

# Incremental encoders

## Solid shaft $\varnothing 10$ mm with clamping flange

### 50...1024 pulses per revolution

#### ITD 20 B14 Y 9



ITD 20 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	$\leq 100$ mA
Pulses per revolution	50...1024
Reference signal	Zero pulse, width $90^\circ$
Sensing method	Optical
Output frequency	$\leq 120$ kHz
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  $\varnothing 10$  mm
- Max. 1024 pulses per revolution
- Optical sensing
- 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	$\leq 40$ N axial $\leq 60$ N radial
Flange	Clamping 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 100 g, 11 ms
Connection	Cable 1 m
Weight approx.	340 g

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## Part number

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					10	IP65
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Protection  
IP65 IP 65

Flange / Solid shaft  
10 Clamping flange /  $\varnothing 10$  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

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	

# Incremental encoders

## Solid shaft $\varnothing 10$ mm with clamping flange

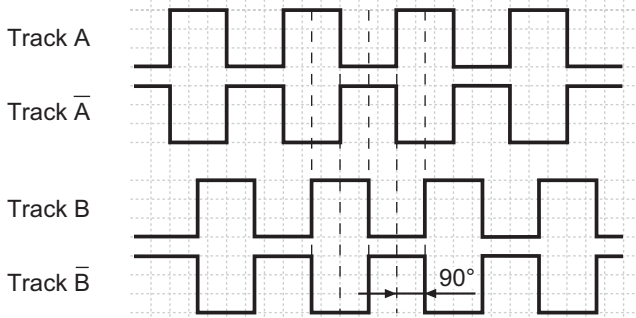
### 50...1024 pulses per revolution

#### ITD 20 B14 Y 9

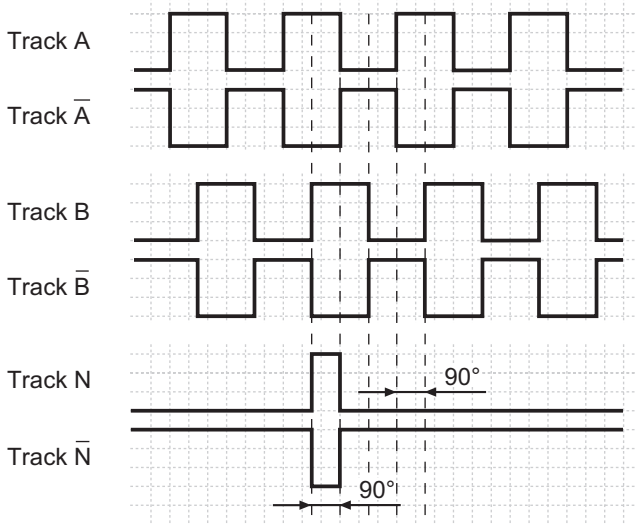
##### Output signals

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 <sup>2</sup>	UB
white 0,5 mm <sup>2</sup>	GND
blue	UB-Sense
white	GND-Sense
transparent	Shield/Housing

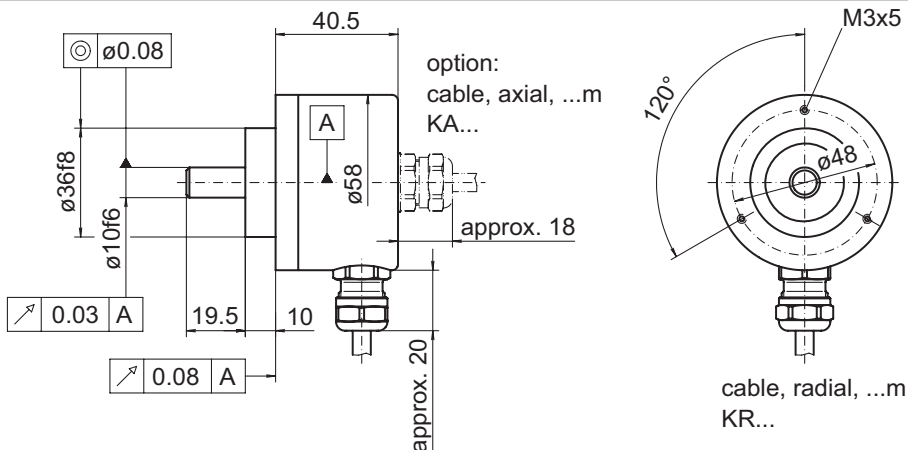
##### Trigger level

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 Y 9

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