

Incremental encoders

End shaft $\varnothing 10$ to $\varnothing 16$ mm

Resolution 5...100 pulses

ITD 4 A 4



ITD 4 A 4 with end shaft

Features

- Encoder with end shaft $\varnothing 10$ -16 mm
- Resolution max. 100 ppr
- Optical sensing
- 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
Resolution (steps/turn)	5...100
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 60 kHz
Output signals	A, B, N + inverted
Output circuit	TTL linedriver (short-circuit proof) HTL push-pull (short-circuit proof)
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 55011

Technical data - mechanical design

Dimensions (flange)	$\varnothing 80$ mm
Shaft	$\varnothing 10$...16 mm end shaft
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Mounting kit variant	050
Protection DIN EN 60529	IP 65
Operating speed	≤ 8000 rpm ≤ 5000 rpm (IP 65)
Starting torque	≤ 0.01 Nm
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

ITD 4 A 4

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Mounting kit
050 Mounting accessory kit 050

Protection
IP54 IP 54
IP65 IP 65

End shaft
10 End shaft $\varnothing 10$ mm
11 End shaft $\varnothing 11$ mm
12 End shaft $\varnothing 12$ mm
12.7 End shaft $\varnothing 12.7$ mm
14 End shaft $\varnothing 14$ mm
15 End shaft $\varnothing 15$ mm
16 End shaft $\varnothing 16$ mm

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

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

Output signals
BI A, A inv, B, B inv
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

See part number (pulses)

Part number (pulses)

5	16	60	100
8	32	64	

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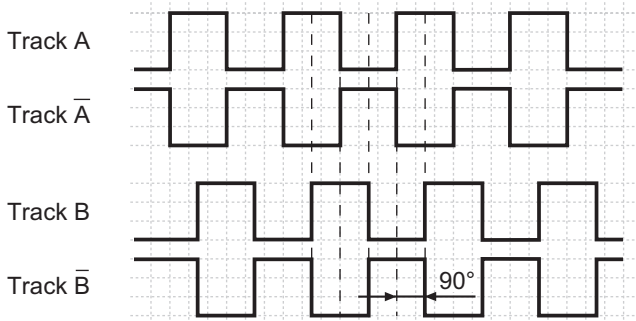
Resolution 5...100 pulses

ITD 4 A 4

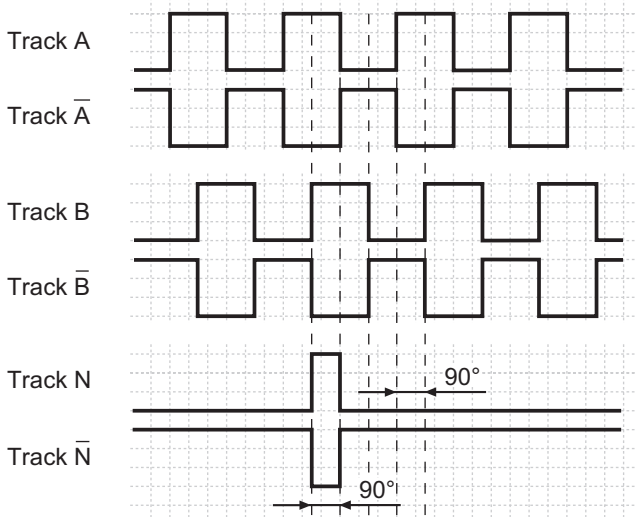
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals



NI-Output signals



Terminal assignment

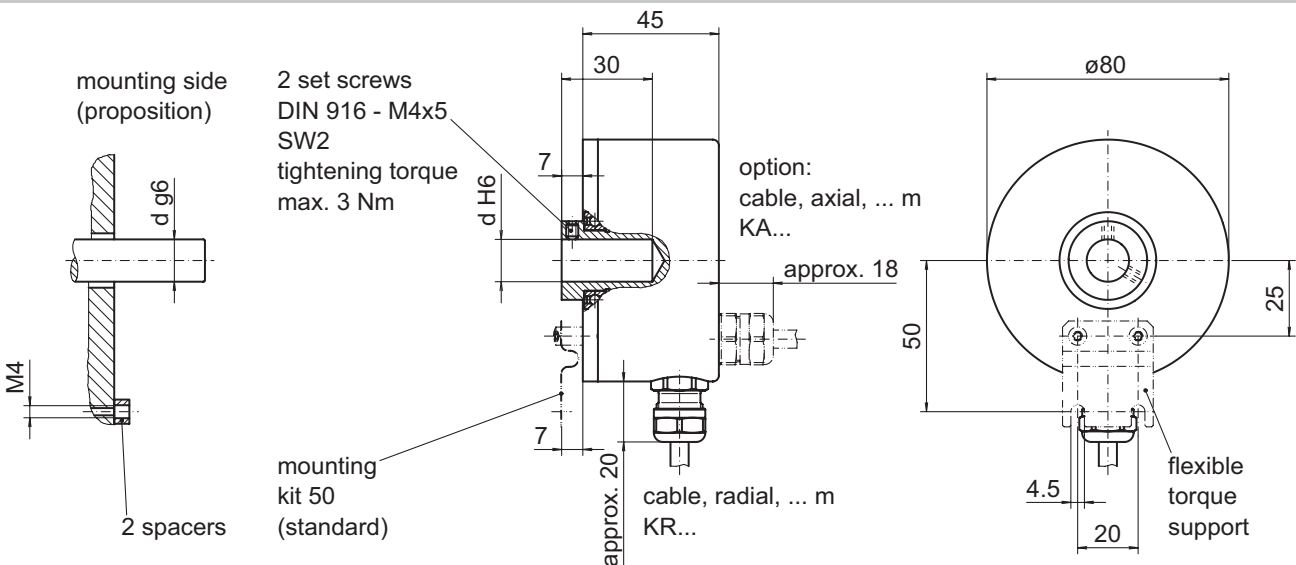
Core colour	Assignment
brown	Track A
green	Track A inv.
grey	Track B
pink	Track B inv.
red	Track N
black	Track N inv.
brown 0,5 mm ²	UB
white 0,5 mm ²	GND
blue	UB-Sense
white	GND-Sense
transparent	Shield/Housing

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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