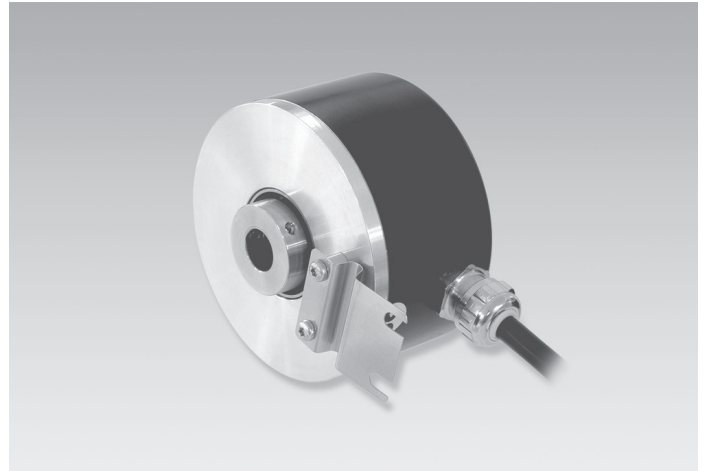


### Overview

- Encoder with blind hollow shaft  $\varnothing 10$ ...16 mm
- Max. 2048 pulses per revolution
- Optical sensing method
- Mounting by torque support
- TTL or HTL output signals
- Cable output radial or axial



### Technical data

#### Technical data - electrical ratings

Voltage supply	5 VDC $\pm 5\%$ 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) 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)	$\varnothing 80$ mm
Shaft type	$\varnothing 10$ ...16 mm (blind hollow shaft)

### Optional

- Cable with connector
- Extended operating temperature range

#### Technical data - mechanical design

Mounting kit	050
Protection DIN EN 60529	IP 65
Operating speed	$\leq 8000$ rpm $\leq 5000$ rpm IP 65 ( $> 70^\circ\text{C}$ )
Starting torque	$\leq 0,01$ Nm ( $+20^\circ\text{C}$ )
Material	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.	550 g

## ITD 40 A 4

Blind hollow shaft  $\varnothing 10$  to  $\varnothing 16$  mm  
200...2048 pulses per revolution

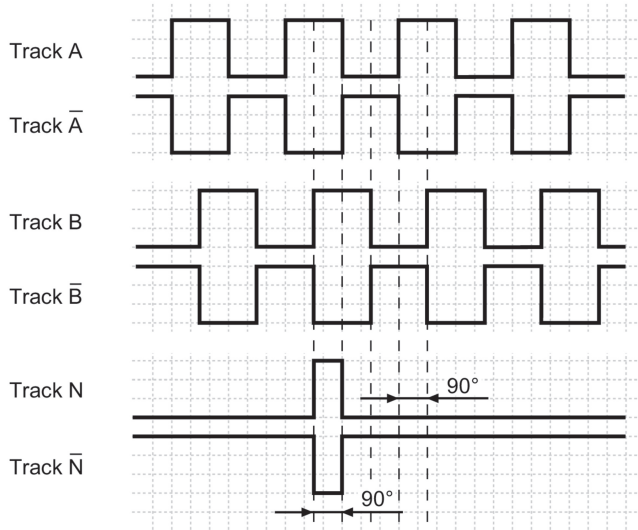
### Terminal assignment

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

### Output signals

Clockwise rotation when looking at the mounting side.

NI-Output signals



### Trigger level

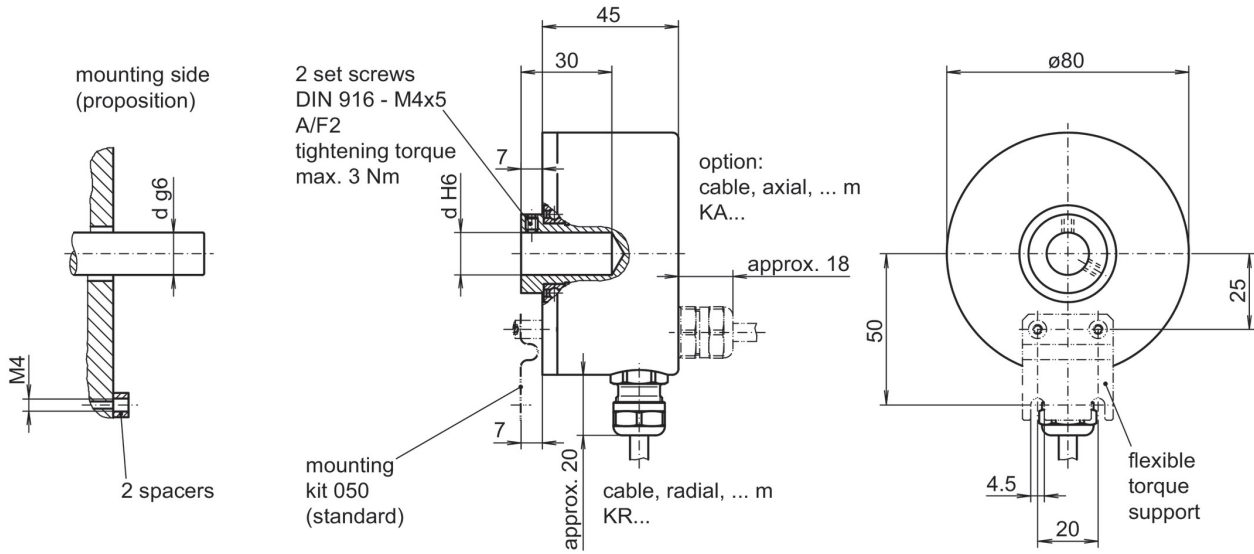
Outputs	Linedriver
Output level High	$\geq 2.4$ V
Output level Low	$\leq 0.5$ V
Load	$\leq 70$ mA

Outputs	Push-pull short-circuit proof
Output level High	$\geq UB - 3$ V
Output level Low	$\leq 1.5$ V
Load	$\leq 70$ mA

# ITD 40 A 4

Blind hollow shaft  $\varnothing 10$  to  $\varnothing 16$  mm  
200...2048 pulses per revolution

## Dimensions



## ITD 40 A 4

 Blind hollow shaft  $\varnothing 10$  to  $\varnothing 16$  mm

200...2048 pulses per revolution

**Ordering reference**

	ITD 40 A 4	#####	#	NI	#####	#	##	###	###	050
<b>Product</b>	ITD 40 A 4									
	ITD 40 A 4									
<b>Pulse number</b>										
200		200								
360		360								
500		500								
512		512								
720		720								
1000		1000								
1024		1024								
2048		2048								
<b>Voltage supply / signals</b>										
5 VDC / TTL level, linedriver				T						
8...30 VDC / HTL level, push-pull				H						
8...30 VDC / TTL level, linedriver				R						
<b>Output signals</b>										
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...+70 °C									S	
-20...+100 °C									E	
<b>Blind hollow shaft</b>										
$\varnothing 10$ mm										10
$\varnothing 11$ mm										11
$\varnothing 12$ mm										12
$\varnothing 14$ mm										14
$\varnothing 15$ mm										15
$\varnothing 16$ mm										16
<b>Protection</b>										
IP 54										IP54
IP 65										IP65
<b>Mounting kit</b>										
Mounting kit 050										050

Other diameters on request.

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