Baumer
Passion for Sensors

Incremental encoders

ITD 21 B14 Y 9

Solid shaft ø10 mm with clamping flange
1000…6000 pulses per revolution

Overview

- Encoder with solid shaft ø10 mm
- Max. 6000 pulses per revolution
- Optical sensing method
- Centering alignment ø36 mm, mounting screw hole circle ø48 mm
- Industrial standard
- TTL or HTL output signals
- Cable output radial or axial



Technical data

Technical data - electrical ratings	
Voltage supply	5 VDC ±5 % 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤100 mA
Pulses per revolution	1000 … 6000
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤300 kHz (TTL) ≤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)	ø58 mm
Shaft type	ø10 mm solid shaft (clamping flange)

Technical data - mechanical design	
Admitted shaft load	≤40 N axial ≤60 N radial
Flange	Clamping flange
Protection DIN EN 60529	IP 65
Operating speed	≤12000 rpm
Starting torque	≤0,01 Nm (+20 °C)
Material	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	-20...+70 °C -20...+100 °C
Relative humidity	90 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 10 g, 55-2000 Hz DIN EN 60068-2-27 Shock 30 g, 11 ms
Connection	Cable 1 m
Weight approx.	340 g

Optional

- Cable with connector
- Extended operating temperature range

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Terminal assignment

Core colour	Assignment
brown	Track A
green	Track A inv.
grey	Track B
pink	Track B inv.
red	Track N
black	Track N inv.
brown 0,5 mm²	UB
white 0,5 mm²	GND
blue	UB-Sense
white	GND-Sense
transparent	Shield/Housing

Cable with 2 brown and 2 white wires: PUR, [5x2x0.14 mm² + 2x0.5 mm²], bending radius > 60 mm, outer diameter 7.5 mm ± 0.2 mm

Encoder with connector on cable end after 8 June 2015

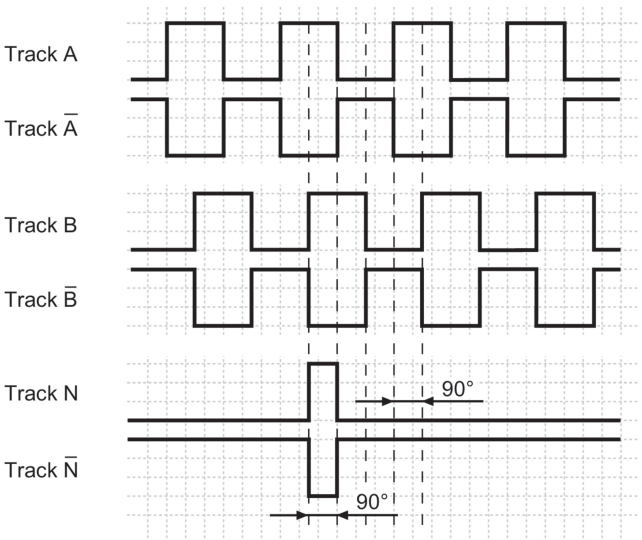
Core colour	Assignment
green	Track A
brown	Track A inv.
grey	Track B
black	Track B inv.
pink	Track N
white	Track N inv.
red	UB
blue	GND
yellow	UB-Sense
violet	GND-Sense
transparent	Shield/Housing

Cable with violet wire: PUR, [5x2x0.14 mm²], bending radius > 60 mm, outer diameter 7 mm ± 0.2 mm

Output signals

Clockwise rotation when looking at the mounting side.

NI-Output signals



Trigger level

Outputs	**Linedriver**
Output level High	≥2.4 V
Output level Low	≤0.5 V
Load	≤70 mA

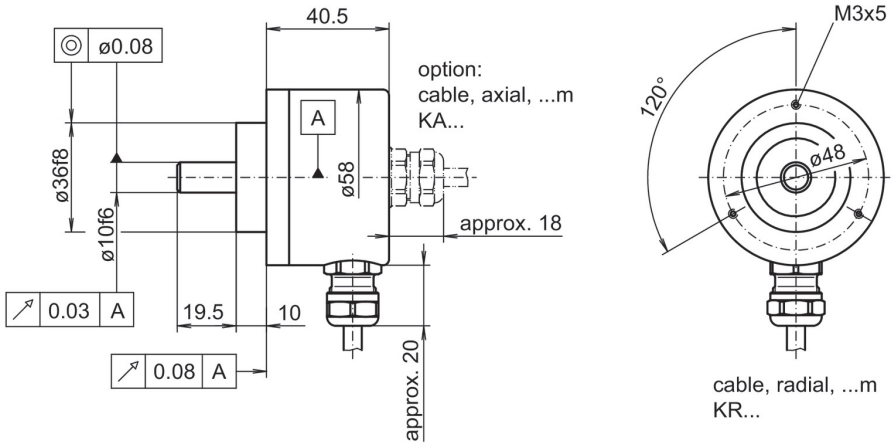
Outputs	**Push-pull** short-circuit proof
Output level High	≥UB -3 V
Output level Low	≤1.5 V
Load	≤70 mA

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Dimensions



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Ordering reference

	ITD 21 B14 Y 9	#####	#	NI	######	#	10	IP65
Product								
	ITD 21 B14 Y 9							
Pulse number								
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						
Voltage supply / signals								
5 VDC / TTL level, linedriver			T					
8...30 VDC / HTL level, push-pull			H					
8...30 VDC / TTL level, linedriver			R					
Output signals								
A, A inv, B, B inv, N, N inv				NI				
Connection								
Cable 1 m, radial					KR1			
Cable 1 m, axial					KA1			
Operating temperature								
-20...+70 °C						S		
-20...+100 °C						E		
Flange / Solid shaft								
Clamping flange / ø10 mm							10	
Protection								
IP 65								IP65

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