

ITD 41 A 4 Y 1

Blind hollow shaft $\varnothing 10$ to $\varnothing 16$ mm
2000...10000 pulses per revolution

Overview

- Encoder with blind hollow shaft $\varnothing 10$...16 mm
- Max. 10000 pulses per revolution
- Optical sensing method
- Mounting by torque support
- TTL or HTL output signals
- Flange connector radial or axial



Technical data

Technical data - electrical ratings

Voltage supply	5 VDC ± 5 % 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤ 100 mA
Pulses per revolution	2000 ... 10000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 300 kHz (TTL) ≤ 160 kHz (HTL)
Output signals	A, B, N + inverted
Output stages	TTL linedriver (short-circuit proof) HTL push-pull (short-circuit proof)
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3

Technical data - mechanical design

Size (flange)	$\varnothing 80$ mm
Shaft type	$\varnothing 10$...16 mm (blind hollow shaft)

Technical data - mechanical design

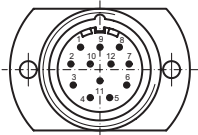
Mounting kit	050
Protection EN 60529	IP 65
Operating speed	≤ 8000 rpm ≤ 5000 rpm IP 65 (> 70 °C)
Starting torque	≤ 0.01 Nm ($+20$ °C)
Material	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	-20 ... $+70$ °C -20 ... $+100$ °C
Relative humidity	90 % non-condensing
Resistance	EN 60068-2-6 Vibration 10 g, 55-2000 Hz EN 60068-2-27 Shock 30 g, 11 ms
Connection	Connector M23 type 2, 12-pin
Weight approx.	580 g

Optional

- Extended operating temperature range

Terminal assignment

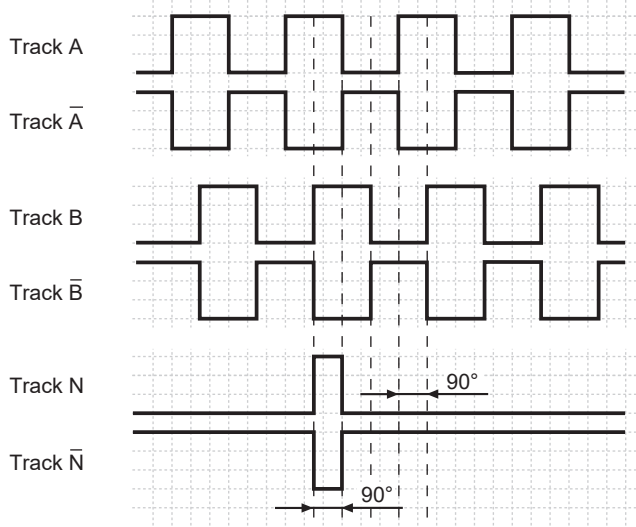
Connector	Assignment
Pin 5	Track A
Pin 6	Track A inv.
Pin 8	Track B
Pin 1	Track B inv.
Pin 3	Track N
Pin 4	Track N inv.
Pin 12	UB
Pin 10	GND
Pin 2	UB-Sense
Pin 11	GND-Sense
Pin 9	–
Pin 7	–



Output signals

Clockwise rotation when looking at the mounting side.

NI-Output signals



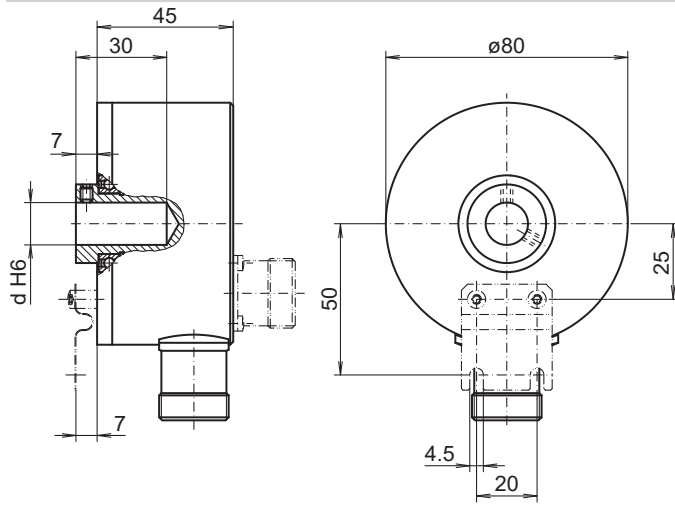
Trigger level

Outputs	Linedriver
Output level High	≥ 2.4 V
Output level Low	≤ 0.5 V
Load	≤ 70 mA
Outputs	Push-pull short-circuit proof
Output level High	$\geq U_B - 3$ V
Output level Low	≤ 1.5 V
Load	≤ 70 mA

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Dimensions



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Ordering reference

		ITD 41 A 4 Y 1	#####	#	NI	#####	#	##	####	050
Product		ITD 41 A 4 Y 1								
Pulse number										
	2000		2000							
	2048		2048							
	2500		2500							
	3072		3072							
	3600		3600							
	4096		4096							
	5000		5000							
	10000		10000							
Voltage supply / signals										
	5 VDC / TTL level, linedriver				T					
	8...30 VDC / HTL level, push-pull				H					
	8...30 VDC / TTL level, linedriver				R					
Output signals										
	A, A inv, B, B inv, N, N inv				NI					
Connection										
	Flange connector type 2, pin contacts, radial, 12-pin					D2SR12				
	Flange connector type 2, pin contacts, axial, 12-pin					D2SA12				
Operating temperature										
	-20...+70 °C								S	
	-20...+100 °C								E	
Blind hollow shaft										
	$\varnothing 10$ mm								10	
	$\varnothing 12$ mm								12	
	$\varnothing 12.7$ mm								12.7	
	$\varnothing 14$ mm								14	
	$\varnothing 15$ mm								15	
	$\varnothing 16$ mm								16	
Protection										
	IP 54									IP54
	IP 65									IP65
Mounting kit										
	Mounting kit 050									050