

# Incremental encoders

## Solid shaft $\varnothing 6$ mm with synchro flange

### 1000...10000 pulses per revolution

#### 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
Pulses per revolution	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 stage	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  $\varnothing 6$  mm
- Max. 10000 pulses per revolution
- 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

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 6$ mm solid shaft (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 (+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.	400 g

# Incremental encoders

Solid shaft  $\varnothing 6$  mm with synchro flange  
1000...10000 pulses per revolution

ITD 21 B14

## Part number

ITD 21 B14 

		NI			6	IP65
--	--	----	--	--	---	------

		NI			6	IP65
						Protection IP65 IP 65
						Flange / Solid shaft 6 Synchro flange / $\varnothing 6$ 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

1000	1440	2048	4000	7200*
1024	1500	2500	4096	8192*
1200	1800	3000	5000	9000*
1250	2000	3600	6000	10000*

\* Observe terminal assignment!

## Accessories

### Mounting accessories

11065545	Set of eccentric fixings type A
----------	---------------------------------

# Incremental encoders

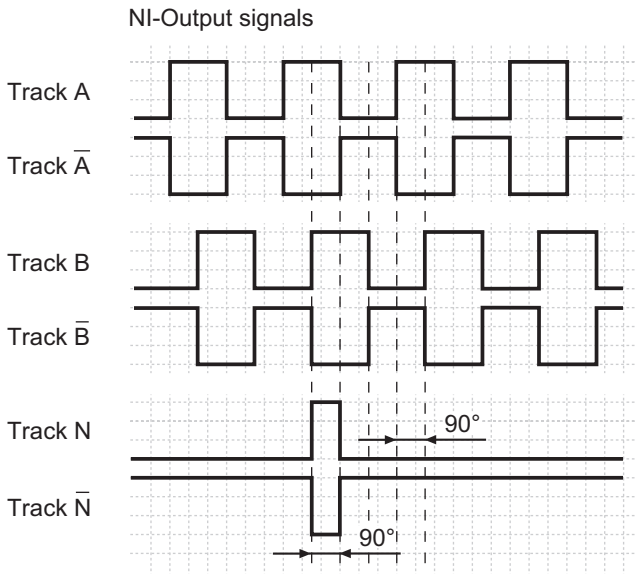
## Solid shaft $\varnothing 6$ mm with synchro flange

### 1000...10000 pulses per revolution

#### ITD 21 B14

##### Output signals

Clockwise rotation when looking at the mounting side.



##### Terminal assignment

###### Pulses per revolution $\leq 6000$

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

###### Pulses per revolution $> 6000$

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

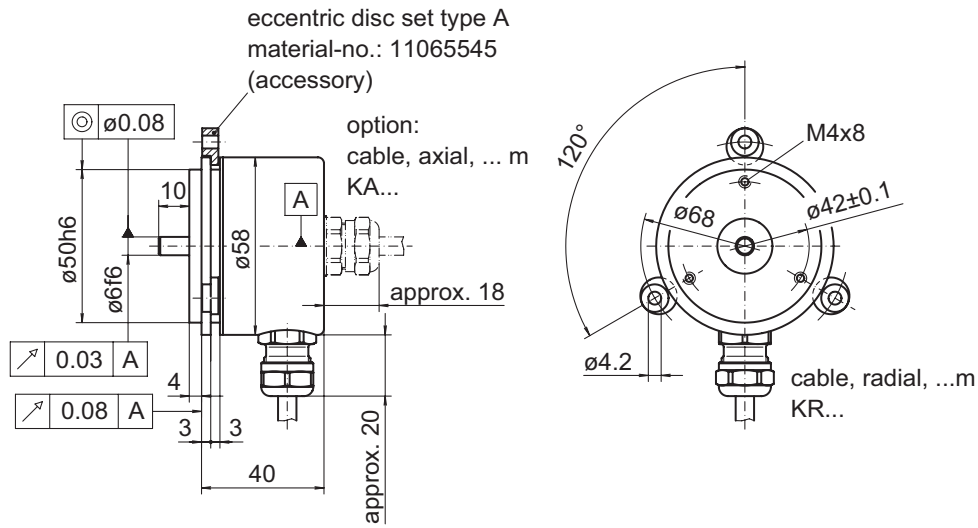
Outputs	Push-pull short-circuit proof
Output level High	$\geq UB - 3$ V
Output level Low	$\leq 1.5$ V
Load	$\leq 70$ mA

# Incremental encoders

Solid shaft  $\varnothing 6$  mm with synchro flange  
1000...10000 pulses per revolution

ITD 21 B14

## Dimensions



027-4