Baumer
Passion for Sensors

Encoders without bearings - incremental

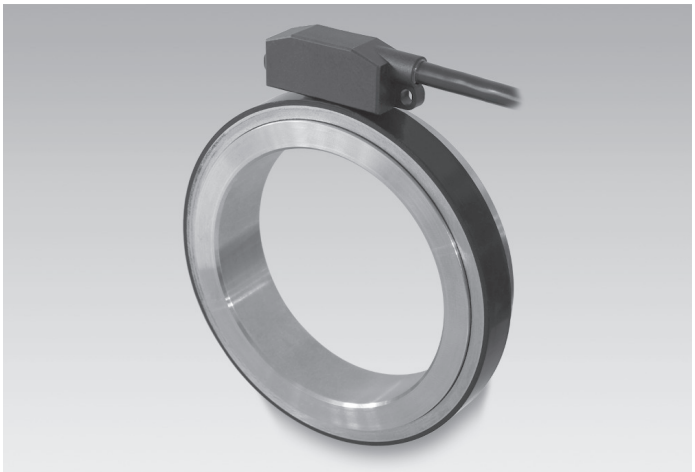
ITD89H00 - Sine signal

Through hollow shaft ø70 to ø140 mm

256 sinewave cycles per revolution

Overview

- Bearingless magnetic encoder
- 256 sinewave cycles per revolution
- Output circuit: Sine 1 Vpp
- Fast, easy and space saving installation
- Maintenance-free
- High accuracy - error max. ±0.1°
- Rotation speed max. 5000 rpm
- High resistance to dirt and vibrations



Technical data

Technical data - electrical ratings	
Voltage supply	5 VDC ±10 %
Reverse polarity protection	Yes
Short-circuit proof	Yes
Consumption w/o load	≤50 mA
Sinewave cycles per revolution	256
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	±0.1°
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3
Technical data - mechanical design	
Shaft type	ø70...140 mm (through hollow shaft)

Technical data - mechanical design	
Dimensions W x H x L	12 x 16 x 48 mm
Motor shaft tolerance	±0,5 mm axial ±0,05 mm radial
Protection DIN EN 60529	IP 67 (relating to sealed electronics)
Operating speed	≤5000 rpm
Material	Housing: plastic Shaft: stainless steel
Operating temperature	-40...+100 °C (fixed cable)
Resistance	DIN EN 60068-2-6 Vibration 10 g, 55-2000 Hz DIN EN 60068-2-27 Shock 100 g, 11 ms
Weight approx.	2200 g (at ø70 mm) 619 g (at ø140 mm)
Connection	Cable 1 m
Admitted cable length	15 m

Optional

- Cable with connector
- Redundant sensing

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2020-02-20

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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

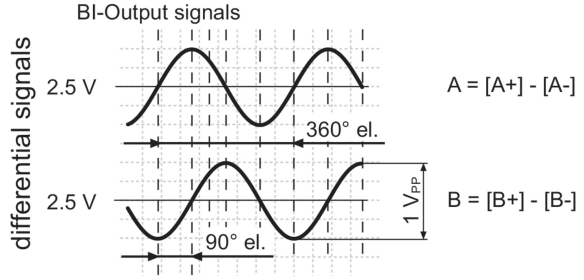
Output signal level

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

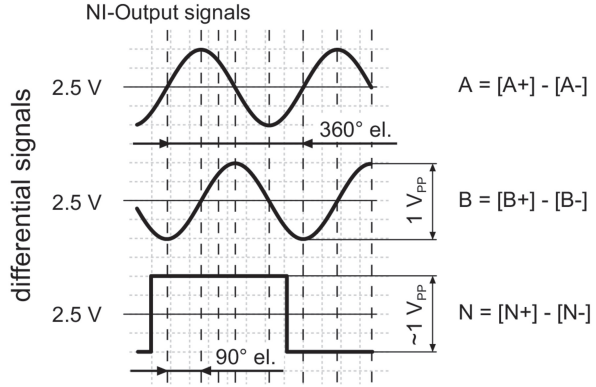
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals



NI-Output signals



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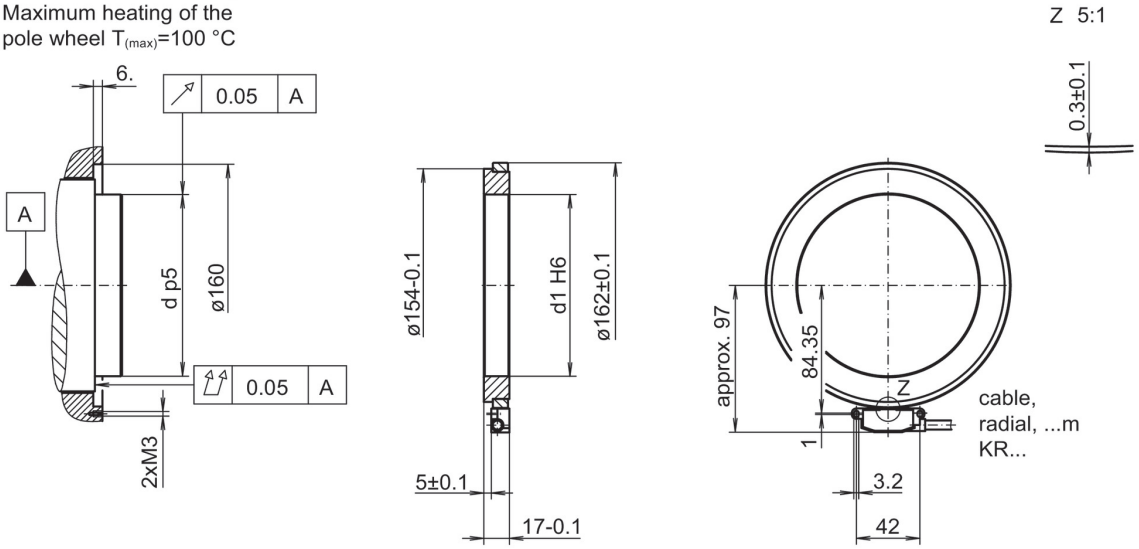
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Dimensions

Mounting side:
Proposal for shrink fitting*.
Maximum heating of the
pole wheel $T_{(max)}$=100 °C



* Please observe the manufacturer's instructions for the adhesive mounting with respect to adhesives and adhesive air gap.
Recommendation: Loctite 3504, air gap 15 µm ±5 µm

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ITD89H00 - Sine signal

Through hollow shaft ø70 to ø140 mm
256 sinewave cycles per revolution

Ordering reference

	ITD89H00	0256	M	####	KR1	E	##	IP67
Product								
	ITD89H00							
Sinewave cycles								
256		0256						
Voltage supply / signals								
5 VDC / sine 1 Vpp			M					
Output signals								
A+, A-, B+, B- (sine)				BI				
A+, A-, B+, B-, N+, N- (sine)				NI				
Connection								
Cable 1 m, radial					KR1			
Operating temperature								
-40...+100 °C						E		
Through hollow shaft								
ø70 mm							70	
ø75 mm							75	
ø80 mm							80	
ø85 mm							85	
ø120 mm							120	
Protection								
IP 67								IP67

Other diameters on request.

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