

# Incremental encoders

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

### 2...60 pulses per revolution

#### ITD 2 A 4 Y22



ITD 2 A 4 Y22 with blind hollow shaft

#### Features

- Encoder with blind hollow shaft  $\varnothing 10...14$  mm
- Max. 60 pulses per revolution
- Optical sensing
- Mounting by torque support
- TTL or HTL output signals
- Flange socket radial

#### 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	2...60
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

#### 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	$\leq 8000$ rpm
Starting torque	$\leq 0.01$ Nm (+20 °C)
Materials	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	-20...+70 °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 2 A 4 Y22       D2SR12 S   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

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

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

2	14	20	30
5	15	21	32
10	16	23	50
12	18	25	60

#### Accessories

##### Connectors and cables

11072792 Connector S2BG12, 1 m cable (ITD)

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

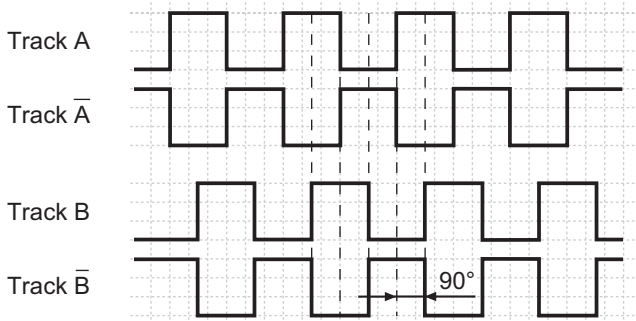
### 2...60 pulses per revolution

#### ITD 2 A 4 Y22

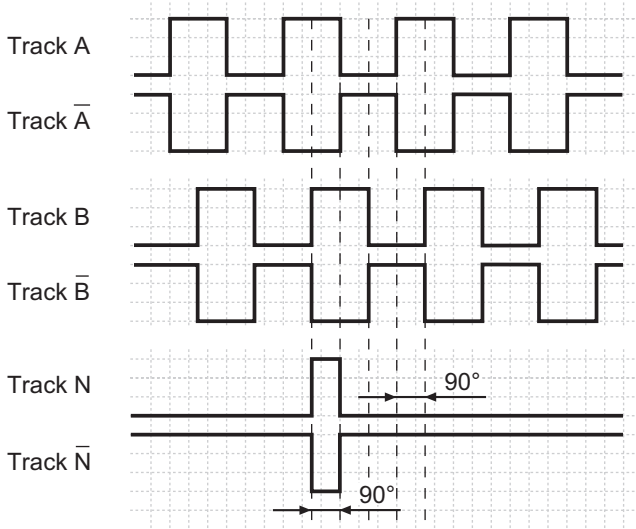
##### Output signals

Clockwise rotation when looking at the mounting side.

##### BI-Output signals

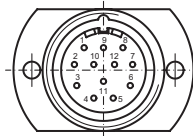


##### NI-Output signals



##### 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	-



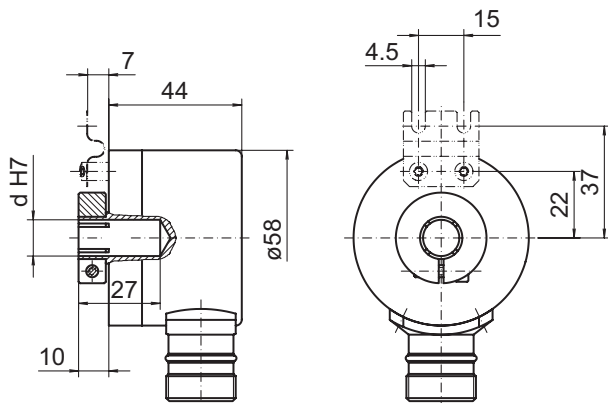
##### Trigger level

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



029- 1 Y22

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