

## ITD 20 A 4 Y120

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

200...2048 pulses per revolution

### Overview

- Encoder with hollow shaft  $\varnothing 10$ ...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

#### Technical data - electrical ratings

Voltage supply	5 VDC $\pm 5\%$ 8...26 VDC
Reverse polarity protection	Yes
Consumption w/o load	$\leq 85$ mA
Pulses per revolution	200 ... 2048
Reference signal	Zero pulse, width $90^\circ$
Sensing method	Optical
Output frequency	$\leq 120$ 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	$\varnothing 10$ mm (through hollow shaft) $\varnothing 12$ mm (through hollow shaft) $\varnothing 14$ mm (through hollow shaft) $\varnothing 16$ mm (through hollow shaft)

#### Technical data - mechanical design

Mounting kit	019
Protection EN 60529	IP 65
Operating speed	$\leq 6000$ rpm $\leq 3000$ rpm IP 65 ( $> 70^\circ\text{C}$ )
Starting torque	$\leq 0.01$ Nm ( $+20^\circ\text{C}$ )
Material	Housing: aluminium Shaft: stainless steel
Operating temperature	$-20$ ... $+100^\circ\text{C}$
Relative humidity	90 % non-condensing
Resistance	EN 60068-2-6 Vibration 10 g, 55-2000 Hz EN 60068-2-27 Shock 100 g, 11 ms
Connection	Cable 1 m
Weight approx.	300 g

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### 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

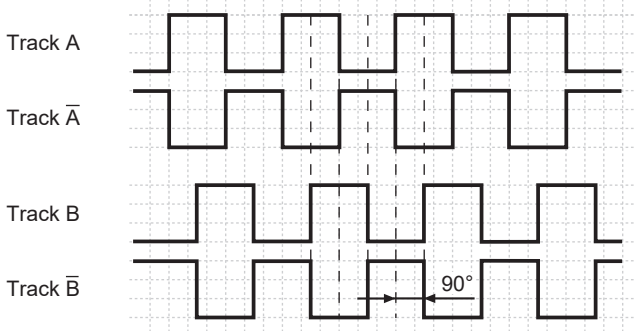
Outputs	Linedriver
Output level High	$\geq 2.4$ V
Output level Low	$\leq 0.5$ V
Load	$\leq 20$ mA

Outputs	Push-pull short-circuit proof
Output level High	$\geq UB - 3$ V
Output level Low	$\leq 1.5$ V
Load	$\leq 20$ mA

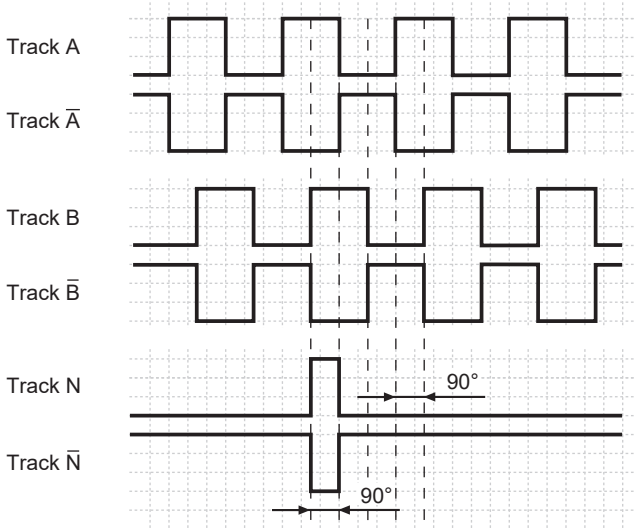
### Output signals

Clockwise rotation when looking at the mounting side.

#### BI-Output signals



#### NI-Output signals

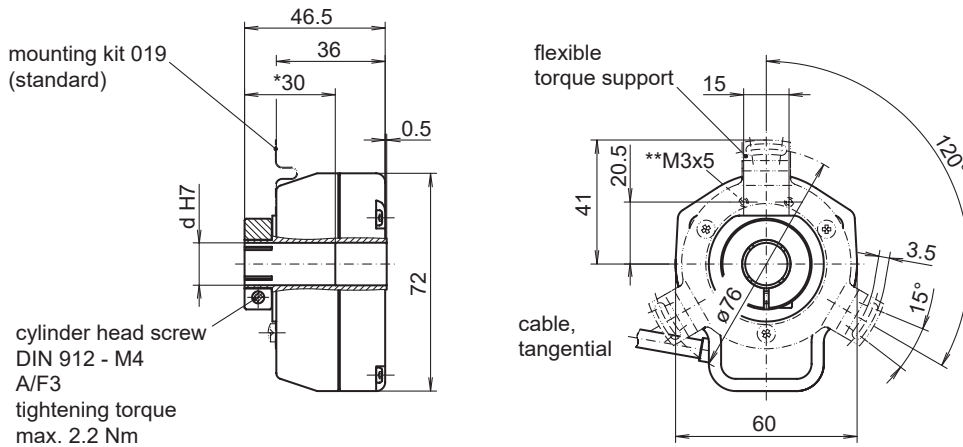


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## Dimensions



mounting kit 019  
(standard)

cylinder head screw  
DIN 912 - M4  
A/F3  
tightening torque  
max. 2.2 Nm

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

\*\* Mounting also for mounting kits of the ITD 2.-series possible.  
With  $\varnothing 16$  mm hollow shaft the assembly of the mounting kit  
is possible only without spacers.

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**Ordering reference**

	<b>ITD 20 A 4 Y120</b>	<b>#####</b>	<b>#</b>	<b>####</b>	<b>KT1</b>	<b>E</b>	<b>##</b>	<b>####</b>	<b>019</b>
<b>Product</b>	ITD 20 A 4 Y120								
<b>Pulse number</b>									
200		200							
360		360							
500		500							
512		512							
720		720							
1000		1000							
1024		1024							
2000		2000							
2048		2048							
<b>Voltage supply / signals</b>									
5 VDC / TTL level, linedriver					T				
8...26 VDC / HTL level, push-pull					H				
<b>Output signals</b>									
A, A inv, B, B inv					BI				
A, A inv, B, B inv, N, N inv					NI				
<b>Connection</b>									
Cable 1 m, tangential, open cable end						KT1			
<b>Operating temperature</b>									
-20...+100 °C							E		
<b>Through hollow shaft</b>									
$\varnothing 10$ mm								10	
$\varnothing 12$ mm								12	
$\varnothing 14$ mm								14	
$\varnothing 16$ mm								16	
<b>Protection</b>									
IP 54									IP54
IP 65									IP65
<b>Mounting kit</b>									
Mounting kit 019									019

Other pulse numbers on request.