Incremental encoders

ITD 21 B14 Y 1

Solid shaft ø6 mm with synchro flange

1000…10000 pulses per revolution

Overview

- Encoder with solid shaft ø6 mm
- Max. 10000 pulses per revolution
- Optical sensing method
- Centering alignment ø50 mm, mounting screw hole circle ø68 mm
- Industrial standard
- TTL or HTL output signals
- Flange connector radial

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 … 10000
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	EN 61000-6-2
Emitted interference	EN 61000-6-3
Technical data - mechanical design	
Size (flange)	ø58 mm
Shaft type	ø6 mm solid shaft (synchro flange)

Technical data - mechanical design	
Admitted shaft load	≤20 N axial ≤40 N radial
Flange	Synchro flange
Protection 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	EN 60068-2-6 Vibration 10 g, 55-2000 Hz EN 60068-2-27 Shock 30 g, 11 ms
Connection	Connector M23 type 2, 12-pin
Weight approx.	240 g

Optional

- Extended operating temperature range

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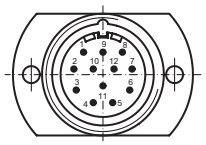
Terminal assignment

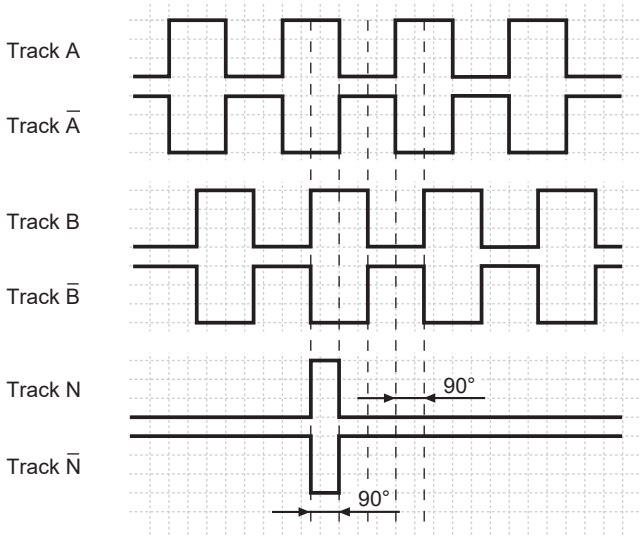
Connector	Assignment
Pin 5	Track A
Pin 6	Track A inv.
Pin 8	Track B
Pin 1	Track B inv.
Pin 3	Track N
Pin 4	Track N inv.
Pin 12	UB
Pin 10	GND
Pin 2	UB-Sense
Pin 11	GND-Sense
Pin 9	–
Pin 7	–



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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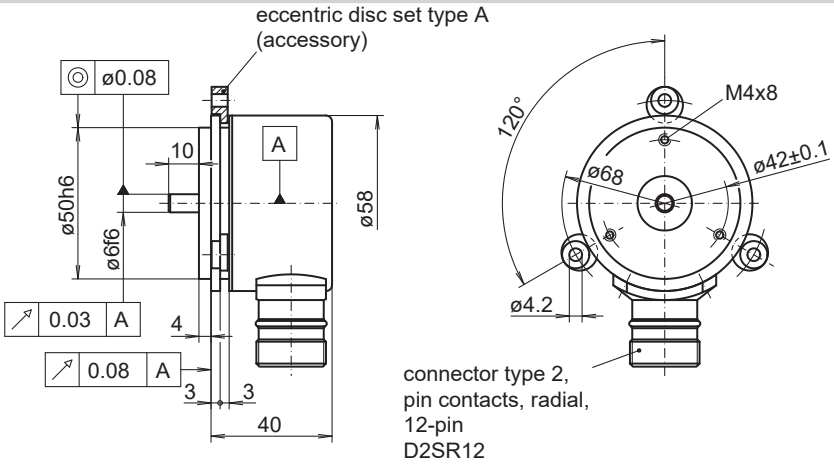
Dimensions



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Ordering reference

	ITD 21 B14 Y 1	#####	#	NI	D2SR12	#	6	IP65
Product								
	ITD 21 B14 Y 1							
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						
7200		7200						
8192		8192						
9000		9000						
10000		10000						
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								
Flange connector type 2, pin contacts, radial, 12-pin					D2SR12			
Operating temperature								
-20...+70 °C						S		
-20...+100 °C						E		
Flange / Solid shaft								
Synchro flange / ø6 mm							6	
Protection								
IP 65								IP65

Accessories

Mounting accessories

11065545	Set of eccentric fixings type A