

# Incremental encoders

## Shaft $\varnothing 6$ mm with synchro flange

### Resolution 50...1024 pulses

#### ITD 20 B14



ITD 20 B14 with synchro 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   |
| Resolution (steps/turn)     | 50...1024   |
| Reference signal            | Zero pulse, width $90^\circ$  |
| Sensing method              | Optical   |
| Output frequency            | $\leq 120$ kHz  |
| Output signals              | A, B, N + inverted  |
| Output circuit              | TTL linedriver (short-circuit proof)<br>HTL push-pull (short-circuit proof) |
| Interference immunity       | DIN EN 61000-6-2  |
| Emitted interference        | DIN EN 55011  |

#### Features

- Encoder with shaft  $\varnothing 6$  mm
- Resolution max. 1024 ppr
- Optical sensing
- Centering alignment  $\varnothing 50$  mm, mounting screw hole circle  $\varnothing 68$  mm
- Industrial standard
- TTL or HTL output signals
- Cable output radial or axial

#### Optional

- Cable with connector
- Extended operating temperature range

#### Technical data - mechanical design

|                         |   |
|-------------------------|---|
| Dimensions (flange)     | $\varnothing 58$ mm   |
| Shaft                   | $\varnothing 6$ mm  |
| Shaft loading           | $\leq 20$ N axial<br>$\leq 40$ N radial   |
| Flange                  | Synchro flange  |
| Protection DIN EN 60529 | IP 65   |
| Operating speed         | $\leq 12000$ rpm  |
| Starting torque         | $\leq 0.01$ Nm  |
| Materials               | Housing: aluminium, black, powder-coated<br>Shaft: stainless steel                        |
| Operating temperature   | $-20 \dots +70$ °C<br>$-20 \dots +100$ °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              | Cable 1 m   |
| Weight approx.          | 310 g   |

# Incremental encoders

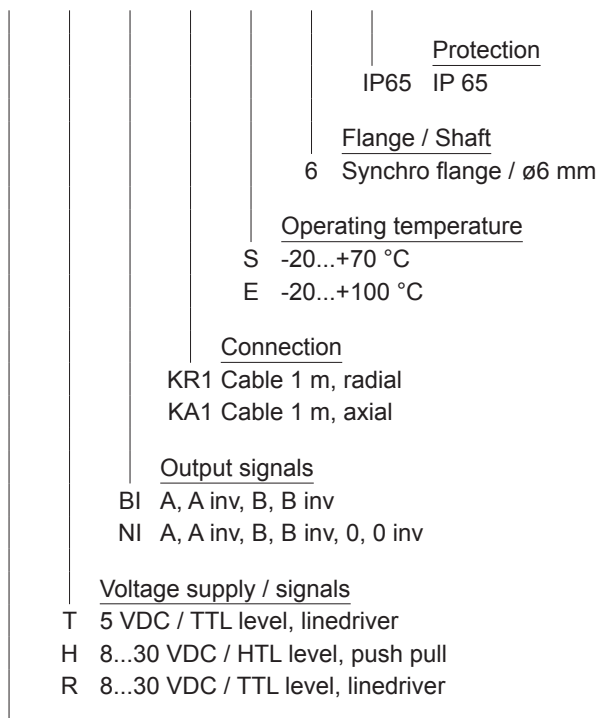
Shaft  $\varnothing 6$  mm with synchro flange  
Resolution 50...1024 pulses

ITD 20 B14

## Part number

ITD 20 B14 

|  |  |  |  |  |   |      |
|--|--|--|--|--|---|------|
|  |  |  |  |  | 6 | IP65 |
|--|--|--|--|--|---|------|



See part number (pulses)

## Part number (pulses)

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

## Accessories

### Mounting accessories

11065545 Set of eccentric fixings type A

# Incremental encoders

## Shaft $\varnothing 6$ mm with synchro flange

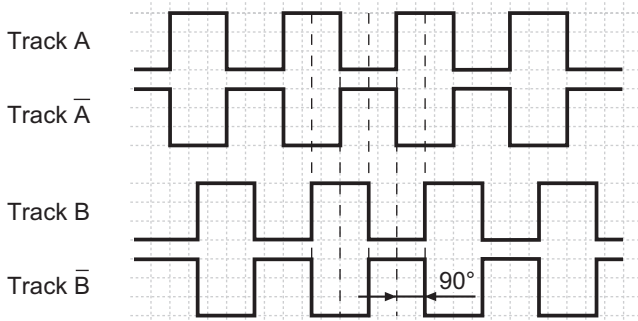
### Resolution 50...1024 pulses

#### ITD 20 B14

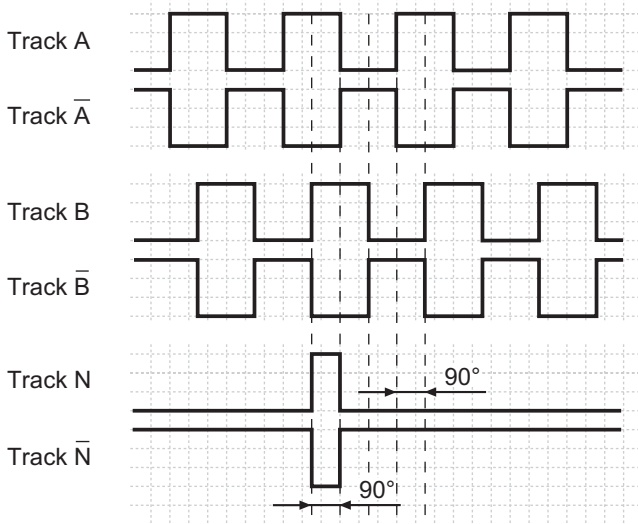
##### Output signals

Clockwise rotation when looking at the mounting side.

##### BI-Output signals



##### NI-Output signals



##### Terminal assignment

| Core colour               | Assignment     |
|---------------------------|----------------|
| brown                     | Track A        |
| green                     | Track A inv.   |
| grey                      | Track B        |
| pink                      | Track B inv.   |
| red                       | Track N        |
| black                     | Track N inv.   |
| brown 0,5 mm <sup>2</sup> | UB             |
| white 0,5 mm <sup>2</sup> | GND            |
| blue                      | UB-Sense       |
| white                     | GND-Sense      |
| transparent               | Shield/Housing |

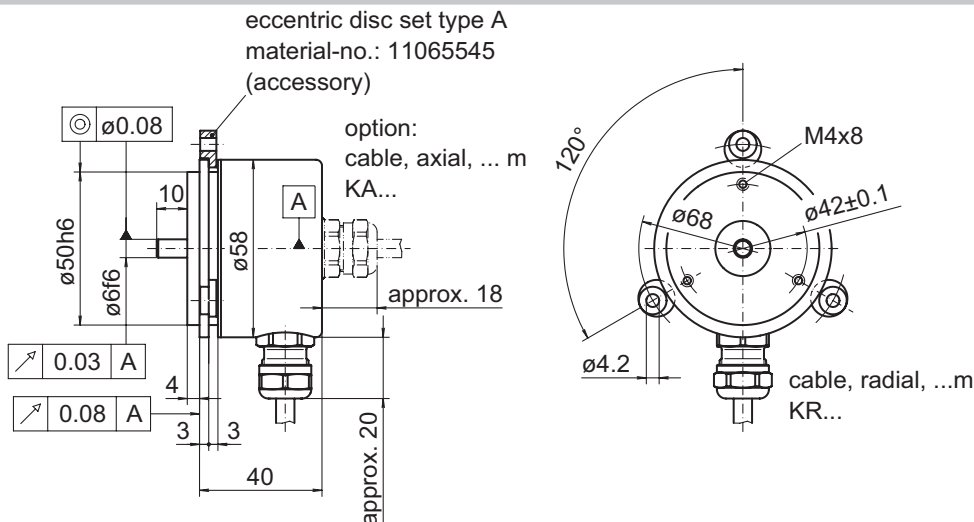
##### Trigger level

| 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



027-4

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