

Incremental encoders

Solid shaft $\varnothing 10$ mm with clamping flange

1000...6000 pulses per revolution

ITD 21 B14 Y 9



ITD 21 B14 Y 9 with clamping flange

Technical data - electrical ratings

Voltage supply	5 VDC $\pm 5\%$ 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤ 100 mA
Pulses per revolution	1000...6000
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

Features

- Encoder with solid shaft $\varnothing 10$ mm
- Max. 6000 pulses per revolution
- Optical sensing method
- Centering alignment $\varnothing 36$ mm, mounting screw hole circle $\varnothing 48$ mm
- Industrial standard
- TTL or HTL output signals
- Cable output radial or axial

Optional

- Cable with connector
- Extended operating temperature range

Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 10$ mm solid shaft (clamping flange)
Shaft loading	≤ 40 N axial ≤ 60 N radial
Flange	Clamping flange
Protection DIN EN 60529	IP 65
Operating speed	≤ 12000 rpm
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	Cable 1 m
Weight approx.	340 g

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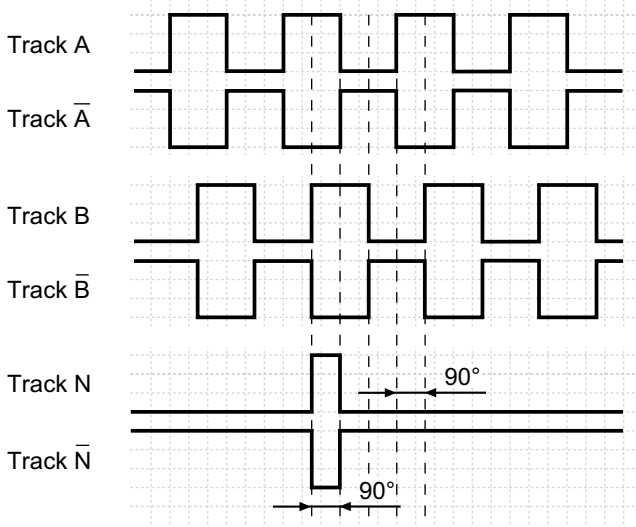
1000...6000 pulses per revolution

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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

Cable with 2 brown and 2 white wires:
PUR, [5x2x0.14 mm² + 2x0.5 mm²], bending radius > 60 mm,
outer diameter 7.5 mm \pm 0.2 mm

Encoder with connector on cable end after 8 June 2015

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

Cable with violet wire:
PUR, [5x2x0.14 mm²], bending radius > 60 mm,
outer diameter 7 mm \pm 0.2 mm

Trigger level

Outputs	Linedriver
Output level High	≥ 2.4 V
Output level Low	≤ 0.5 V
Load	≤ 70 mA

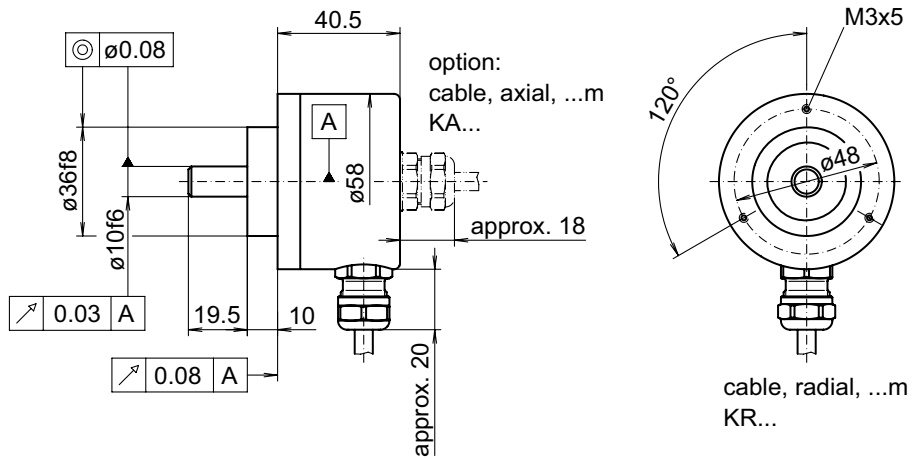
Outputs	Push-pull short-circuit proof
Output level High	$\geq UB - 3$ V
Output level Low	≤ 1.5 V
Load	≤ 70 mA

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Dimensions



027- 4 Y 9