

# Sine encoders

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

1024, 2048 sinewave cycles per turn

## ITD 42 A 4



ITD 42 A 4 with blind hollow shaft

### Technical data - electrical ratings

Voltage supply	5 VDC $\pm 10$ % 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	$\leq 90$ mA
Sinewave cycles per turn	1024...2048
Sensing method	Optical
Output frequency	$\leq 180$ kHz (-3 dB)
Output signals	A, B, 0
Output stage	SinCos 1 Vpp

### Features

- Encoder with blind hollow shaft  $\varnothing 10...16$  mm
- Max. 2048 sinewaves cycles per turn
- Sine output signals 1 Vpp
- Mounting by torque support
- Cable output radial

### Optional

- Cable with connector

### Technical data - mechanical design

Size (flange)	$\varnothing 80$ mm
Shaft type	$\varnothing 10...16$ mm (blind hollow shaft)
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Mounting kit	050
Protection DIN EN 60529	IP 65
Operating speed	$\leq 8000$ rpm
Starting torque	$\leq 0.01$ Nm (+20 °C)
Materials	Housing: aluminium, black, powder-coated 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 DIN EN 60068-2-27 Shock 30 g, 11 ms
Connection	Cable 1 m
Weight approx.	550 g

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## Part number

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		NI		S		IP65	050
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Mounting kit

050 Mounting accessory kit 050

Protection

IP65 IP 65

Blind hollow shaft

10  $\varnothing 10$  mm

11  $\varnothing 11$  mm

12  $\varnothing 12$  mm

12.7  $\varnothing 12.7$  mm

14  $\varnothing 14$  mm

15  $\varnothing 15$  mm

16  $\varnothing 16$  mm

Operating temperature

S -20...+85 °C

Connection

KR1 Cable 1 m, radial

KA1 Cable 1 m, axial

Output signals

NI A+, A-, B+, B-, N+, N-

Voltage supply / signals

M 5 VDC / sine 1 Vpp

S 8...30 VDC / sine 1 Vpp

Sinewave cycles - see table

## Sinewave cycles

1024

| 2048

# Sine encoders

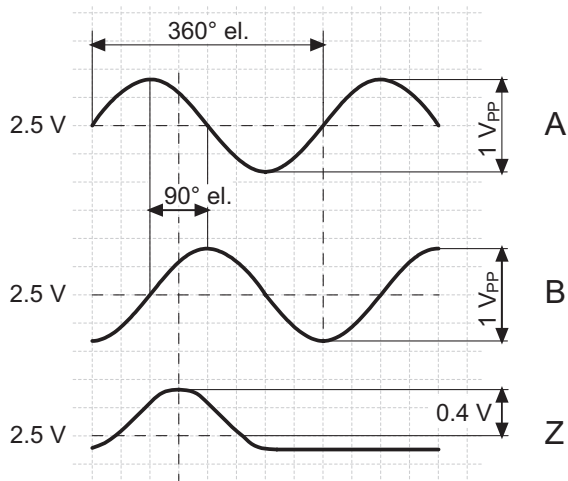
Blind hollow shaft  $\varnothing 10$  to  $\varnothing 16$  mm

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### Output signals

Clockwise rotation when looking at the mounting side.



differential signals

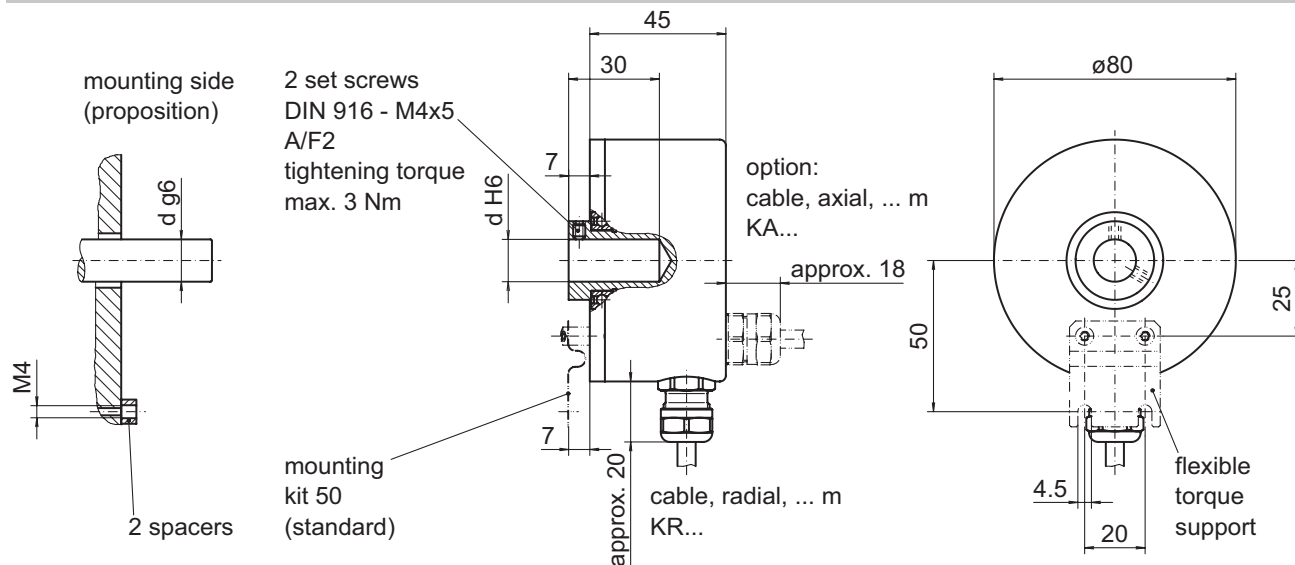
### Terminal assignment

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

### Output signal level

Outputs	Sine
Output amplitude A + B	1 V <sub>PP</sub> at Z <sub>0</sub> = 120 Ω
Output amplitude N	approx. 0,4 V (useable part) at Z <sub>0</sub> = 120 Ω

### Dimensions



026-5

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