connection	Terminal box Terminal cover
Weight approx.	1.8 kg

· Subject to modification in technic and design. Errors and omissions excepted.



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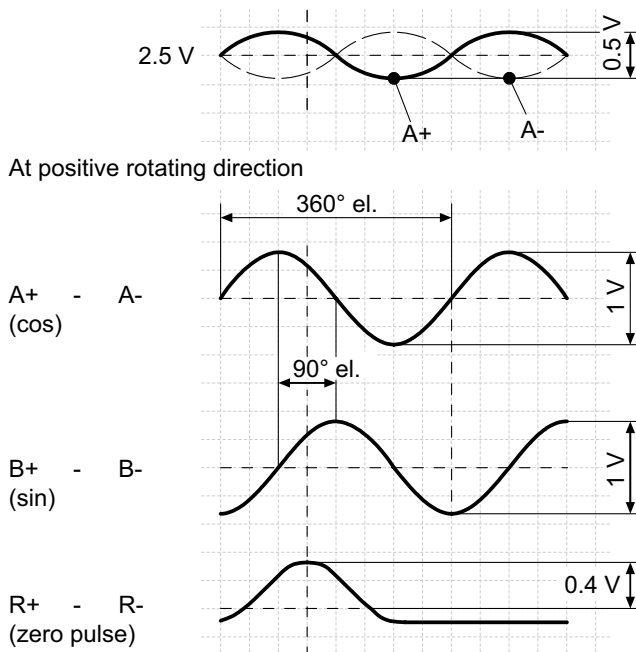
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### Output signals



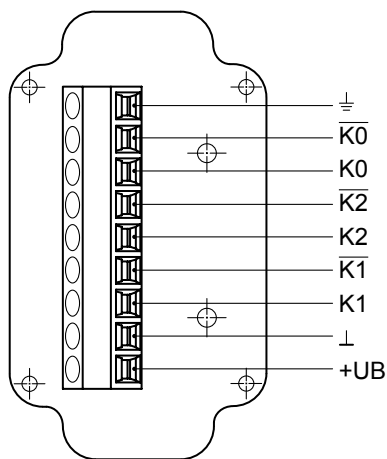
### Terminal significance

+UB	Voltage supply (for the encoder)
⊥; ⚡; GND; 0 V	Ground (for the signals)
⊕; ⚡	Earth ground (chassis)
K1; A; A+	Output signal channel 1
$\bar{K}1$ ; $\bar{A}$ ; A-	Output signal channel 1 inverted
K2; B; B+	Output signal channel 2 (offset by 90° to channel 1)
$\bar{K}2$ ; $\bar{B}$ ; B-	Output signal channel 2 (offset by 90° to channel 1) inverted
K0; C; R; R+	Zero pulse (reference signal)
$\bar{K}0$ ; $\bar{C}$ ; $\bar{R}$ ; R-	Zero pulse (reference signal) inverted

### Terminal assignment

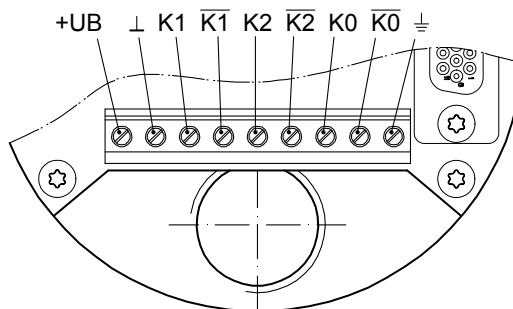
#### View A

Connecting terminal terminal box, radial



#### View B

Connecting terminal terminal cover, axial



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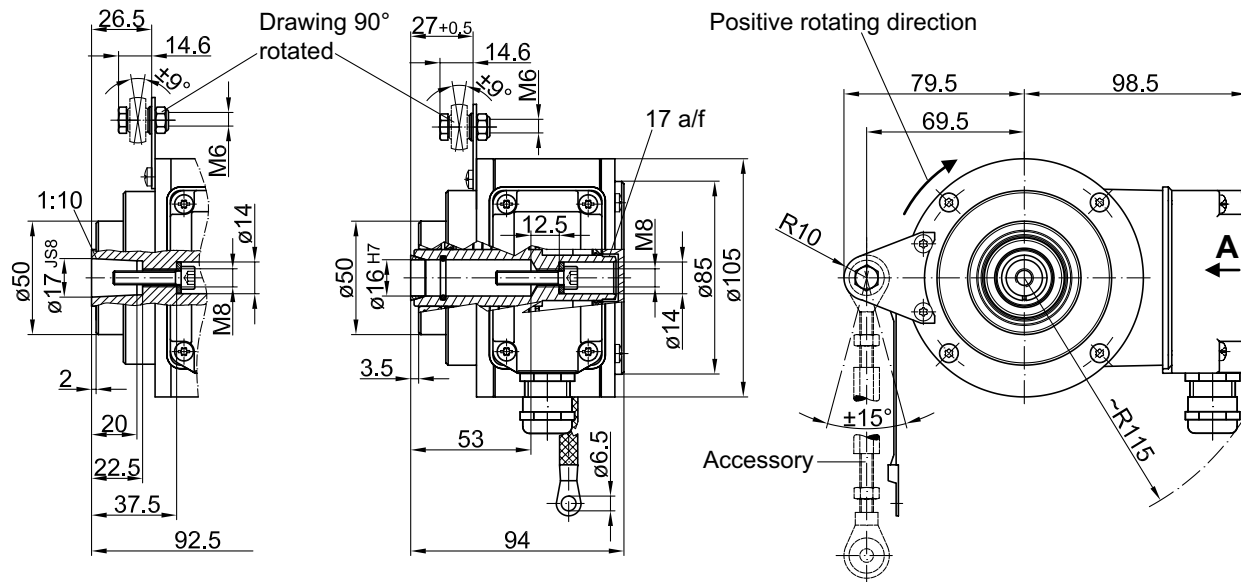
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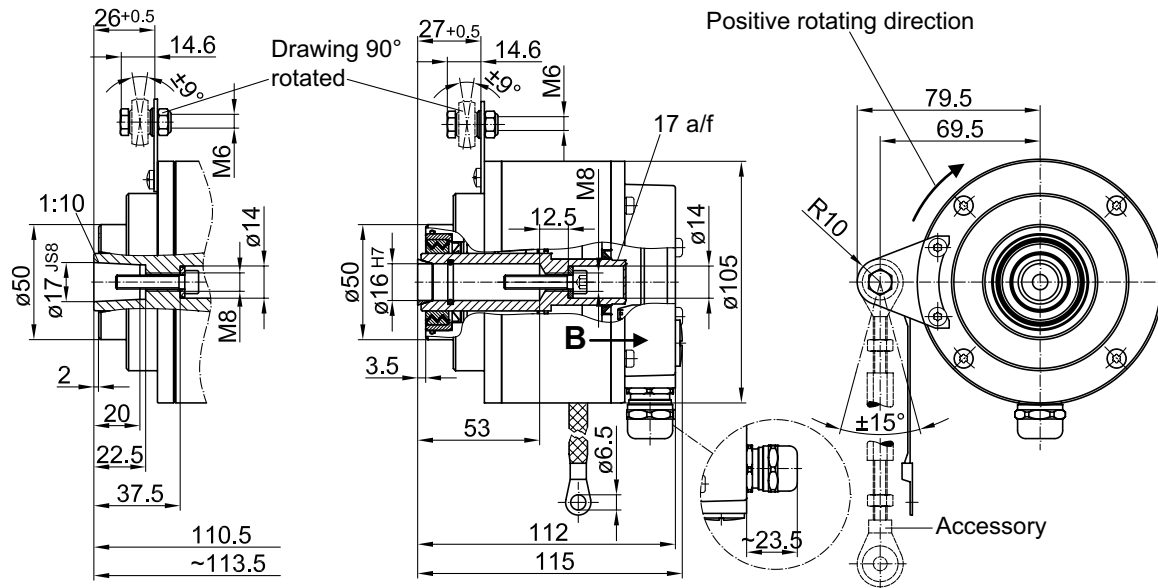
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## Dimensions

### HOGS 100 S - Version with radial terminal box



### HOGS 100 S - Version with axial terminal cover



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