

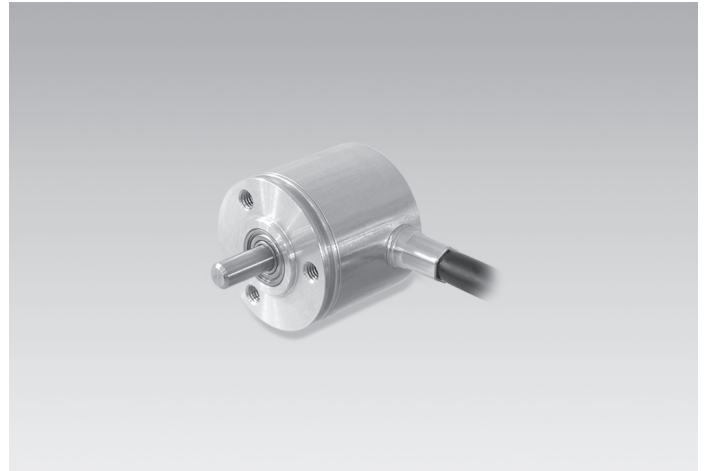
## ITD 01 B14

Mini encoder with shaft  $\varnothing 4$  mm

30...1024 pulses per revolution

### Overview

- Mini encoder with solid shaft  $\varnothing 4$  mm
- Max. 1024 pulses per revolution
- Optical sensing method
- Outer diameter  $\varnothing 24$  mm
- TTL or HTL output signals
- Cable output radial or axial



### Technical data

#### Technical data - electrical ratings

|                             |                                      |
|-----------------------------|--------------------------------------|
| Voltage supply              | 5 VDC $\pm 5$ %<br>8...30 VDC        |
| Reverse polarity protection | Yes                                  |
| Consumption w/o load        | $\leq 25$ mA                         |
| Pulses per revolution       | 30 ... 1024                          |
| Reference signal            | Zero pulse, width 90°                |
| Sensing method              | Optical                              |
| Output frequency            | $\leq 100$ kHz                       |
| Output signals              | A 90° B, N + inverted                |
| Output stages               | TTL<br>Push-pull short-circuit proof |

#### Technical data - mechanical design

|               |                                |
|---------------|--------------------------------|
| Size (flange) | $\varnothing 24$ mm            |
| Shaft type    | $\varnothing 4$ mm solid shaft |

#### Technical data - mechanical design

|                         |  |
|-------------------------|--|
| Admitted shaft load     | $\leq 5$ N axial<br>$\leq 8$ N radial  |
| Flange                  | Synchro flange   |
| Protection DIN EN 60529 | IP 54  |
| Operating speed         | $\leq 18000$ rpm   |
| Starting torque         | $\leq 0,006$ Nm (+20 °C)   |
| Material                | Housing: aluminium<br>Shaft: stainless steel                                       |
| Operating temperature   | -20...+85 °C   |
| Relative humidity       | 90 % non-condensing  |
| Resistance              | DIN EN 60068-2-6 Vibration 10 g, 55-2000 Hz<br>DIN EN 60068-2-27 Shock 30 g, 11 ms |
| Connection              | Cable 1 m  |
| Weight approx.          | 50 g   |

### Optional

- Cable with connector

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### Terminal assignment

#### With BX-/NX-signals

| Core colour | Assignment     |
|-------------|----------------|
| green       | Track A        |
| yellow      | Track B        |
| grey        | Track N        |
| brown       | UB             |
| white       | GND            |
| transparent | Shield/Housing |

#### With BI-/NI-signals

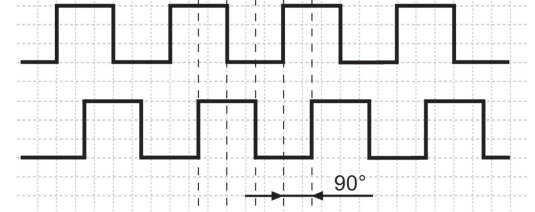
| Core colour | Assignment     |
|-------------|----------------|
| green       | Track A        |
| yellow      | Track A inv.   |
| grey        | Track B        |
| pink        | Track B inv.   |
| brown       | Track N        |
| white       | Track N inv.   |
| red         | UB             |
| blue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

### Output signals

Clockwise rotation when looking at the mounting side.

#### BX-Output signals

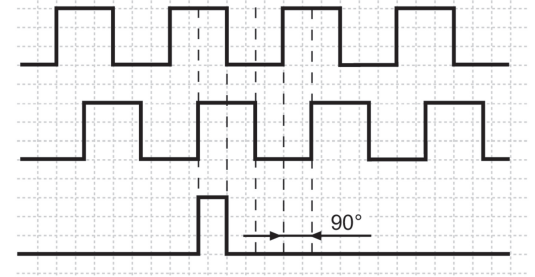
Track A



Track B

#### NX-Output signals

Track A

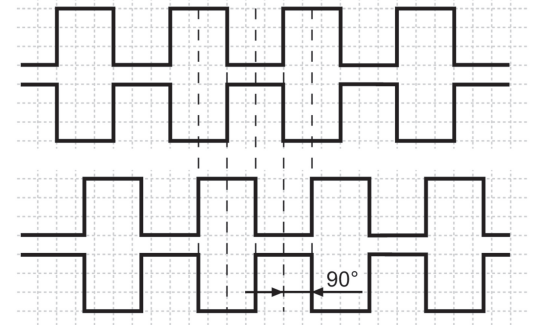


Track B

Track N

#### BI-Output signals

Track A



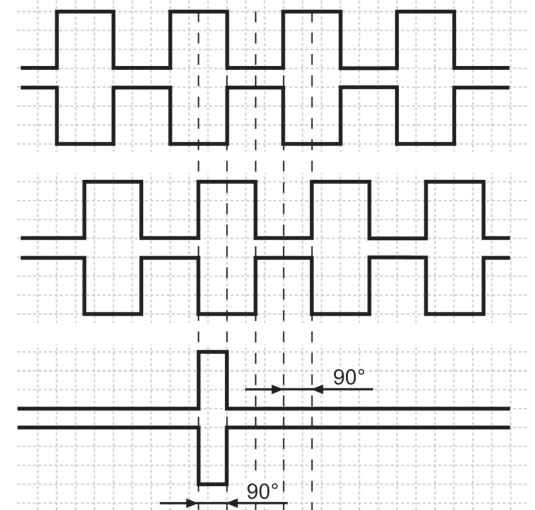
Track Ā

Track B

Track B̄

#### NI-Output signals

Track A



Track Ā

Track B

Track B̄

Track N

Track N̄

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**Trigger level**

| <b>Outputs</b>    | <b>Linedriver</b> |
|-------------------|-------------------|
| Output level High | $\geq 2.4$ V      |
| Output level Low  | $\leq 0.5$ V      |
| Load              | $\leq 30$ mA      |

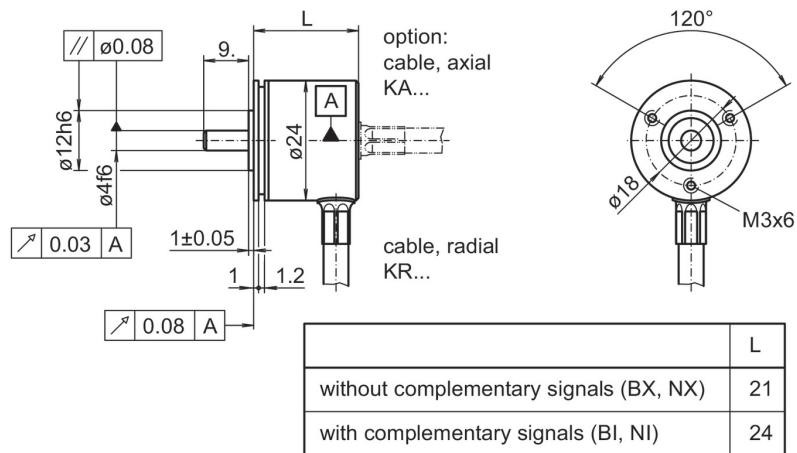
| <b>Outputs</b>    | <b>Push-pull short-circuit proof</b> |
|-------------------|--------------------------------------|
| Output level High | $\geq U_B - 3$ V                     |
| Output level Low  | $\leq 1.5$ V                         |
| Load              | $\leq 30$ mA                         |

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30...1024 pulses per revolution

## Dimensions



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Mini encoder with shaft ø4 mm

30...1024 pulses per revolution

### Ordering reference

|                                   |  | ITD 01 B14 | ##### | # | #### | ##### | S | 4 | IP54 |
|-----------------------------------|--|------------|-------|---|------|-------|---|---|------|
| <b>Product</b>                    |  | ITD 01 B14 |       |   |      |       |   |   |      |
|                                   |  | ITD 01 B14 |       |   |      |       |   |   |      |
| <b>Pulse number</b>               |  |            |       |   |      |       |   |   |      |
| 30                                |  |            | 30    |   |      |       |   |   |      |
| 60                                |  |            | 60    |   |      |       |   |   |      |
| 100                               |  |            | 100   |   |      |       |   |   |      |
| 300                               |  |            | 300   |   |      |       |   |   |      |
| 360                               |  |            | 360   |   |      |       |   |   |      |
| 500                               |  |            | 500   |   |      |       |   |   |      |
| 600                               |  |            | 600   |   |      |       |   |   |      |
| 1000                              |  |            | 1000  |   |      |       |   |   |      |
| 1024                              |  |            | 1024  |   |      |       |   |   |      |
| <b>Voltage supply / signals</b>   |  |            |       |   |      |       |   |   |      |
| 5 VDC / TTL level, linedriver     |  |            |       | T |      |       |   |   |      |
| 8...30 VDC / HTL level, push-pull |  |            |       | H |      |       |   |   |      |
| <b>Output signals</b>             |  |            |       |   |      |       |   |   |      |
| A, B                              |  |            |       |   | BX   |       |   |   |      |
| A, B, N                           |  |            |       |   | NX   |       |   |   |      |
| A, A inv, B, B inv                |  |            |       |   | BI   |       |   |   |      |
| A, A inv, B, B inv, N, N inv      |  |            |       |   | NI   |       |   |   |      |
| <b>Connection</b>                 |  |            |       |   |      |       |   |   |      |
| Cable 1 m, radial                 |  |            |       |   |      | KR1   |   |   |      |
| Cable 1 m, axial                  |  |            |       |   |      | KA1   |   |   |      |
| <b>Operating temperature</b>      |  |            |       |   |      |       |   |   |      |
| -20...+85 °C                      |  |            |       |   |      |       | S |   |      |
| <b>Flange / Solid shaft</b>       |  |            |       |   |      |       |   |   |      |
| Synchro flange / ø4 mm            |  |            |       |   |      |       |   | 4 |      |
| <b>Protection</b>                 |  |            |       |   |      |       |   |   |      |
| IP 54                             |  |            |       |   |      |       |   |   | IP54 |