Incremental encoders

Through hollow shaft ø10 to ø16 mm

200…2048 pulses per revolution

ITD 20 A 4 Y120

ITD 20 A 4 Y120 with through hollow shaft

Features

- **Encoder with hollow shaft ø10...16 mm**
- **Max. 2048 pulses per revolution**
- **Optical sensing method**
- **Mounting by torque support**
- **TTL or HTL output signals**
- **Extended operating temperature range**
- **Tangential cable output**

Technical data - electrical ratings

Voltage supply	5 VDC ±5 % 8...26 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤85 mA
Pulses per revolution	200...2048
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤120 kHz
Output signals	A, B, N + inverted
Output stages	Linedriver/RS422 Push-pull short-circuit proof

Technical data - mechanical design

Size (flange)	60 x 72 mm
Shaft type	ø10 mm (through hollow shaft) ø12 mm (through hollow shaft) ø14 mm (through hollow shaft) ø16 mm (through hollow shaft)
Mounting kit	019
Protection DIN EN 60529	IP 65
Operating speed	≤6000 rpm ≤3000 rpm IP 65 (>70 °C)
Starting torque	≤0.01 Nm (+20 °C)
Materials	Housing: aluminium Shaft: stainless steel
Operating temperature	-20...+100 °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.	300 g

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Part number

ITD 20 A 4 Y120				KT1	E			019

Mounting kit
- 019 Mounting kit 019

Protection
- IP54 IP 54
- IP65 IP 65

Through hollow shaft
- 10 ø10 mm
- 12 ø12 mm
- 14 ø14 mm
- 16 ø16 mm

Operating temperature
- E -20...+100 °C

Connection
- KT1 Cable 1 m, tangential, open cable end

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...26 VDC / HTL level, push-pull

Pulse number - see table

Pulse number

200	500	720	1024	2048
360	512	1000	2000	

Other pulse numbers on request.

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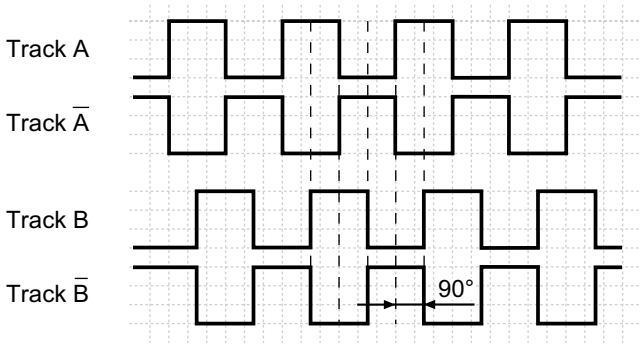
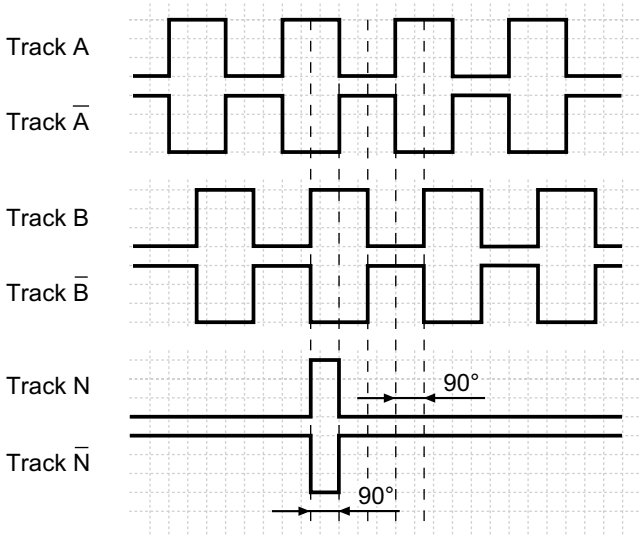
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals



NI-Output signals



Terminal assignment

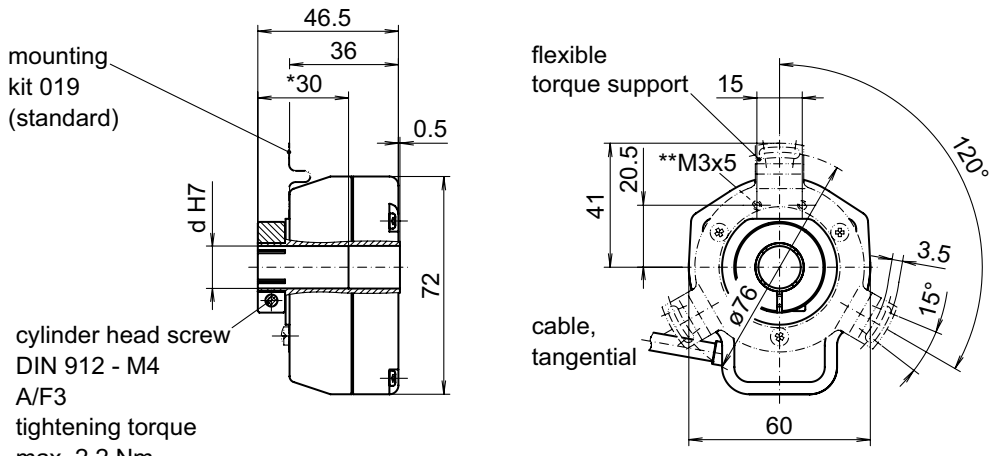
Core colour	Assignment
green	Track A
brown	Track A inv.
grey	Track B
black	Track B inv.
pink	Track N
white	Track N inv.
red	UB
blue	GND
transparent	Shield/Housing

Trigger level

Outputs	**Linedriver**
Output level High	≥2.4 V
Output level Low	≤0.5 V
Load	≤20 mA

Outputs	**Push-pull** short-circuit proof
Output level High	≥UB -3 V
Output level Low	≤1.5 V
Load	≤20 mA

Dimensions



* Measure 30 only by bore ø10 mm and ø12 mm.

** Mounting also for mounting kits of the ITD 2.-series possible. With ø16 mm hollow shaft the assembly of the mounting kit is possible only without spacers.

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