

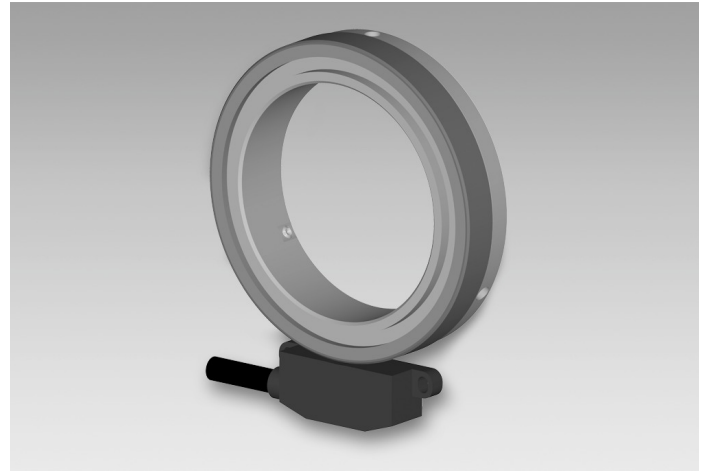
ITD69H02 - Sine signal

Through hollow shaft $\varnothing 40$ to $\varnothing 68$ mm

128 sinewave cycles per revolution

Overview

- Bearingless magnetic encoder
- 128 sinewave cycles per revolution
- Output circuit: Sine 1 Vpp
- Fast, easy and space saving installation
- Maintenance-free
- High accuracy - error max. $\pm 0.2^\circ$
- Rotation speed max. 6000 rpm
- High resistance to dirt and vibrations



Technical data

Technical data - electrical ratings

Voltage supply	5 VDC $\pm 10\%$
Reverse polarity protection	Yes
Short-circuit proof	Yes
Consumption w/o load	≤ 50 mA
Sinewave cycles per revolution	128
Output signals	A+, A-, B+, B-, A+, A-, B+, B-, N+, N-
Output stages	SinCos 1 Vpp
Output frequency	≤ 180 kHz (-3 dB)
System accuracy	$\pm 0.2^\circ$
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3

Technical data - mechanical design

Shaft type	$\varnothing 40 \dots 68$ mm (through hollow shaft)
Dimensions W x H x L	12 x 16 x 48 mm
Protection EN 60529	IP 67 (relating to sealed electronics)
Operating speed	≤ 6000 rpm
Working distance	0,2 ... 0,5 mm (radial), optimal 0,3 mm
Axial offset	$\pm 0,5$ mm
Material	Housing: plastic Shaft: stainless steel
Operating temperature	$-40 \dots +100^\circ\text{C}$ (fixed cable)
Resistance	EN 60068-2-6 Vibration 10 g, 55-2000 Hz EN 60068-2-27 Shock 100 g, 11 ms
Weight approx.	390 g
Connection	Cable 1 m

Optional

- Cable with connector
- Redundant sensing

ITD69H02 - Sine signal

Through hollow shaft $\varnothing 40$ to $\varnothing 68$ mm

128 sinewave cycles per revolution

Terminal assignment

With BI-signals, cable [4x2x0,08 mm²]

Core colour	Assignment
green	A +
yellow	A -
grey	B +
pink	B -
red	UB
blue	GND
transparent	Shield/Housing

With NI-signals, cable [4x2x0,08 mm²]

Core colour	Assignment
green	A +
yellow	A -
grey	B +
pink	B -
brown	N +
white	N -
red	UB
blue	GND
transparent	Shield/Housing

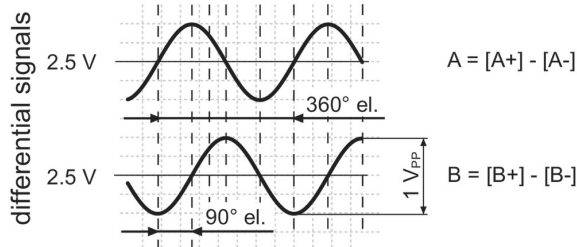
Output signal level

Outputs	Sine
Output amplitude A + B	1 V _{PP} at Z ₀ = 120 Ω
Output amplitude N	approx. 2,5 V at Z ₀ = 120 Ω

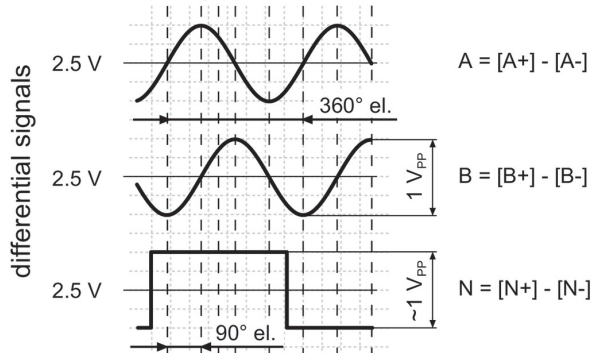
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals



NI-Output signals



ITD69H02 - Sine signal

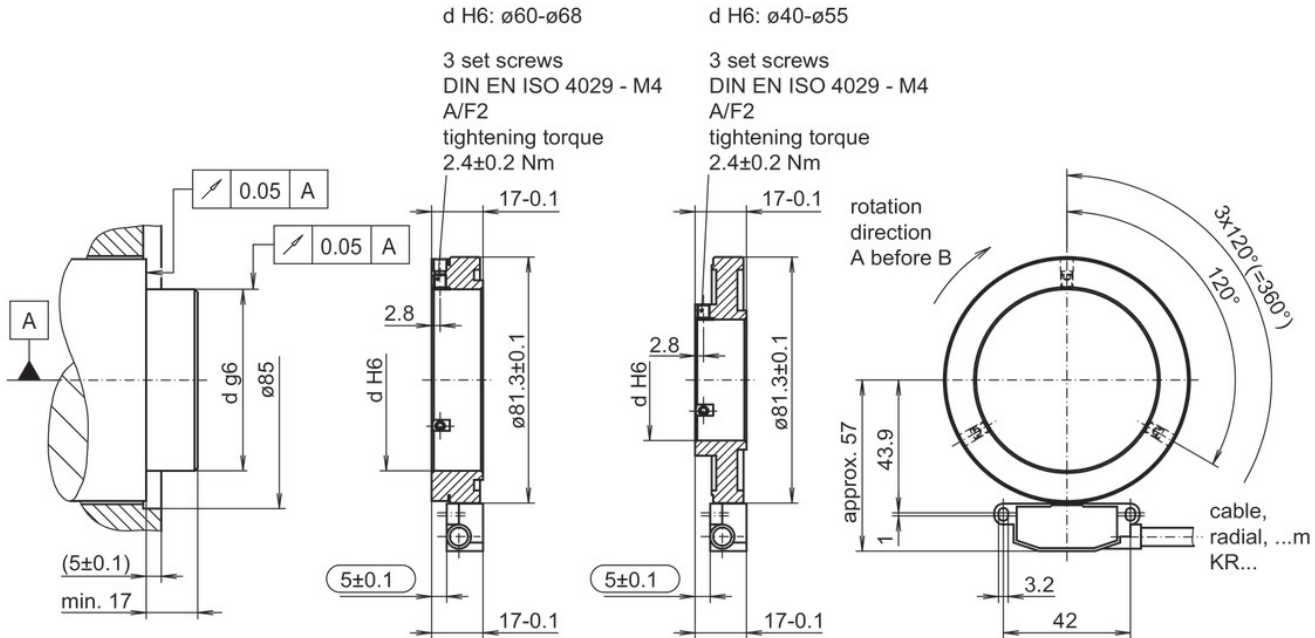
Through hollow shaft $\varnothing 40$ to $\varnothing 68$ mm

128 sinewave cycles per revolution

Dimensions

mounting side (proposition)

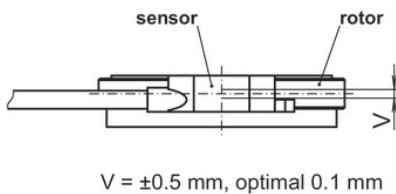
dimension drawing (optimal mounting)



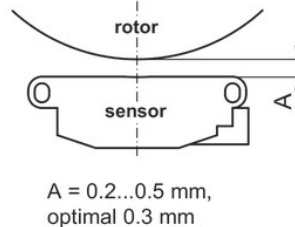
Mounting tolerances, operating tolerances

Permitted change of position sensor to rotor during mounting and operation:

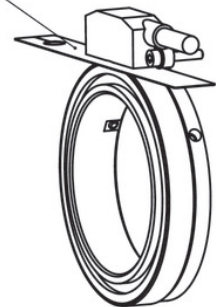
Axial offset:



Working distance:

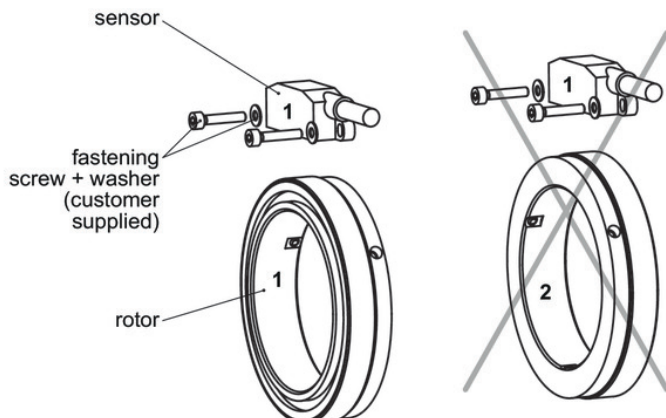


Use the distance band as a mounting tool for optimal gap (0.3 mm) between sensor and rotor.



Mounting position

Mounting position (1-1) sensor to rotor should not be altered!



ITD69H02 - Sine signal

Through hollow shaft ø40 to ø68 mm

128 sinewave cycles per revolution

Ordering reference

		ITD69H02	128	M	####	KR1	E	##	IP67
Product		ITD69H02							
Sinewave cycles			128						
Voltage supply / signals				M					
Output signals									
A+, A-, B+, B- (sine)					BI				
A+, A-, B+, B-, N+, N- (sine)					NI				
Connection						KR1			
Operating temperature							E		
Through hollow shaft									
ø40 mm									40
ø42 mm									42
ø45 mm									45
ø50 mm									50
ø55 mm									55
ø60 mm									60
ø65 mm									65
ø68 mm									68
Protection									
IP 67									IP67

Other diameters on request.