

Incremental encoders

Blind hollow shaft ø10 to ø16 mm

5...100 pulses per revolution

ITD 4 A 4



ITD 4 A 4 with blind hollow shaft

Features

- Encoder with blind hollow shaft ø10...16 mm
- Max. 100 pulses per revolution
- Optical sensing method
- Mounting by torque support
- TTL or HTL output signals
- Cable output radial or axial

Optional

- Cable with connector

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	5...100
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤60 kHz
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)
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 100 g, 11 ms
Connection	Cable 1 m
Weight approx.	550 g

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Part number

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		NI					050
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Mounting kit
050 Mounting kit 050

Protection
IP54 IP 54
IP65 IP 65

Blind hollow shaft
10 ø10 mm
12 ø12 mm
14 ø14 mm
15 ø15 mm
16 ø16 mm

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

Connection
KR1 Cable 1 m, radial
KA1 Cable 1 m, axial

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

5	16	60	100
8	32	64	

Other diameters on request.

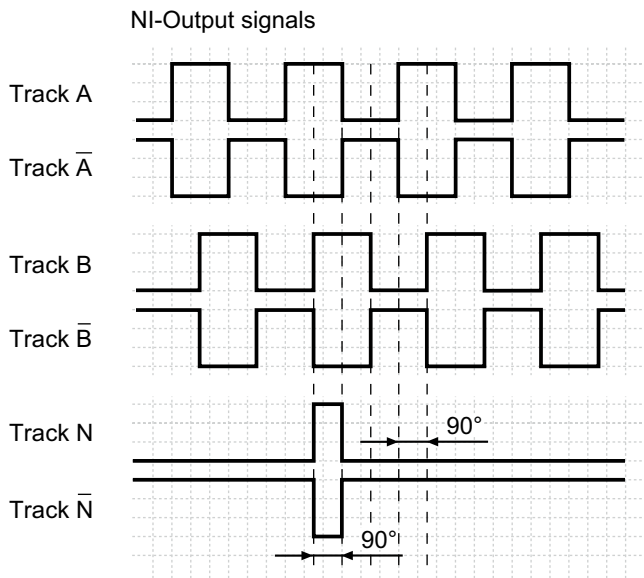
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Output signals

Clockwise rotation when looking at the mounting side.



Terminal assignment

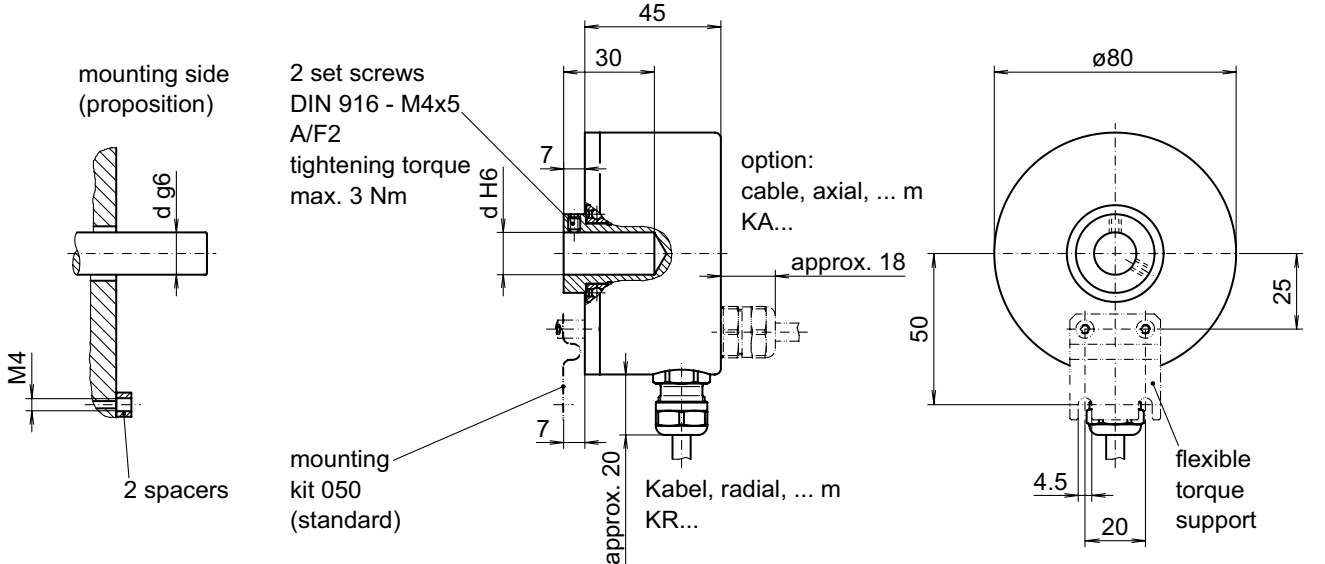
Core colour	Assignment
green	Track A
brown	Track A inv.
grey	Track B
black	Track B inv.
pink	Track N
white	Track N inv.
red	UB
blue	GND
yellow	UB-Sense
violet	GND-Sense
transparent	Shield/Housing

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	$\geq UB - 3$ V
Output level Low	≤ 1.5 V
Load	≤ 70 mA

Dimensions



026- 5

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