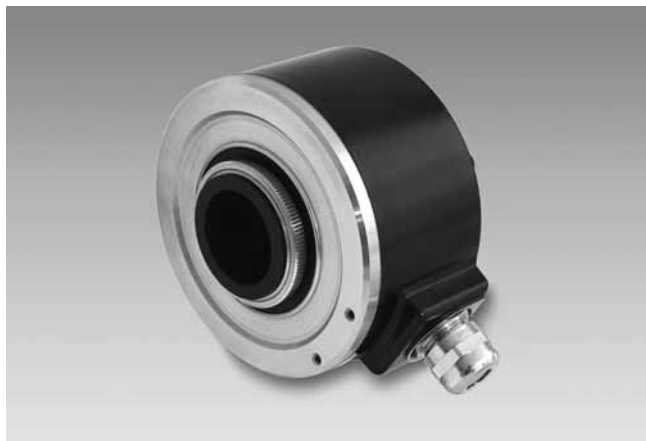


Incremental encoders

Through hollow shaft $\varnothing 20$ mm, $\varnothing 25$ mm

2000...10000 pulses per revolution

ITD 41 A 4 Y100



ITD 41 A 4 Y100 with through hollow shaft

Technical data - electrical ratings

Voltage supply	5 VDC ± 5 % 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤ 100 mA
Pulses per revolution	2000...10000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 300 kHz (TTL) ≤ 160 kHz (HTL)
Output signals	A, B, N + inverted
Output stage	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

Features

- Robust encoder with isolated through hollow shaft $\varnothing 20$ mm, $\varnothing 25$ mm
- Bolted bearing for maximum reliability
- Max. 10000 pulses per revolution
- Optical sensing
- Electrically isolated mounting
- Wide temperature range from $-40...+100$ °C

Optional

- Cable with connector

Technical data - mechanical design

Size (flange)	$\varnothing 80$ mm
Shaft type	$\varnothing 20$ mm (through hollow shaft) $\varnothing 25$ mm (through hollow shaft)
Motor shaft tolerance	0.25 mm axial 0.05 mm radial
Mounting kit	059 097
Protection DIN EN 60529	IP 65
Operating speed	≤ 5000 rpm ≤ 3000 rpm IP 65 (>70 °C)
Starting torque	≤ 0.02 Nm ($+20$ °C)
Materials	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	$-20...+70$ °C $-30...+100$ °C $-40...+100$ °C (only with mounting kit 97)
Relative humidity	90 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 10 g, 55-2000 Hz DIN EN 60068-2-27 Shock 30 g, 11 ms
Connection	Cable 1 m
Weight approx.	900 g

Incremental encoders

Through hollow shaft $\varnothing 20$ mm, $\varnothing 25$ mm
2000...10000 pulses per revolution

ITD 41 A 4 Y100

Part number

ITD 41 A 4 Y100

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NI KR1

Mounting kit

059 Mounting accessory kit 059
097 Mounting accessory kit 097

Protection

IP54 IP 54
IP65 IP 65

Through hollow shaft

20 $\varnothing 20$ mm
25 $\varnothing 25$ mm

Operating temperature

S -20...+70 °C
L -30...+100 °C
E -40...+100 °C (only with mounting kit 97)

Connection

KR1 Cable 1 m, radial

Output signals

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

2000	2500	3600	5000
2048	3072	4096	10000

Incremental encoders

Through hollow shaft $\varnothing 20$ mm, $\varnothing 25$ mm

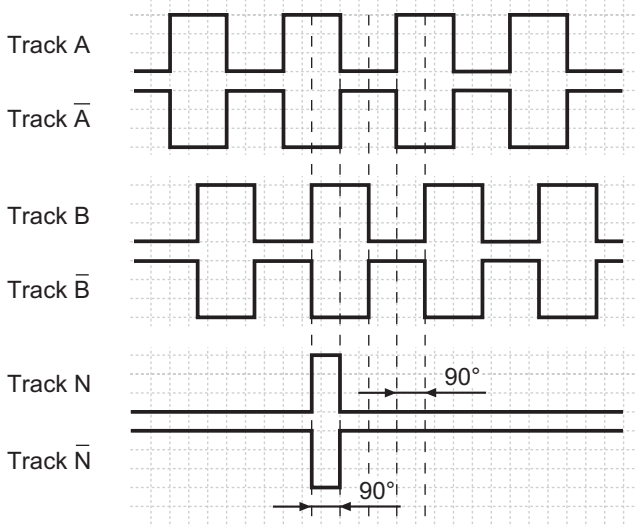
2000...10000 pulses per revolution

ITD 41 A 4 Y100

Output signals

Clockwise rotation when looking at the mounting side.

NI-Output signals



Terminal assignment

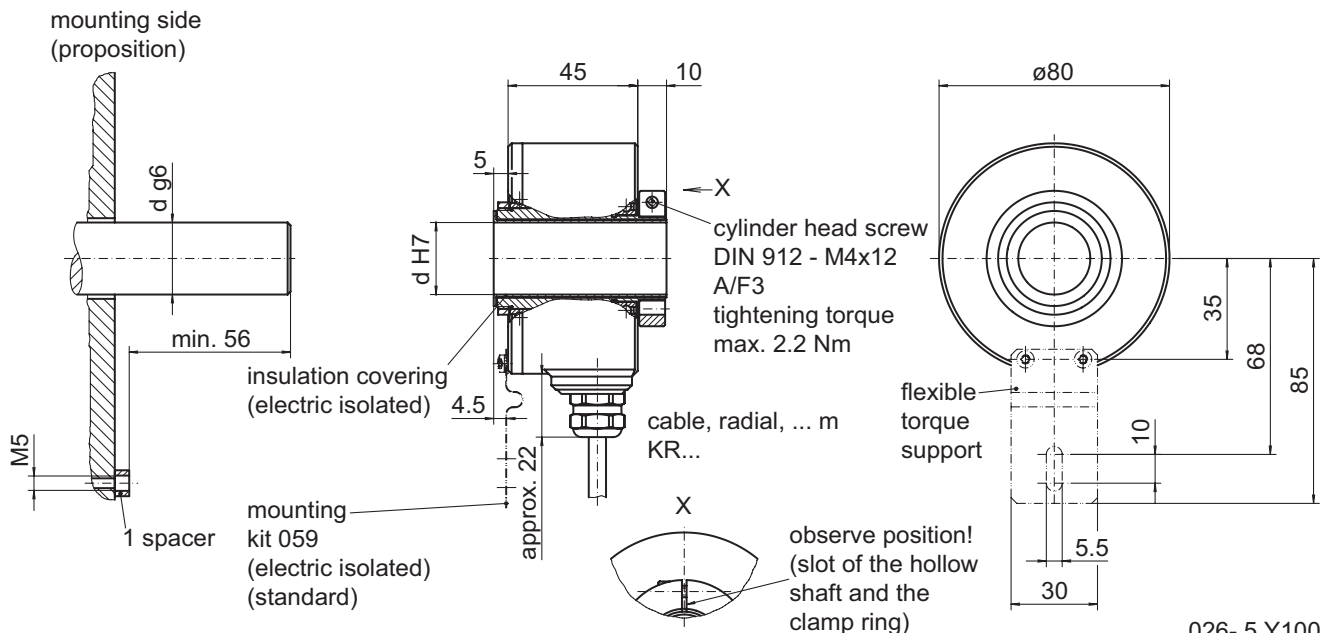
Core colour	Assignment
brown	Track A
green	Track A inv.
grey	Track B
pink	Track B inv.
red	Track N
black	Track N inv.
brown 0,5 mm ²	UB
white 0,5 mm ²	GND
blue	UB-Sense
white	GND-Sense
transparent	Shield/Housing

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

ITD 41 A 4 Y100 with mounting kit 59



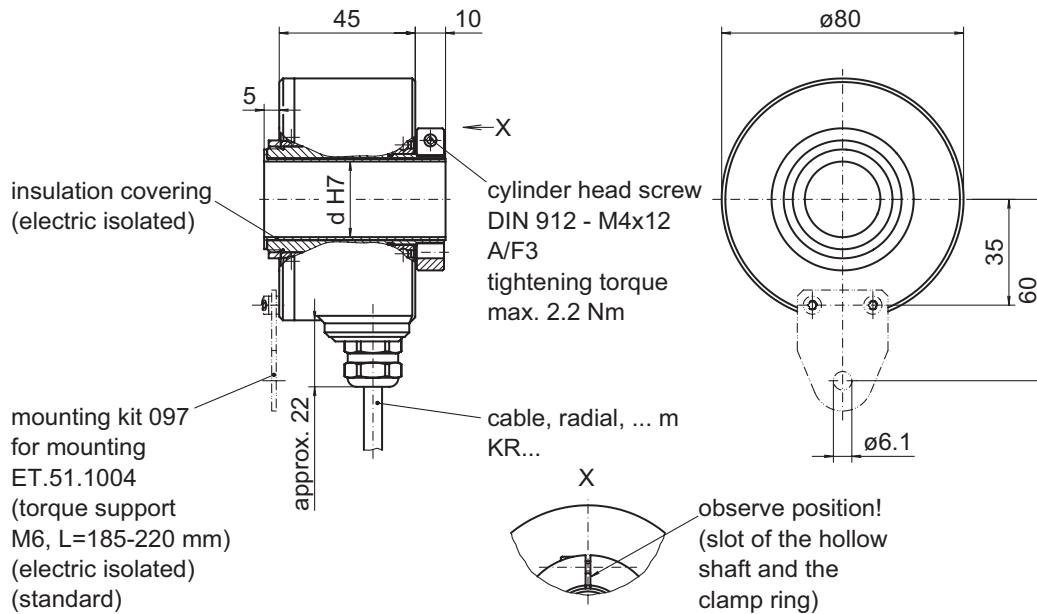
Incremental encoders

Through hollow shaft $\varnothing 20$ mm, $\varnothing 25$ mm
2000...10000 pulses per revolution

ITD 41 A 4 Y100

Dimensions

ITD 41 A 4 Y100 with mounting kit 97



ITD 41 A 4 Y100 with mounting kit 97 and torque support size M6 (optional accessories)

