

Incremental encoders

Blind hollow shaft ø8 to ø14 mm

50...1024 pulses per revolution

ITD 20 A 4



ITD 20 A 4 with blind hollow shaft

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	50...1024
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤120 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

Features

- Encoder with blind hollow shaft max. ø14 mm
- Max. 1024 pulses per revolution
- Optical sensing method
- Mounting by torque support
- TTL or HTL output signals
- Cable output radial or axial

Optional

- Cable with connector
- Extended operating temperature range

Technical data - mechanical design

Size (flange)	ø58 mm
Shaft type	ø8...14 mm (blind hollow shaft)
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Mounting kit	001
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 100 g, 6 ms
Connection	Cable 1 m
Weight approx.	260 g

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Part number

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		NI				IP65	001
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Mounting kit
001 Mounting kit 001

Protection
IP65 IP 65

Blind hollow shaft
8 $\varnothing 8$ mm
9 $\varnothing 9$ mm
10 $\varnothing 10$ mm
12 $\varnothing 12$ mm
14 $\varnothing 14$ 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

50	90	200	360	600
60	100	250	400	1000
64	120	254	500	1024
88	128	256	512	

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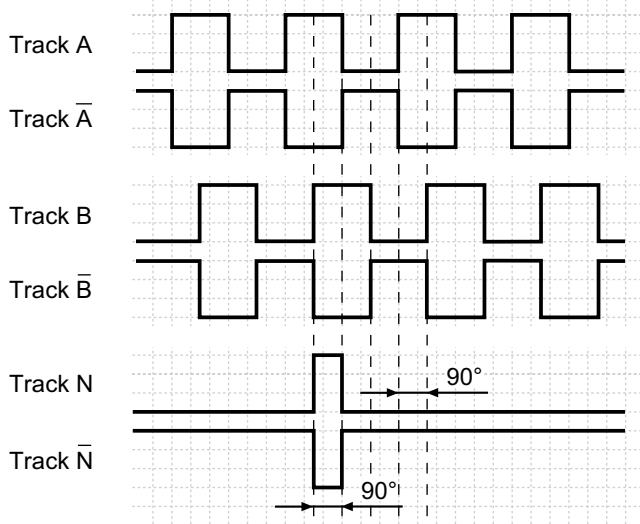
50...1024 pulses per revolution

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Output signals

Clockwise rotation when looking at the mounting side.

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

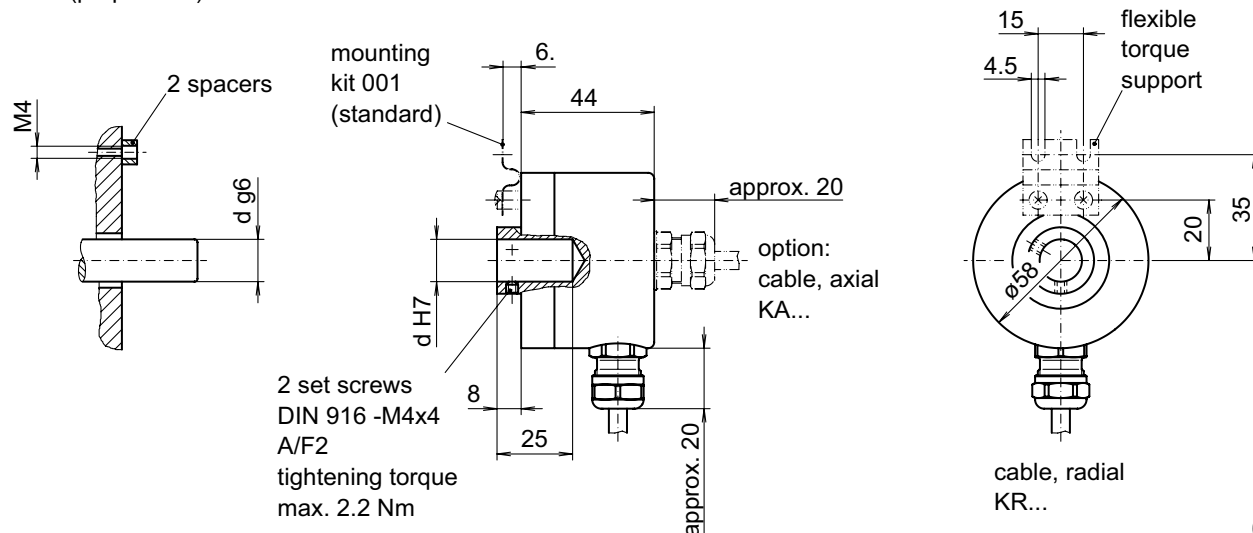
Trigger level

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

mounting side
(proposition)



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