

TIL

Through hollow shaft $\varnothing 10$ to $\varnothing 16$ mm
100...2048 pulses per revolution

Overview

- Robust industry standard
- Max. 2048 pulses per revolution
- Optical sensing method
- Extra large bearings for maximum life-time



Technical data

Technical data - electrical ratings

Voltage supply	5 VDC $\pm 5\%$ 8...26 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤ 85 mA
Pulses per revolution	100 ... 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
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3

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 54
Operating speed	≤ 6000 rpm
Starting torque	≤ 0.01 Nm ($+20^\circ\text{C}$)
Material	Housing: aluminium Shaft: stainless steel
Operating temperature	$-20...+70^\circ\text{C}$
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

Optional

- Cable with connector
- Extended operating temperature range

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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

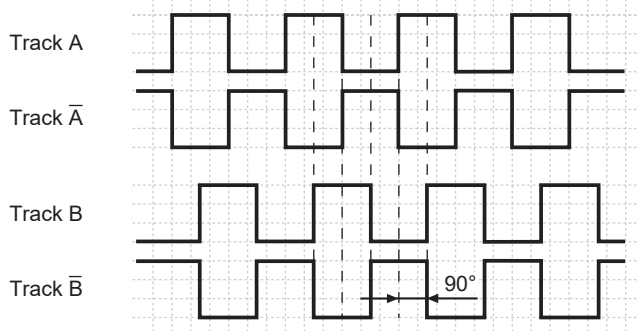
Outputs	Linedriver
Output level High	≥ 2.4 V
Output level Low	≤ 0.5 V
Load	≤ 20 mA

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

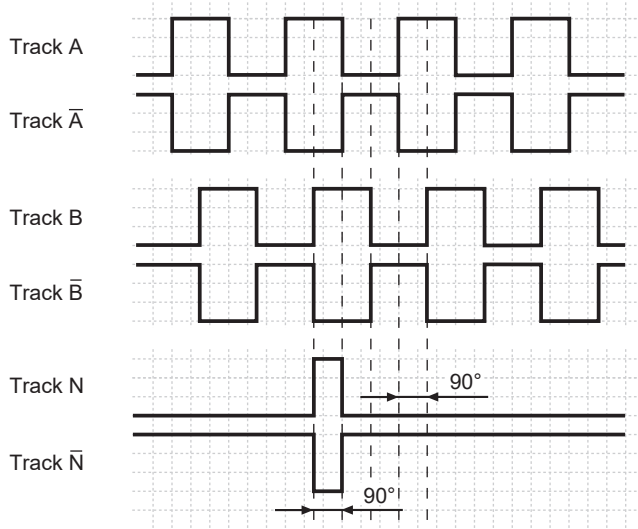
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals



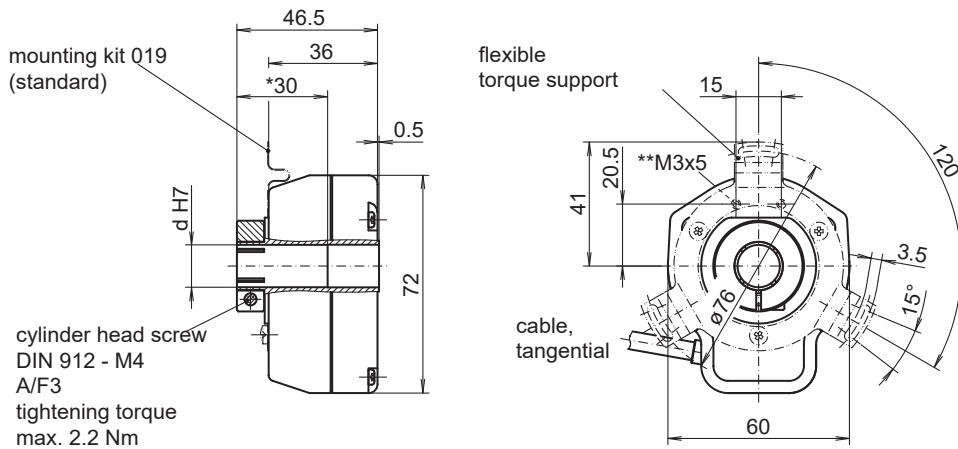
NI-Output signals



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Dimensions



* 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

	TIL	#####	#	####	KT1	#	##	IP54	019
Product	TIL								
Pulse number									
100		100							
200		200							
360		360							
500		500							
512		512							
1000		1000							
1024		1024							
2000		2000							
2048		2048							
Voltage supply / signals									
5 VDC / TTL level, linedriver				T					
8...26 VDC / HTL level, push-pull				H					
Output signals									
A, A inv, B, B inv				BI					
A, A inv, B, B inv, N, N inv				NI					
Connection									
Cable 1 m, tangential, open cable end					KT1				
Operating temperature									
-20...+70 °C							S		
-20...+100 °C							E		
Through hollow shaft									
$\varnothing 10$ mm								10	
$\varnothing 12$ mm								12	
$\varnothing 14$ mm								14	
$\varnothing 16$ mm								16	
Protection									
IP 54								IP54	
Mounting kit									
Mounting kit 019									019

Other pulse numbers on request.