

Incremental encoders

Hollow shaft $\varnothing 10$ to $\varnothing 16$ mm

Resolution 200...2048 pulses

ITD 20 A 4 Y120



ITD 20 A 4 Y120 with hollow shaft

Features

- Encoder with hollow shaft $\varnothing 10$ -16 mm
- Resolution max. 2048 ppr
- Optical sensing
- 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
Resolution (steps/turn)	200...2048
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 120 kHz
Output signals	A, B, N + inverted
Output circuit	Linedriver/RS422 Push-pull short-circuit proof

Technical data - mechanical design

Dimensions (flange)	60 x 72 mm
Shaft	$\varnothing 10$ mm hollow shaft $\varnothing 12$ mm hollow shaft $\varnothing 14$ mm hollow shaft $\varnothing 16$ mm hollow shaft
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Mounting kit variant	019
Protection DIN EN 60529	IP 65
Operating speed	≤ 6000 rpm ≤ 3000 rpm IP 65 ($> 70^\circ\text{C}$)
Starting torque	≤ 0.01 Nm
Materials	Housing: aluminium Shaft: stainless steel
Operating temperature	$-20...+100^\circ\text{C}$
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.	300 g

Incremental encoders

Hollow shaft $\varnothing 10$ to $\varnothing 16$ mm

Resolution 200...2048 pulses

ITD 20 A 4 Y120

Part number

ITD 20 A 4 Y120

			KT1	E			019
--	--	--	-----	---	--	--	-----

Mounting kit

019 Mounting accessory kit 019

Protection

IP54 IP 54

IP65 IP 65

Hollow shaft

10 Hollow shaft $\varnothing 10$ mm

12 Hollow shaft $\varnothing 12$ mm

14 Hollow shaft $\varnothing 14$ mm

16 Hollow shaft $\varnothing 16$ mm

Operating temperature

E -20...+100 °C

Connection

KT1 Cable 1 m, tangential

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

See part number (pulses)

Part number (pulses)

200	500	720	1024	2048
360	512	1000	2000	

Other pulse numbers upon request.

Incremental encoders

Hollow shaft $\varnothing 10$ to $\varnothing 16$ mm

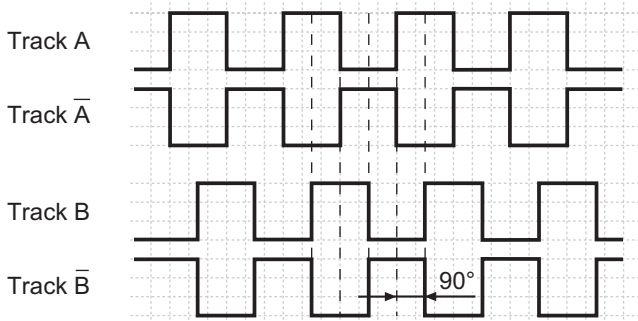
Resolution 200...2048 pulses

ITD 20 A 4 Y120

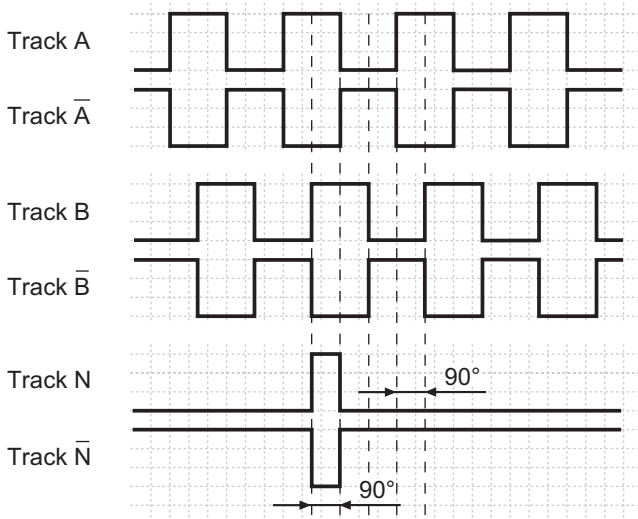
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals



NI-Output signals



Terminal assignment

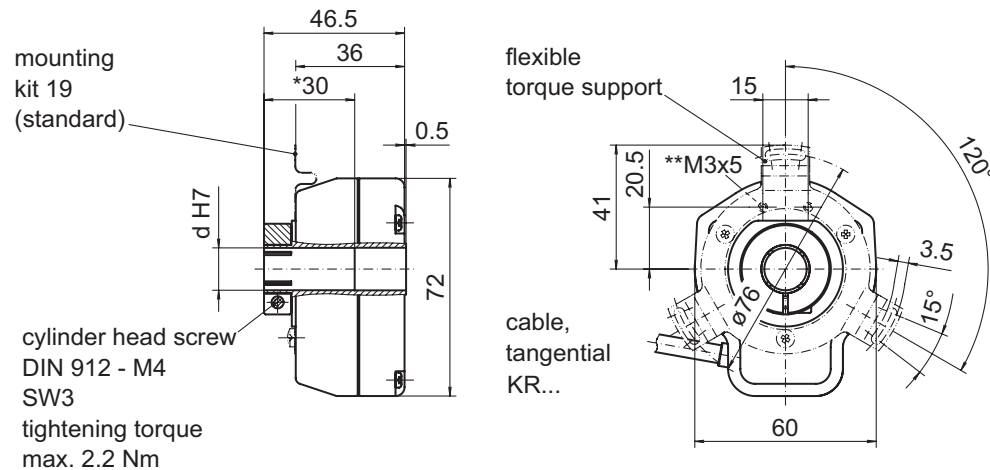
Core colour	Assignment
green	Track A
brown	Track A inv.
grey	Track B
black	Track B inv.
pink	Track N
white	Track N inv.
red	UB
blue	GND
transparent	Shield/Housing

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	$\geq UB - 3$ V
Output level Low	≤ 1.5 V
Load	≤ 20 mA

Dimensions



*Measure 30 only by bore $\varnothing 10$ mm and $\varnothing 12$ mm.

** Mounting also for attachment kits of the ITD 2.-series possible.

With $\varnothing 16$ mm-mounting of the attachment kit only without spools possible.

029- 1 Y120

Incremental encoders
Hollow shaft $\varnothing 10$ to $\varnothing 16$ mm
Resolution 200...2048 pulses

ITD 20 A 4 Y120