

# Incremental encoders

## Shaft $\varnothing 6$ mm with synchro flange

### Resolution 1000...10000 pulses

#### ITD 21 B14



ITD 21 B14 with synchro flange

#### Technical data - electrical ratings

Voltage supply	5 VDC $\pm 5$ % 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	$\leq 100$ mA
Resolution (steps/turn)	1000...10000
Reference signal	Zero pulse, width $90^\circ$
Sensing method	Optical
Output frequency	$\leq 300$ kHz (TTL) $\leq 160$ kHz (HTL)
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

#### Features

- Encoder with shaft  $\varnothing 6$  mm
- Resolution max. 10000 ppr
- Optical sensing
- Centering alignment  $\varnothing 50$  mm, mounting screw hole circle  $\varnothing 68$  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

Dimensions (flange)	$\varnothing 58$ mm
Shaft	$\varnothing 6$ mm (synchro flange)
Shaft loading	$\leq 20$ N axial $\leq 40$ N radial
Flange	Synchro flange
Protection DIN EN 60529	IP 65
Operating speed	$\leq 12000$ rpm
Starting torque	$\leq 0.01$ Nm
Materials	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	$-20 \dots +70$ °C $-20 \dots +100$ °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.	400 g



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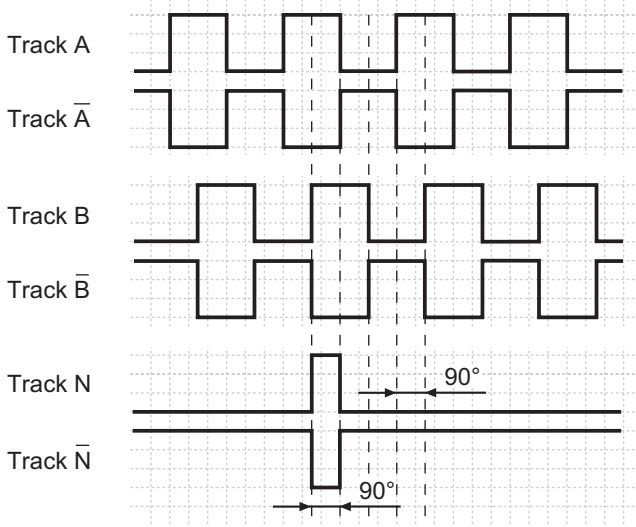
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##### Output signals

Clockwise rotation when looking at the mounting side.

NI-Output signals



##### Terminal assignment

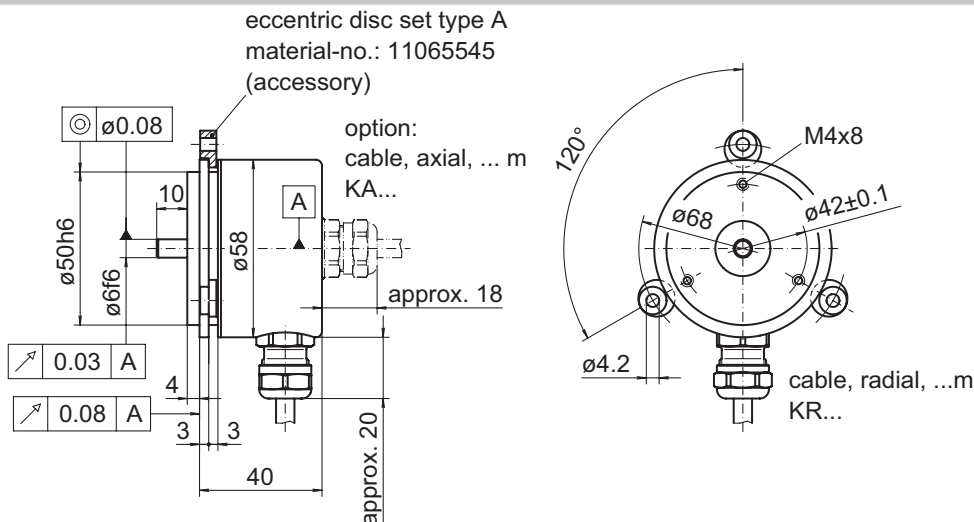
Core colour	Assignment
brown	Track A
green	Track A inv.
grey	Track B
pink	Track B inv.
red	Track N
black	Track N inv.
brown 0,5 mm <sup>2</sup>	UB
white 0,5 mm <sup>2</sup>	GND
blue	UB-Sense
white	GND-Sense
transparent	Shield/Housing

##### Trigger level

Outputs	Linedriver
Output level High	$\geq 2.4$ V
Output level Low	$\leq 0.5$ V
Load	$\leq 70$ mA

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

##### Dimensions



027-4

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