

Incremental encoders

Hollow shaft $\varnothing 20$ mm, $\varnothing 25$ mm

Resolution 200...2048 pulses

ITD 40 A 4 Y100



ITD 40 A 4 Y100 with hollow shaft

Features

- Encoder with electric isolated hollow shaft $\varnothing 20$ mm, $\varnothing 25$ mm
- Resolution max. 2048 ppr
- Optical sensing
- Mounting by electrically isolated torque support
- TTL or HTL output signals
- Cable output radial

Optional

- Cable with connector
- Extended operating temperature range

Technical data - electrical ratings

| | |
|-----------------------------|-----------------------------------------------------------------------------|
| Voltage supply | 5 VDC ± 5 % 8...30 VDC |
| Reverse polarity protection | Yes |
| Consumption w/o load | ≤ 100 mA |
| Resolution (steps/turn) | 200...2048 |
| Reference signal | Zero pulse, width 90° |
| Sensing method | Optical |
| Output frequency | ≤ 120 kHz |
| Output signals | A, B, N + inverted |
| Output circuit | TTL linedriver (short-circuit proof) HTL push-pull (short-circuit proof) |
| Interference immunity | DIN EN 61000-6-2 |
| Emitted interference | DIN EN 55011 |

Technical data - mechanical design

| | |
|-------------------------|-------------------------------------------------------------------------------------------|
| Dimensions (flange) | $\varnothing 80$ mm |
| Shaft | $\varnothing 20$ mm hollow shaft $\varnothing 25$ mm hollow shaft |
| Motor shaft tolerance | 0.25 mm axial 0.05 mm radial |
| Mounting kit variant | 059 |
| Protection DIN EN 60529 | IP 65 |
| Operating speed | ≤ 5000 rpm ≤ 3000 rpm IP 65 ($>70^\circ\text{C}$) |
| Starting torque | ≤ 0.02 Nm |
| 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 | Cable 1 m |
| Weight approx. | 900 g |

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Part number

ITD 40 A 4 Y100

| | | | | | | |
|--|--|--|-----|--|--|-----|
| | | | KR1 | | | 059 |
|--|--|--|-----|--|--|-----|

Mounting kit
059 Mounting accessory kit 059

Protection

IP54 IP 54
IP65 IP 65

Hollow shaft

20 Hollow shaft $\varnothing 20$ mm
25 Hollow shaft $\varnothing 25$ mm

Operating temperature

S -20...+70 °C
E -20...+100 °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

See part number (pulses)

Part number (pulses)

| | | | | |
|-----|-----|------|------|------|
| 200 | 500 | 720 | 1024 | 2048 |
| 360 | 512 | 1000 | 2000 | |

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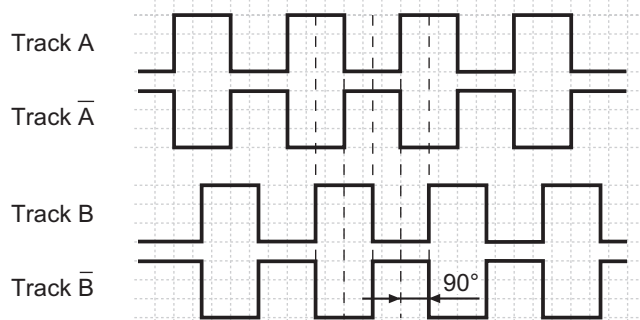
Resolution 200...2048 pulses

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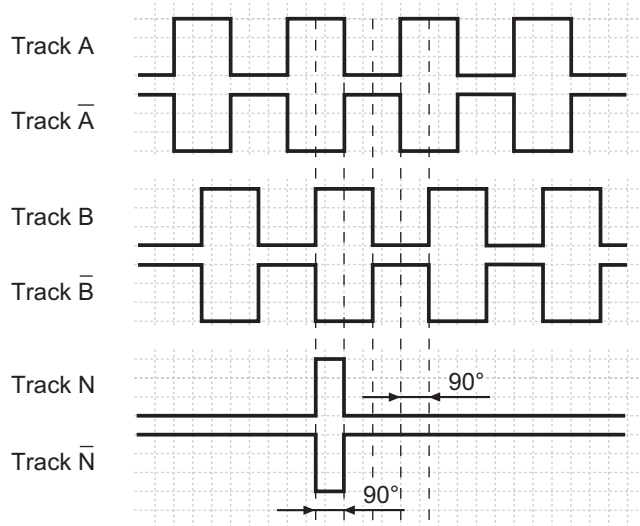
Output signals

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 ² | UB |
| white 0,5 mm ² | GND |
| blue | UB-Sense |
| white | 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 | $\geq UB - 3$ V |
| Output level Low | ≤ 1.5 V |
| Load | ≤ 70 mA |

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Dimensions

