

# Incremental encoders

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

### 50...1024 pulses per revolution

#### ITD 20 A 4 Y22



ITD 20 A 4 Y22 with blind hollow shaft

#### Features

- Encoder with blind hollow shaft  $\varnothing 10...14$  mm
- Max. 1024 pulses per revolution
- Optical sensing method
- Mounting by torque support
- TTL or HTL output signals
- Flange connector radial
- High protection

#### 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 stages	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)
Mounting kit	002
Protection DIN EN 60529	IP 65
Operating speed	$\leq 8000$ rpm $\leq 5000$ rpm IP 65 ( $> 70^\circ\text{C}$ )
Starting torque	$\leq 0.01$ 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 20 A 4 Y22       **D2SR12**     **IP65** **002**

Mounting kit  
002 Mounting 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 connector 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

50	90	200	360	600
60	100	250	400	1000
64	120	254	500	1024
88	128	256	512	

## Accessories

### Connectors and cables

11072792	Connector M23 - S2BG12, 1 m cable (incremental)
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Subject to modification in technic and design. Errors and omissions excepted.

# Incremental encoders

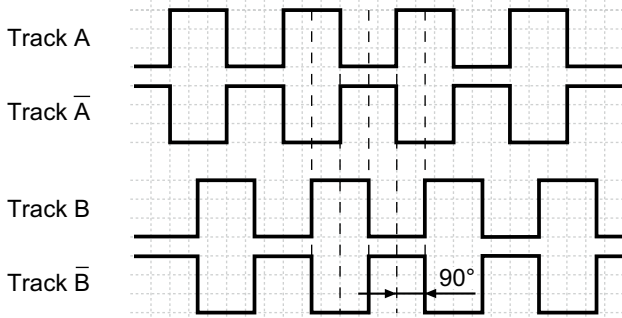
Blind hollow shaft  $\varnothing 10$  to  $\varnothing 14$  mm  
50...1024 pulses per revolution

## ITD 20 A 4 Y22

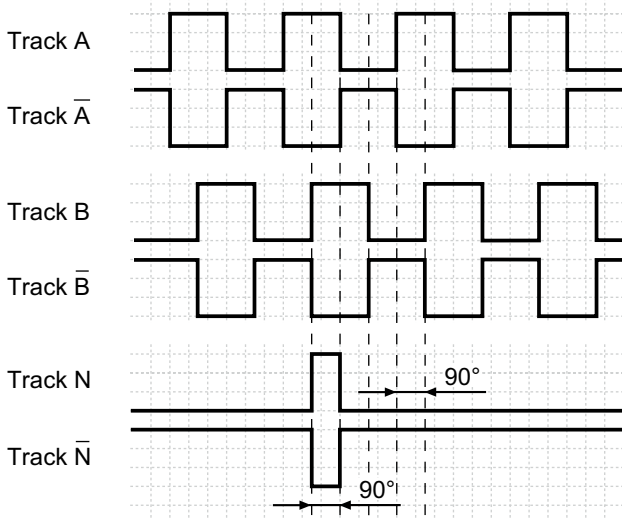
### Output signals

Clockwise rotation when looking at the mounting side.

#### BI-Output signals

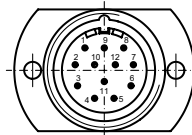


#### NI-Output signals



### 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

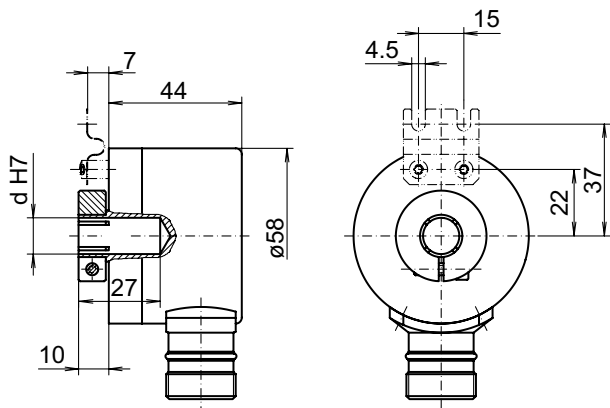
Outputs	Push-pull short-circuit proof
Output level High	$\geq UB - 3$ V
Output level Low	$\leq 1.5$ V
Load	$\leq 70$ mA

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## Dimensions



029- 1 Y22