

Incremental encoders

Blind hollow shaft $\varnothing 10$ to $\varnothing 14$ mm

200...6000 pulses per revolution

ITD 21 A 4 Y22



ITD 21 A 4 Y22 with blind hollow shaft

Features

- Encoder with blind hollow shaft $\varnothing 10...14$ mm
- Max. 6000 pulses per revolution
- Optical sensing
- Mounting by torque support
- TTL or HTL output signals
- Flange socket radial
- High protection standard

Technical data - electrical ratings

Voltage supply	5 VDC $\pm 5\%$ 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤ 100 mA
Pulses per revolution	200...6000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 300 kHz (TTL) ≤ 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)	$\varnothing 58$ mm
Shaft type	$\varnothing 10$ mm (blind hollow shaft) $\varnothing 12$ mm (blind hollow shaft) $\varnothing 14$ mm (blind hollow shaft)
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Mounting kit	002
Protection DIN EN 60529	IP 65
Operating speed	≤ 8000 rpm ≤ 5000 rpm IP 65 ($>70^\circ\text{C}$)
Starting torque	≤ 0.01 Nm ($+20^\circ\text{C}$)
Materials	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	$-20...+70^\circ\text{C}$ $-20...+100^\circ\text{C}$
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	Connector M23 type 2, 12-pin
Weight approx.	280 g

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Part number

ITD 21 A 4 Y22 NI D2SR12 IP65 002

Mounting kit
002 Mounting accessory kit 002

Protection
IP65 IP 65

Blind hollow shaft
10 $\varnothing 10$ mm
12 $\varnothing 12$ mm
14 $\varnothing 14$ 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

200	500	1000	1800	4000
250	512	1024	2000	4096
256	600	1200	2048	5000
300	720	1250	2500	6000
360	800	1440	3000	
400	900	1500	3600	

Accessories

Connectors and cables

11072792 Connector S2BG12, 1 m cable (ITD)

Incremental encoders

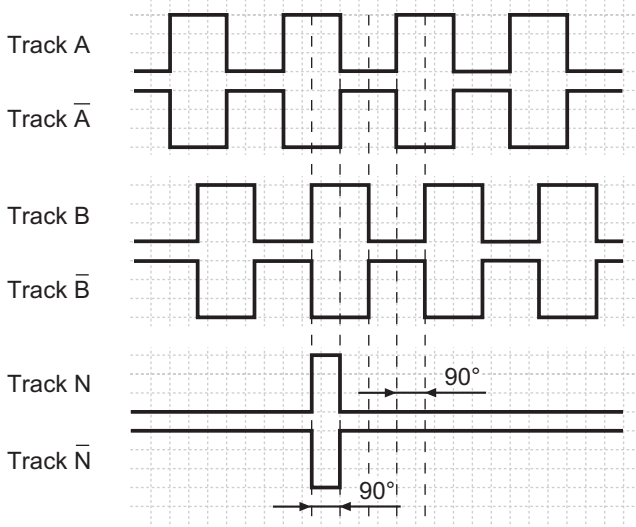
Blind hollow shaft $\varnothing 10$ to $\varnothing 14$ mm
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Output signals

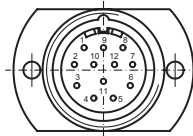
Clockwise rotation when looking at the mounting side.

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	–

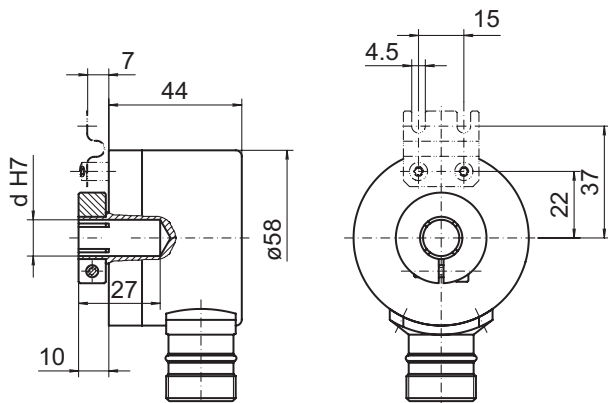


Trigger level

Outputs	Linedriver
Output level High	≥ 2.4 V
Output level Low	≤ 0.5 V
Load	≤ 70 mA

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

Dimensions



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