

# Incremental encoders

## Solid shaft $\varnothing 11$ mm with EURO flange

### 1000...6000 pulses per revolution

#### ITD 41 B10 Y 5



ITD 41 B10 Y 5 with EURO flange

#### Features

- Encoder with solid shaft  $\varnothing 11$  mm
- Max. 6000 pulses per revolution
- Optical sensing
- Centering alignment  $\varnothing 85$  mm, mounting screw hole circle  $\varnothing 100$  mm
- Industrial standard with centering flange
- TTL or HTL output signals
- Terminal box axial, screw connection radial

#### Optional

- Extended operating temperature range

#### 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

#### Technical data - mechanical design

Size (flange)	$\varnothing 82$ mm
Shaft type	$\varnothing 11$ mm solid shaft
Shaft loading	$\leq 60$ N axial $\leq 100$ N radial
Flange	EURO flange B10
Protection DIN EN 60529	IP 65
Operating speed	$\leq 8000$ rpm
Starting torque	$\leq 0.015$ Nm (+20 °C)
Materials	Housing: aluminium 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	Terminal box, 12-pin, M16x1.5 connection, radial
Weight approx.	1150 g

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## Part number

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		NI	VR16		11	IP65
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Protection  
IP65 IP 65

Flange / Solid shaft  
11 EURO flange B10 /  $\varnothing 11$  mm

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

Connection  
VR16 Terminal box, axial, 12-pin, M16x1.5 connection, radial

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

# Incremental encoders

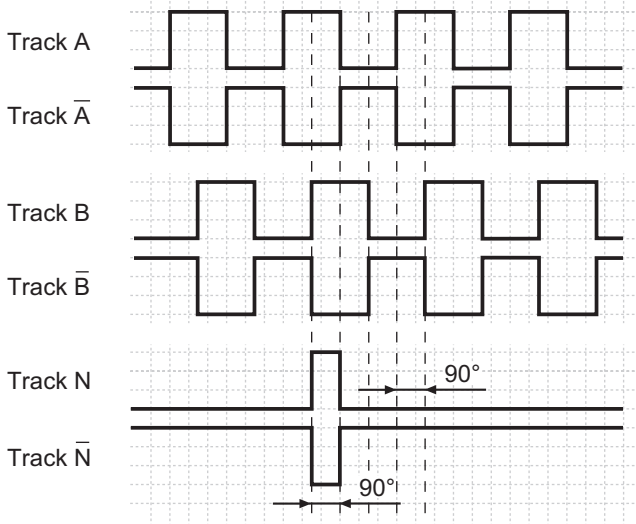
Solid shaft  $\varnothing 11$  mm with EURO flange  
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### Output signals

Clockwise rotation when looking at the mounting side.

NI-Output signals



### Terminal assignment

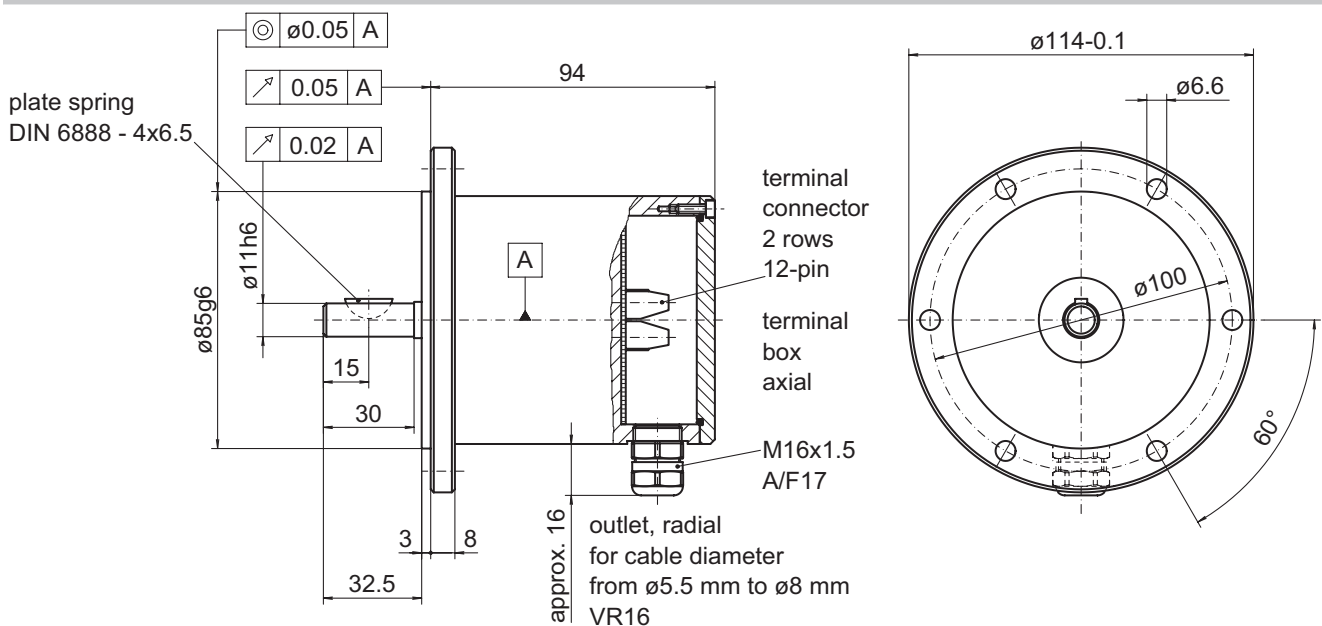
Terminal	Assignment
Pin 3	Track A
Pin 4	Track A inv.
Pin 5	Track B
Pin 6	Track B inv.
Pin 7	Track N
Pin 8	Track N inv.
Pin 2	UB
Pin 1	GND
Pin 9	UB-Sense
Pin 10	GND-Sense
Pin 11	NC
Pin 12	Shield/Housing

### 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



025- 7 Y 5

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