

## 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

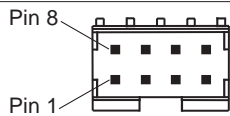
Voltage supply	5 VDC $\pm 5\%$ 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	$\leq 100$ mA
Pulses per revolution	100 ... 10000
Reference signal	Zero pulse, width $90^\circ$
Sensing method	Optical
Output frequency	$\leq 300$ kHz (TTL) $\leq 160$ kHz (HTL)
Output signals	A, B, N + inverted
Output stages	TTL linedriver (short-circuit proof) HTL push-pull (short-circuit proof)
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN 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 DIN 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	DIN EN 60068-2-6 Vibration 20 g, 60-2000 Hz DIN EN 60068-2-27 Shock 100 g, 6 ms
Connection	Board connector, 8-pin
Weight approx.	150 g

**Terminal assignment**

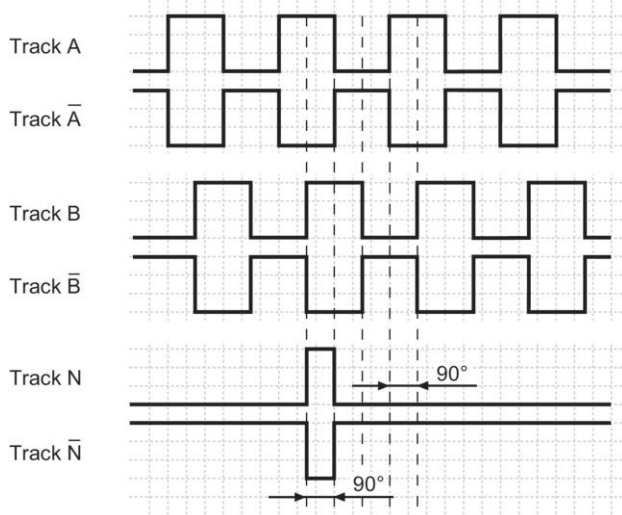
Connector	Assignment
Pin 1	UB
Pin 2	GND
Pin 3	Track A
Pin 4	Track A inv.
Pin 5	Track B
Pin 6	Track B inv.
Pin 7	Track N
Pin 8	Track N inv.



**Output signals**

Clockwise rotation when looking at the mounting side.

NI-Output signals



**Trigger level**

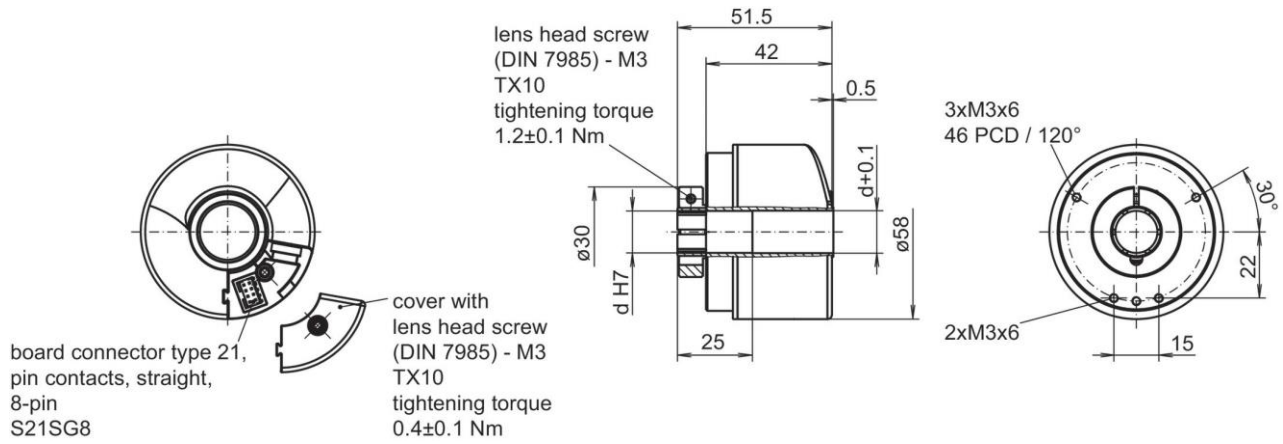
Outputs	Linedriver
Output level High	$\geq 2.4$ V
Output level Low	$\leq 0.5$ V
Load	$\leq 70$ mA

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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 100...10000 pulses per revolution

**Ordering reference**

Product	ITD21H00	####	###	NI	S21SG8	E	##	65	###
<b>Pulse number</b>	ITD21H00								
100		100							
120		120							
128		150							
200		200							
250		250							
256		256							
300		300							
360		360							
400		400							
500		500							
512		512							
600		600							
720		720							
900		800							
900		900							
1000		1000							
1024		1024							
1200		1200							
1250		1250							
1250		1440							
1250		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							
<b>Voltage supply</b>									
UB= 5 VDC $\pm 5\%$ / TTL level, linedriver									T
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
<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

2020-02-10 The product features and technical data specified do not express or imply any warranty. Technical modifications subject to change.

**Ordering reference**

	ITD21H00	####	###	NI	S21SG8	E	##	65	###
<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

(1) Pulse numbers are interpolated.

**Accessories**
**Mounting accessories**

11066080	Torque arm, 1-arm, bolt circle $\varnothing 76$ ...80 mm, mounting M4 (mounting kit 002)
11066083	Torque arm, 1-arm, bolt circle $\varnothing 74$ ...94 mm, mounting M4/M5 (mounting kit 006)
11073114	Torque arm, 3-armed, bolt circle $\varnothing 76$ mm, mounting M3 (mounting kit 019)
11073119	Torque arm, 1-arm, bolt circle $\varnothing 65.5$ ...281 mm, mounting M4, can be cut to length (mounting kit 021)
11069239	Torque arm, 1-arm, bolt circle $\varnothing 110$ ...130 mm, mounting M5 (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

**Connectors and cables**

11072169	Connection cable with FCI, 8-pin / wire end sleeves (UL/CSA), 1 m
11093848	Connection cable with FCI, 8-pin / wire end sleeves (UL/CSA), 2 m
11092928	Connection cable with FCI, 8-pin / wire end sleeves (UL/CSA), 3 m
11077007	Connection cable with FCI, 8-pin / wire end sleeves (UL/CSA), 5 m
11080879	Connection cable with FCI, 8-pin / wire end sleeves (UL/CSA), 10 m
11079089	Connection cable with rear mount socket M23, 12-pin, 1 m
11106562	Connection cable with FCI, 8-pin / D-SUB, 9-pin, 0.3 m
11079111	Connection cable with FCI, 8-pin / D-SUB, 9-pin, 1 m
11079112	Connection cable with crimp contacts (UL/CSA), 0.2 m
11104310	Connection cable with coupling M12, 4-pin, 0.7 m
11079113	Connection cable with coupling M12, 8-pin, 1 m