

Encoders without bearings - incremental

Through hollow shaft $\varnothing 70$ to $\varnothing 140$ mm

256 sinewave cycles per revolution

ITD89H00 - Sine signal



ITD89H00 - for heat-shrink or adhesive mounting

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 frequency	≤ 180 kHz (-3 dB)
System accuracy	$\pm 0.1^\circ$
Output stages	SinCos 1 Vpp
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3

Features

- 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. $\pm 0.1^\circ$
- Rotation speed max. 7500 rpm
- High resistance to dirt and vibrations

Optional

- Cable with connector
- Redundant sensing

Technical data - mechanical design

Dimensions W x H x L	12 x 16 x 48 mm
Shaft type	$\varnothing 70 \dots 140$ mm (through hollow shaft)
Motor shaft tolerance	± 0.5 mm axial ± 0.05 mm radial
Protection DIN EN 60529	IP 67 (relating to sealed electronics)
Operating speed	≤ 7500 rpm
Materials	Housing: plastic Shaft: stainless steel
Operating temperature	$-40 \dots +100$ °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 $\varnothing 70$ mm), 619 g (at $\varnothing 140$ mm)
Connection	Cable 1 m
Admitted cable length	15 m

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Part number

ITD89H00 0256 M KR1 E IP67

Protection

IP67 IP 67

Through hollow shaft

70 $\varnothing 70$ mm

75 $\varnothing 75$ mm

80 $\varnothing 80$ mm

85 $\varnothing 85$ mm

120 $\varnothing 120$ mm

... other diameters on request

Operating temperature

E -40...+100 °C

Connection

KR1 Cable 1 m, radial

Output signals

BI A+, A-, B+, B- (sine)

NI A+, A-, B+, B-, N+, N- (sine)

Voltage supply / signals

M 5 VDC / sine 1 Vpp

Sinewave cycles

0256 256

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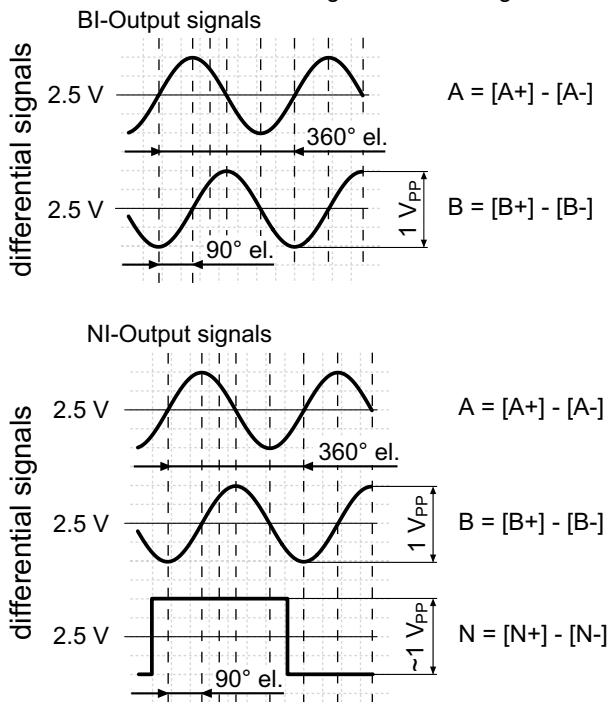
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Output signals

Clockwise rotation when looking at the mounting side.



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

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

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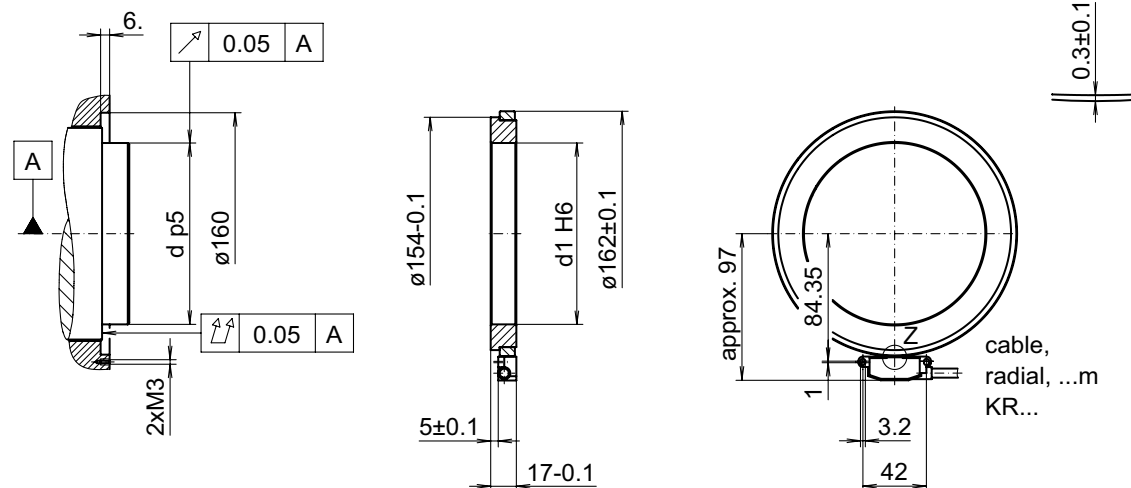
ITD89H00 - Sine signal

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 $15 \mu\text{m} \pm 5 \mu\text{m}$

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