Incremental encoders

Blind hollow shaft ø10 to ø16 mm

2000…10000 pulses per revolution

ITD 41 A 4 Y 1

ITD 41 A 4 Y 1 with blind hollow shaft

Features

- **Encoder with blind hollow shaft ø10...16 mm**
- **Max. 10000 pulses per revolution**
- **Optical sensing method**
- **Mounting by torque support**
- **TTL or HTL output signals**
- **Flange connector radial or axial**

Optional

- **Extended operating temperature range**

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	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3

Technical data - mechanical design

Size (flange)	ø80 mm
Shaft type	ø10...16 mm (blind hollow shaft)
Mounting kit	050
Protection DIN EN 60529	IP 65
Operating speed	≤8000 rpm ≤5000 rpm IP 65 (>70 °C)
Starting torque	≤0.01 Nm (+20 °C)
Materials	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	-20...+70 °C -20...+100 °C
Relative humidity	90 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 10 g, 55-2000 Hz DIN EN 60068-2-27 Shock 30 g, 11 ms
Connection	Connector M23 type 2, 12-pin
Weight approx.	580 g

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Part number

ITD 41 A 4 Y 1 | | | **NI** | | | | | **050**

Mounting kit
- 050 Mounting kit 050

Protection
- IP54 IP 54
- IP65 IP 65

Blind hollow shaft
- 10 ø10 mm
- 12 ø12 mm
- 12.7 ø12.7 mm
- 14 ø14 mm
- 15 ø15 mm
- 16 ø16 mm

Operating temperature
- S -20...+70 °C
- E -20...+100 °C

Connection
- D2SR12 Flange connector type 2, pin contacts, radial, 12-pin
- D2SA12 Flange connector type 2, pin contacts, axial, 12-pin

Output signals
- NI A, A inv, B, B inv, 0, 0 inv

Voltage supply / signals
- T 5 VDC / TTL level, linedriver
- H 8...30 VDC / HTL level, push-pull
- R 8...30 VDC / TTL level, linedriver

Pulse number - see table

Pulse number

2000	2500	3600	5000
2048	3072	4096	10000

Other diameters on request.

Accessories

Connectors and cables

11072792	Connector M23 - S2BG12, 1 m cable (incremental)

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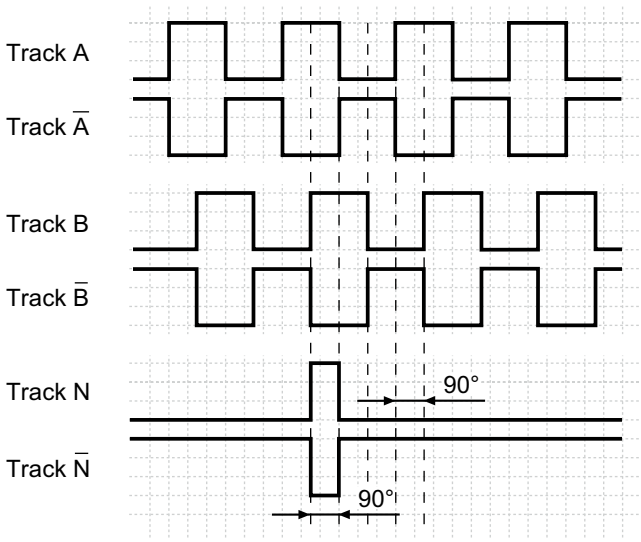
Output signals

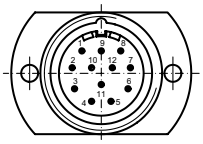
Clockwise rotation when looking at the mounting side.

NI-Output signals



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	–

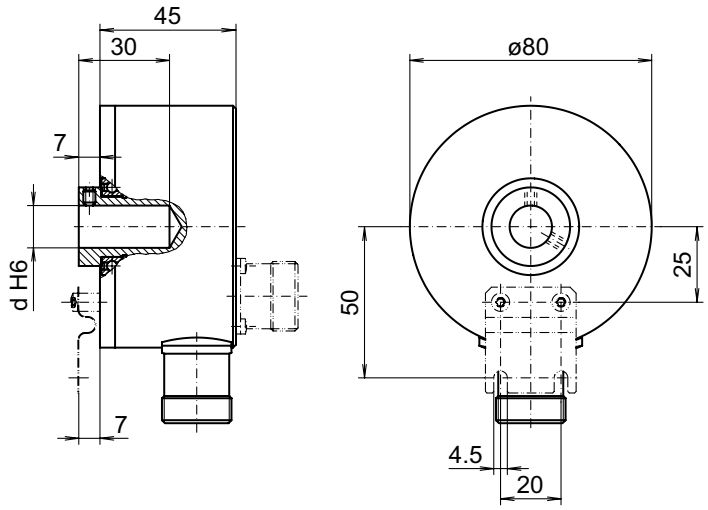


Trigger level

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	≥UB -3 V
Output level Low	≤1.5 V
Load	≤70 mA

Dimensions



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