# Incremental encoders

## Blind hollow shaft ø10 to ø14 mm

## 2…60 pulses per revolution

## ITD 2 A 4 Y36

ITD 2 A 4 Y36 with blind hollow shaft

### Features

- **Encoder with blind hollow shaft ø10...14 mm**
- **Max. 60 pulses per revolution**
- **Optical sensing**
- **Mounting by torque support**
- **TTL or HTL output signals**
- **Cable output radial**

### Optional

- **Cable with connector**

### Technical data - electrical ratings

| | |
|---|---|
| Voltage supply | 5 VDC ±5 %<br>8...30 VDC |
| Reverse polarity protection | Yes |
| Consumption w/o load | ≤100 mA |
| Pulses per revolution | 2...60 |
| Reference signal | Zero pulse, width 90° |
| Sensing method | Optical |
| Output frequency | ≤120 kHz |
| Output signals | A, B, N + inverted |
| Output stage | 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 |

### Technical data - mechanical design

| | |
|---|---|
| Size (flange) | ø58 mm |
| Shaft type | ø10 mm (blind hollow shaft)<br>ø12 mm (blind hollow shaft)<br>ø14 mm (blind hollow shaft) |
| Motor shaft tolerance | 0.25 mm axial<br>0.1 mm radial |
| Mounting kit | 006 |
| Protection DIN EN 60529 | IP 65 |
| Operating speed | ≤8000 rpm |
| Starting torque | ≤0.01 Nm (+20 °C) |
| Materials | Housing: aluminium, black, powder-coated<br>Shaft: stainless steel |
| Operating temperature | -20...+70 °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 | Cable 1 m |
| Weight approx. | 280 g |

## ITD 2 A 4 Y36

### Part number

| ITD 2 A 4 Y36 | | | | KR1 | S | | IP65 | 006 |
|---|---|---|---|---|---|---|---|---|

Mounting kit
006 Mounting accessory kit 006

Protection
IP65 IP 65

Blind hollow shaft
10 ø10 mm
12 ø12 mm
14 ø14 mm

Operating temperature
S -20...+70 °C

Connection
KR1 Cable 1 m, radial

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 |

# Incremental encoders

## Blind hollow shaft ø10 to ø14 mm

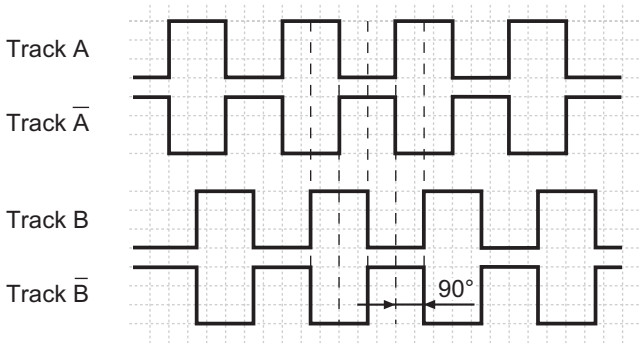
## 2…60 pulses per revolution

## ITD 2 A 4 Y36

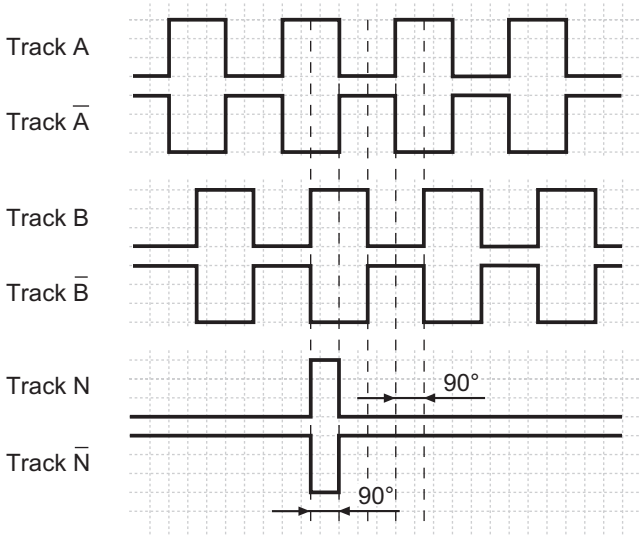
### Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals




NI-Output signals




### Terminal assignment

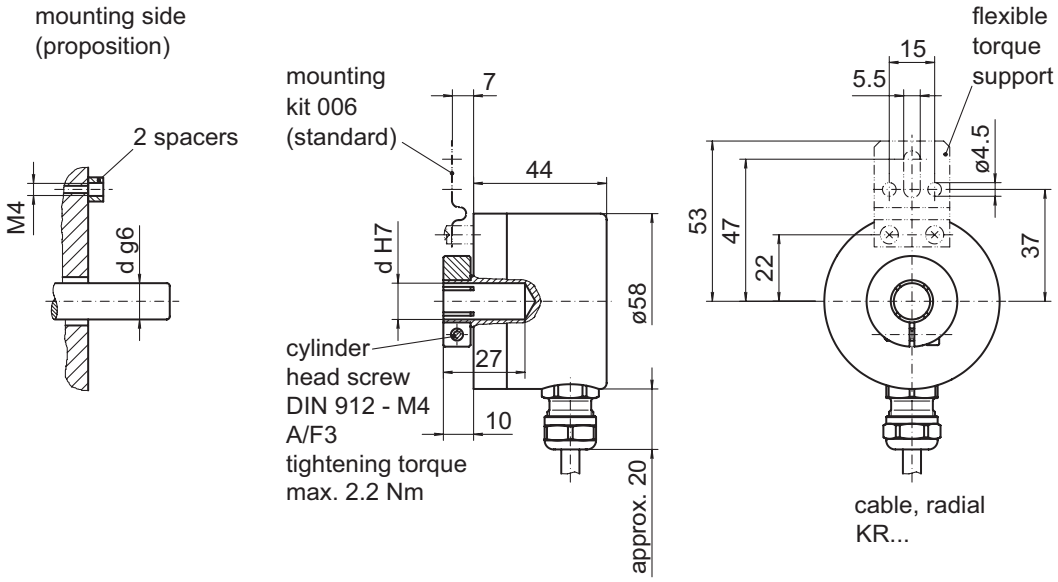
| Core colour | Assignment |
|---|---|
| green | Track A |
| brown | Track A inv. |
| grey | Track B |
| black | Track B inv. |
| pink | Track N |
| white | Track N inv. |
| red | UB |
| blue | GND |
| yellow | UB-Sense |
| violet | GND-Sense |
| transparent | Shield/Housing |

### 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 | ≥UB -3 V |
| Output level Low | ≤1.5 V |
| Load | ≤70 mA |

### Dimensions




029- 1 Y36

**ITD 2 A 4 Y36**