

ITD69H00 - Rectangular signal

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

128...4096 pulses per revolution

Overview

- Bearingless magnetic encoder
- Max. 4096 pulses per revolution
- Output circuits: HTL or TTL
- Fast, easy and space saving installation
- Maintenance-free
- High accuracy - error max. $\pm 0.2^\circ$
- Rotation speed max. 10000 rpm
- High resistance to dirt and vibrations
- Magnetic rotor included in delivery



Picture similar

Technical data

Technical data - electrical ratings

Voltage supply 5 VDC $\pm 5\%$
8...26 VDC

Reverse polarity protection Yes

Short-circuit proof Yes

Consumption w/o load ≤ 50 mA

Pulses per revolution 128 ... 4096

Interpolation 1-fold (single)
2-fold
4-fold
8-fold
16-fold
32-fold

Output signals A 90° B + inverted
A 90° B, N + inverted

Output stages TTL linedriver (short-circuit proof)
HTL push-pull (short-circuit proof)

Output current ≤ 30 mA

Output frequency ≤ 300 kHz (TTL)
 ≤ 160 kHz (HTL)

Technical data - electrical ratings

System accuracy $\pm 0.2^\circ$

Interference immunity EN 61000-6-2

Emitted interference EN 61000-6-3

Technical data - mechanical design

Shaft type $\varnothing 40...68$ mm (through hollow shaft)

Dimensions (sensor head) 12 x 16 x 49 mm

Protection EN 60529 IP 67 (relating to sealed electronics)

Operating speed ≤ 10000 rpm

Working distance 0.2 ... 0.5 mm (radial), optimal 0,3 mm

Axial offset ± 0.5 mm

Material Housing: plastic
Shaft: stainless steel

Operating temperature $-40...+100$ °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

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Terminal assignment

With BI-signals, cable [4x2x0,08 mm²]

Core colour	Assignment
green	Track A
yellow	Track A inv.
grey	Track B
pink	Track B inv.
red	UB
blue	GND
transparent	Shield/Housing

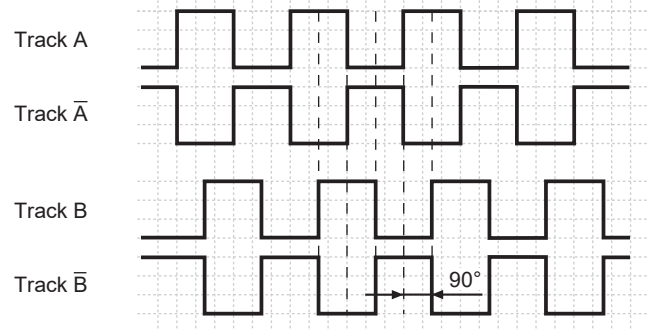
With NI-signals, cable [4x2x0,08 mm²]

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

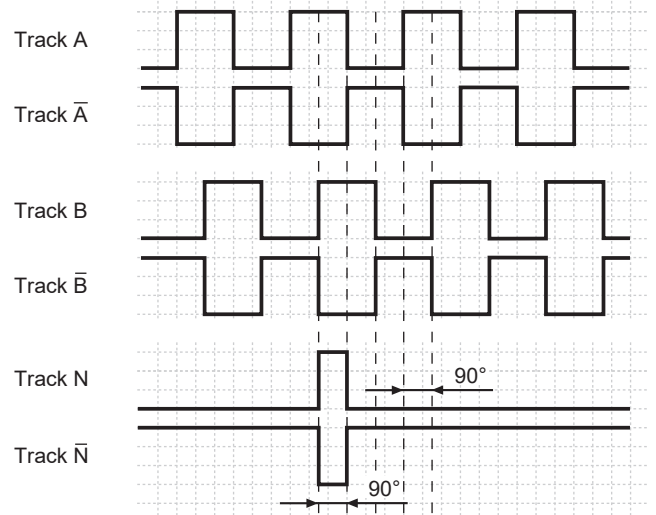
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals



NI-Output signals



Trigger level

Outputs	Linedriver
Output level High	$\geq 2,5$ V
Output level Low	$\leq 0,5$ V
Load	≤ 30 mA

Outputs	Push-pull short-circuit proof
Output level High	$\geq UB - 3$ V
Output level Low	$\leq 1,5$ V
Load	≤ 30 mA

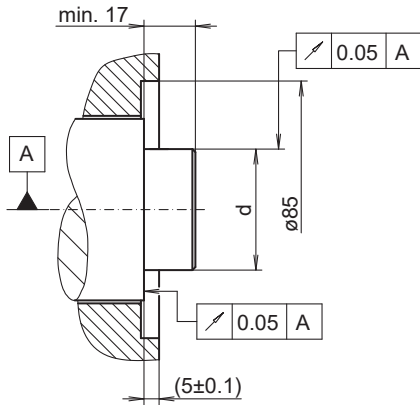
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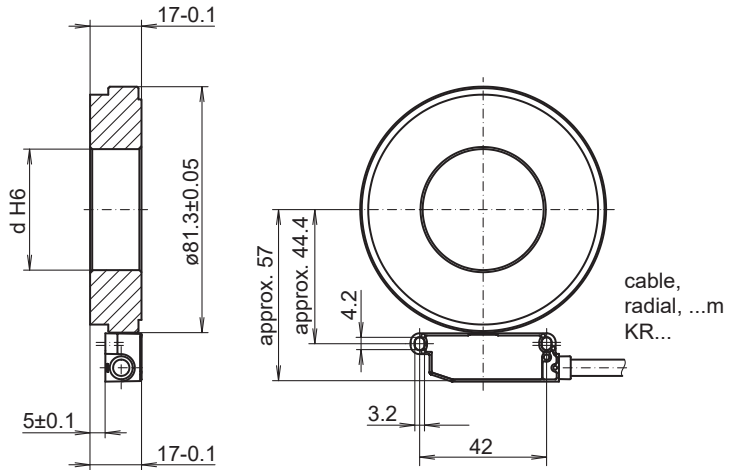
128...4096 pulses per revolution

Dimensions

mounting side (proposition)



dimension drawing (optimal mounting)



Mounting type	Shaft tolerance	Requirement
Shrink fitting	d p5	Maximum heating of the pole wheel $T_{(max)}=100$ °C
Adhesive mounting	d g6	Please observe the manufacturer's instructions for the adhesive mounting with respect to adhesives and adhesive air gap. Recommendation: Adhesive Loctite 3504

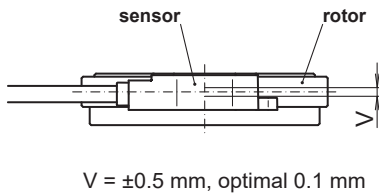
Installation note:

The system, consisting of sensor and rotor, form a matched pair. They may not be exchanged individually. The sensor should be mounted on an electrically conductive surface on potting side.

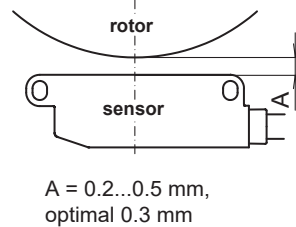
Mounting tolerances, operating tolerances

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

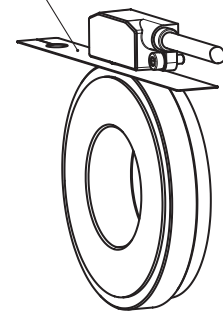
Axial offset:



Working distance:

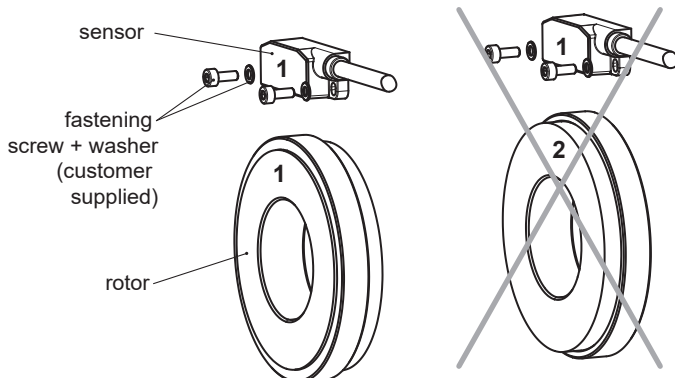


Use the distance band as a mounting tool for optimal gap (0.3 mm) between sensor and rotor.



Mounting position

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



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Ordering reference

		ITD69H00	####	#	####	KR1	E	#####	IP	67
Product		ITD69H00								
		ITD69H00								
Pulse number										
	128 ⁽¹⁾		128							
	256 ⁽¹⁾		256							
	512		512							
	1024		1024							
	2048		2048							
	4096		4096							
Voltage supply										
	UB= 5 VDC \pm 5% / TTL level, linedriver						T			
	UB= 8...26 VDC / HTL level, push-pull						H			
Output signal										
	A, A inv, B, B inv							BI		
	A, A inv, B, B inv, N, N inv							NI		
Connection										
	Cable radial, 1.00 m							KR1		
Operating temperature										
	-40...+100 °C (fixed cable)							E		
Magnetic wheel H00										
	$\varnothing 40$ mm, for adhesive or heat-shrink mounting								40	
	$\varnothing 45$ mm, for adhesive or heat-shrink mounting								45	
	$\varnothing 50$ mm, for adhesive or heat-shrink mounting								50	
	$\varnothing 55$ mm, for adhesive or heat-shrink mounting								55	
	$\varnothing 60$ mm, for adhesive or heat-shrink mounting								60	
	$\varnothing 65$ mm, for adhesive or heat-shrink mounting								65	
										IP
Protection class										
	IP67 (relating to sealed electronics)									67

(1) Featured pulse numbers available as BI output signals.
Other diameters on request