

# Incremental encoders

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

### 1000...6000 pulses per revolution

#### ITD 21 B14 Y11



ITD 21 B14 Y11 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	1000...6000
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  $\varnothing 10$  mm
- Max. 6000 pulses per revolution
- Optical sensing
- Centering alignment  $\varnothing 36$  mm, mounting screw hole circle  $\varnothing 48$  mm
- Industrial standard
- TTL or HTL output signals
- Flange socket radial

#### Optional

- 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 30 g, 11 ms
Connection	Connector M23 type 2, 12-pin
Weight approx.	270 g

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## Part number

ITD 21 B14 Y11     NI D2SR12   10 IP65

Protection  
IP65 IP 65

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

Operating temperature  
S -20...+70 °C  
E -20...+100 °C

Connection  
D2SR12 Flange socket type 2, pin contacts, radial, 12-pin

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
1024	1500	2500	4096
1200	1800	3000	5000
1250	2000	3600	6000

## Accessories

### Connectors and cables

11072792 Connector S2BG12, 1 m cable (ITD)

# Incremental encoders

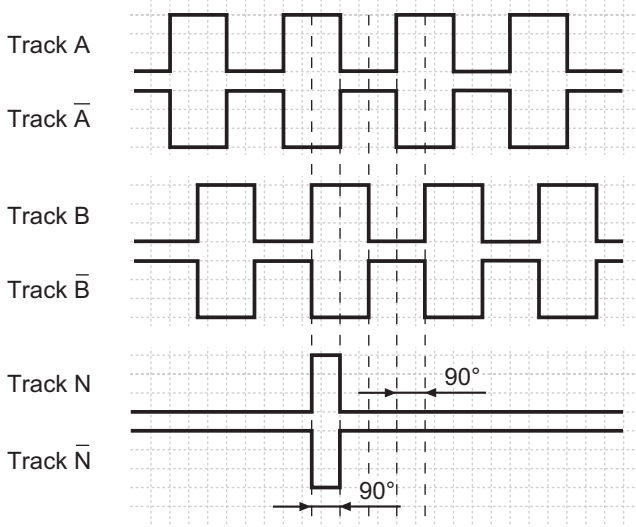
Solid shaft  $\varnothing 10$  mm with clamping flange  
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## ITD 21 B14 Y11

### Output signals

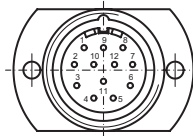
Clockwise rotation when looking at the mounting side.

NI-Output signals



### Terminal assignment

Connector	Assignment
Pin 5	Track A
Pin 6	Track A inv.
Pin 8	Track B
Pin 1	Track B inv.
Pin 3	Track N
Pin 4	Track N inv.
Pin 12	UB
Pin 10	GND
Pin 2	UB-Sense
Pin 11	GND-Sense
Pin 9	–
Pin 7	–

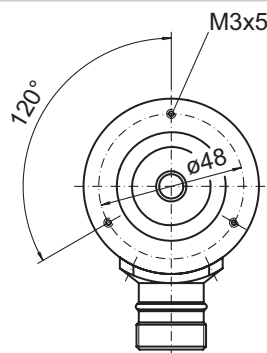
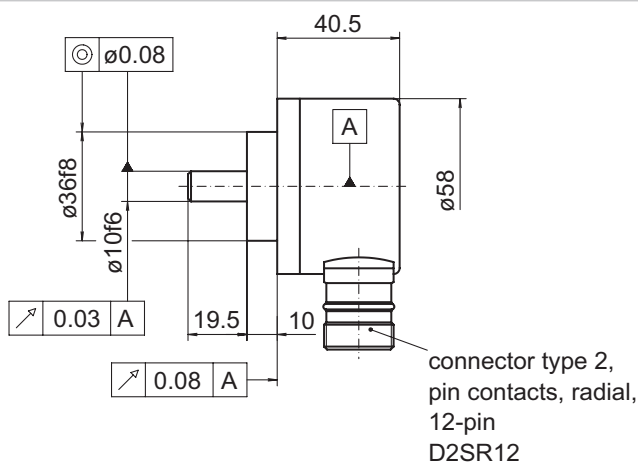


### Trigger level

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 Y11

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