

## ITD21H00

Through hollow shaft  $\varnothing 10$  to  $\varnothing 14$  mm  
100...10000 pulses per revolution

### Overview

- Size  $\varnothing 58$  mm
- Precise optical sensing
- Output signal level TTL or HTL
- Through hollow shaft  $\varnothing 10...14$  mm
- Max. 10000 pulses per revolution
- Operating temperature  $-30...+100$  °C
- Detachable cable – tangential outlet
- Top flexibility with numerous models



### Technical data

#### Technical data - electrical ratings

Voltage supply	5 VDC $\pm 5$ % 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	$\leq 100$ mA
Pulses per revolution	100 ... 10000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	$\leq 300$ kHz (TTL) $\leq 160$ kHz (HTL)
Output signals	A, B, N + inverted
Output stages	TTL linedriver (short-circuit proof) HTL push-pull (short-circuit proof)
Interference immunity	EN 61000-6-2
Emitted interference	EN 61000-6-3

#### Technical data - mechanical design

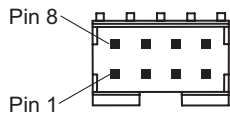
Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 10$ mm (through hollow shaft) $\varnothing 12$ mm (through hollow shaft) $\varnothing 14$ mm (through hollow shaft)
Protection EN 60529	IP 65
Operating speed	$\leq 6000$ rpm
Starting torque	$\leq 0.015$ Nm (+20 °C)
Material	Housing: aluminium Shaft: stainless steel
Operating temperature	$-30...+100$ °C
Relative humidity	90 % non-condensing
Resistance	EN 60068-2-6 Vibration 20 g, 60-2000 Hz EN 60068-2-27 Shock 100 g, 6 ms
Connection	Board connector, 8-pin
Weight approx.	150 g

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## Terminal assignment

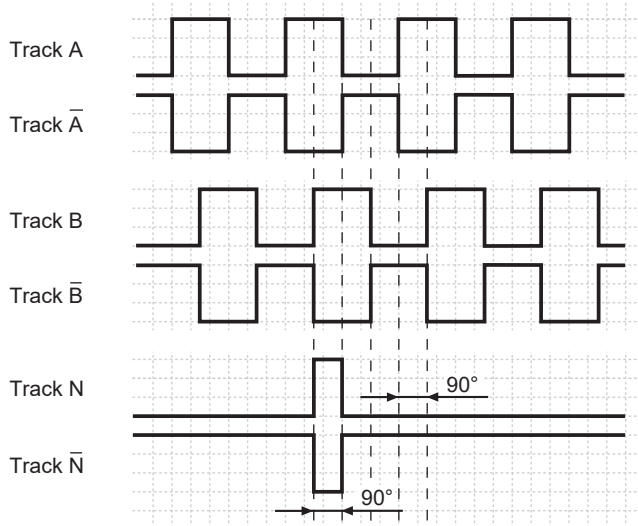
Connector	Assignment
Pin 1	UB
Pin 2	GND
Pin 3	Track A
Pin 4	Track A inv.
Pin 5	Track B
Pin 6	Track B inv.
Pin 7	Track N
Pin 8	Track N inv.



## Output signals

Clockwise rotation when looking at the mounting side.

NI-Output signals



## Trigger level

Outputs	Linedriver
Output level High	$\geq 2.4$ V
Output level Low	$\leq 0.5$ V
Load	$\leq 70$ mA

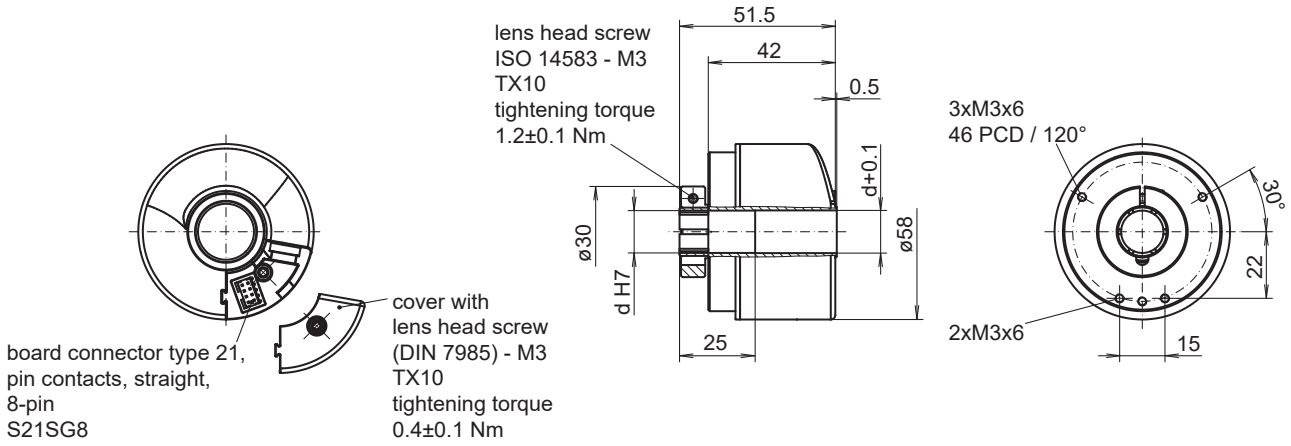
Outputs	Push-pull short-circuit proof
Output level High	$\geq UB - 3$ V
Output level Low	$\leq 1.5$ V
Load	$\leq 70$ mA

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## Dimensions



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**Ordering reference**

	ITD21H00	###	NI	S21SG8	E	##	65	###	####
<b>Product</b>	ITD21H00								
<b>Voltage supply</b>									
UB= 8...30 VDC / HTL level, push-pull			H						
UB= 5 VDC $\pm 5\%$ / TTL level, RS422-linedriver, Attention: not short-circuit proof!			K						
UB= 8...30 VDC / TTL level, linedriver			R						
UB= 5 VDC $\pm 5\%$ / TTL level, linedriver			T						
<b>Output signal</b>									
A, A inv, B, B inv, N, N inv			NI						
<b>Connection</b>									
Board connector type 21, pin contacts, straight, 8-pin				S21SG8					
<b>Operating temperature</b>									
-30...+100 °C					E				
<b>Through hollow shaft</b>									
$\varnothing 10$ mm, clamping ring, A-side									10
$\varnothing 12$ mm, clamping ring, A-side									12
$\varnothing 14$ mm, clamping ring, A-side									14
<b>Protection class</b>									
IP65									65
<b>Mounting kit</b>									
1-arm, pitch circle diameter 74...95 mm, mounting M4/M5									006
1-arm, pitch circle diameter 65.5...281 mm, mounting M4, cut to length									021

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## Ordering reference

	ITD21H00	###	NI	S21SG8	E	##	65	###	####
<b>Pulse number</b>									
100									100
120									120
150									150
200									200
250									250
256									256
300									300
360									360
400									400
500									500
512									512
600									600
720									720
800									800
900									900
1000									1000
1024									1024
1200									1200
1250									1250
1440									1440
1500									1500
1800									1800
2000									2000
2048									2048
2500									2500
3000									3000
3600									3600
4000									4000
4096									4096
5000									5000
6000									6000
8192 <sup>(1)</sup>									8192
10000 <sup>(1)</sup>									10000

(1) Pulse numbers are interpolated.

## Accessories

### Mounting accessories

11066080	Torque arm, 1-arm (mounting kit 002)
11066083	Torque arm, 1-arm (mounting kit 006)
11073114	Torque arm, 3-armed (mounting kit 019)
11073119	Torque arm, 1-arm (mounting kit 021)
11069239	Torque arm, 1-arm (mounting kit 092)
11116921	Insulating sleeve $\varnothing 10$ mm/ $\varnothing 12$ mm/25 mm long
11116923	Insulating sleeve $\varnothing 12$ mm/ $\varnothing 14$ mm/25 mm long