

# Incremental encoders

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

### 200...2048 pulses per revolution

#### ITD 40 B10 Y 4



ITD 40 B10 Y 4 with EURO flange

#### Technical data - electrical ratings

|                             |   |
|-----------------------------|---|
| Voltage supply              | 5 VDC $\pm 5\%$<br>8...30 VDC   |
| Reverse polarity protection | Yes   |
| Consumption w/o load        | $\leq 100$ mA   |
| Pulses per revolution       | 200...2048  |
| 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)<br>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  $\varnothing 11$  mm
- Max. 2048 pulses per revolution
- Optical sensing method
- Centering alignment  $\varnothing 85$  mm, mounting screw hole circle  $\varnothing 100$  mm
- Industrial standard with centering flange
- Dual bearing
- TTL or HTL output signals
- Flange socket radial or axial

#### Optional

- Extended operating temperature range

#### Technical data - mechanical design

|                         |   |
|-------------------------|---|
| Size (flange)           | $\varnothing 82$ mm   |
| Shaft type              | $\varnothing 11$ mm solid shaft   |
| Shaft loading           | $\leq 60$ N axial<br>$\leq 100$ 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<br>Shaft: stainless steel  |
| Operating temperature   | -20...+70 °C<br>-20...+100 °C   |
| Relative humidity       | 90 % non-condensing   |
| Resistance              | DIN EN 60068-2-6<br>Vibration 10 g, 55-2000 Hz<br>DIN EN 60068-2-27<br>Shock 100 g, 11 ms |
| Connection              | Connector M23 type 2, 12-pin  |
| Weight approx.          | 950 g   |

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#### Part number

ITD 40 B10 Y 4             11 IP65

Protection  
IP65 IP 65

Flange / Solid shaft  
11 EURO flange B10 / ø11 mm

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

Connection  
D2SR12 Flange socket type 2, pin contacts, radial, 12-pin  
D2SA12 Flange socket type 2, pin contacts, axial, 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

|     |     |      |      |
|-----|-----|------|------|
| 200 | 500 | 720  | 1024 |
| 360 | 512 | 1000 | 2048 |

#### Accessories

##### Connectors and cables

|          |   |
|----------|---|
| 11072792 | Connector S2BG12, 1 m cable (incremental) |
|----------|---|

# Incremental encoders

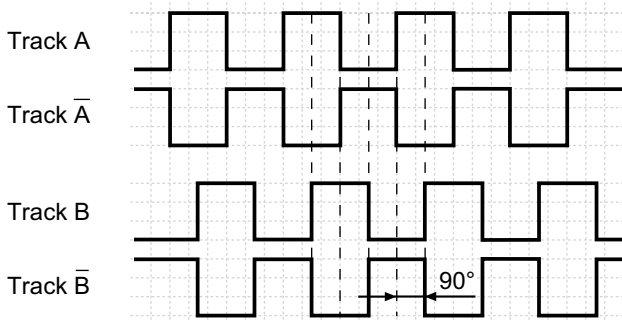
Solid shaft  $\varnothing 11$  mm with EURO flange  
200...2048 pulses per revolution

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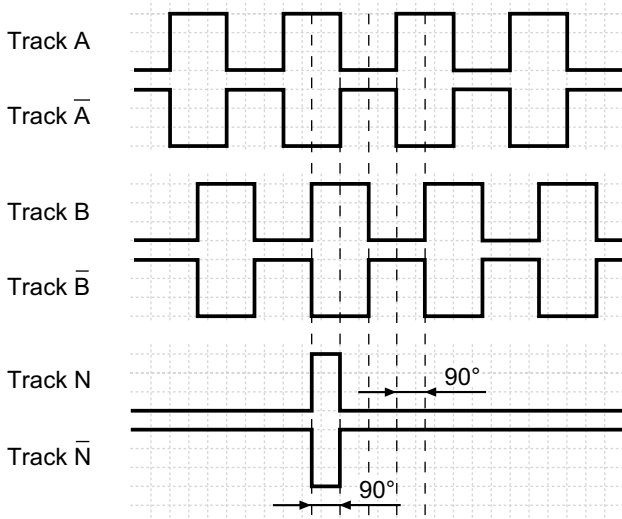
### Output signals

Clockwise rotation when looking at the mounting side.

#### BI-Output signals

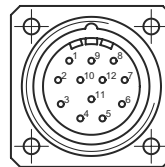


#### NI-Output signals



### 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

