

Incremental encoders

Hollow shaft $\varnothing 17$ to $\varnothing 27$ mm

Resolution 2000...10000 pulses

ITD 41 A 4 Y120



ITD 41 A 4 Y120 with hollow shaft

Technical data - electrical ratings

Voltage supply	5 VDC $\pm 5\%$ 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤ 100 mA
Resolution (steps/turn)	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 circuit	TTL linedriver (short-circuit proof) HTL push-pull (short-circuit proof)
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 55011
Approval	UL/cULus

Features

- Encoder with hollow shaft $\varnothing 17$ -27 mm
- Resolution max. 10000 ppr
- Optical sensing
- Through-hollow shaft
- Mounting by torque support
- TTL or HTL output signals
- Cable output radial

Optional

- Cable with connector

Technical data - mechanical design

Dimensions (flange)	$\varnothing 80$ mm
Shaft	$\varnothing 17$...27 mm hollow shaft
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Mounting kit variant	079
Protection DIN EN 60529	IP 65
Operating speed	≤ 3500 rpm
Starting torque	≤ 0.015 Nm
Materials	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	-20 ... $+70$ °C
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.	580 g

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Part number

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		NI	KR1	S		IP65	079	cULus
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Approval

cULus UL approval

Mounting kit

079 Mounting accessory kit 079

Protection

IP65 IP 65

Hollow shaft

17 Hollow shaft $\varnothing 17$ mm

18 Hollow shaft $\varnothing 18$ mm

... ..

27 Hollow shaft $\varnothing 27$ mm

Operating temperature

S -20...+70 °C

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

See part number (pulses)

Part number (pulses)

2000	2500	3600	5000
2048	3072	4096	10000

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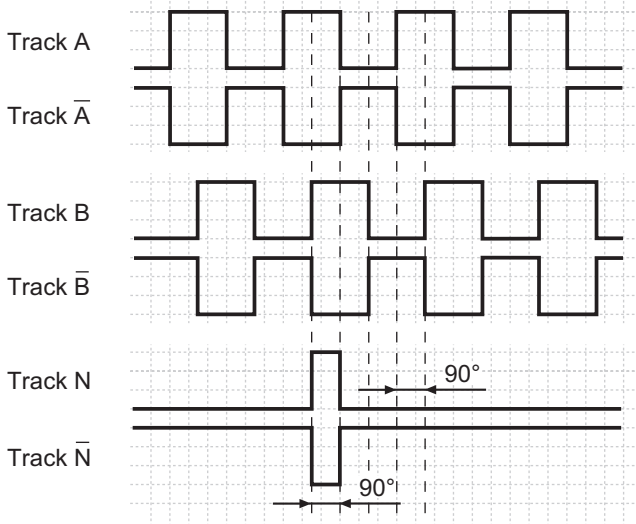
Resolution 2000...10000 pulses

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Output signals

Clockwise rotation when looking at the mounting side.

NI-Output signals



Terminal assignment

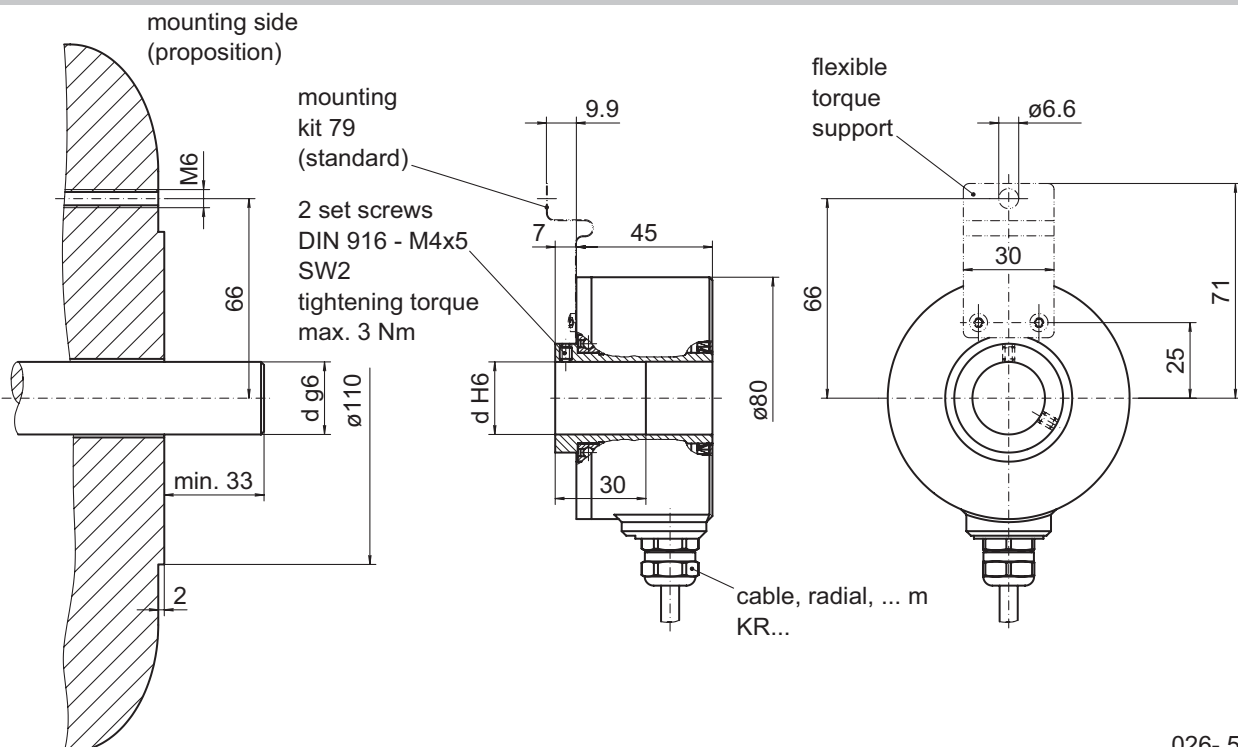
Core colour	Assignment
green	Track A
yellow	Track A inv.
grey	Track B
pink	Track B inv.
brown	Track N
white	Track N inv.
rot	UB
blue	GND
violet	UB-Sense
black	GND-Sense
transparent	Shield/Housing

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

Dimensions



026- 5 Y120

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