Baumer
Passion for Sensors

Incremental encoders

ITD 40 A 4 Y109

Blind hollow shaft ø10 to ø16 mm

200…2048 pulses per revolution

Overview

- Encoder with blind hollow shaft ø10...16 mm
- Max. 2048 pulses per revolution
- Optical sensing method
- Mounting by torque support
- TTL or HTL output signals
- Flange connector 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	200 … 2048
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤120 kHz
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)	ø80 mm
Shaft type	ø10...16 mm (blind hollow shaft)

Technical data - mechanical design	
Mounting kit	068
Protection DIN EN 60529	IP 65
Operating speed	≤8000 rpm ≤5000 rpm IP 65 (>70 °C)
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 100 g, 11 ms
Connection	Connector M23 type 2, 12-pin
Weight approx.	580 g

Optional

- Cable with connector
- Extended operating temperature range

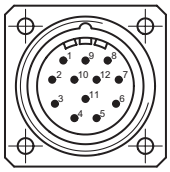
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Terminal assignment

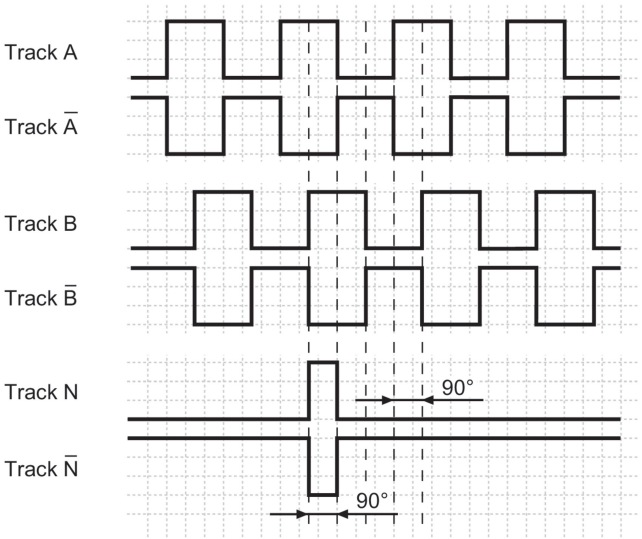
Connector	Assignment
Pin 5	Track A
Pin 6	Track A inv.
Pin 8	Track B
Pin 1	Track B inv.
Pin 3	Track N
Pin 4	Track N inv.
Pin 12	UB
Pin 10	GND
Pin 2	UB-Sense
Pin 11	GND-Sense
Pin 9	–
Pin 7	–



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

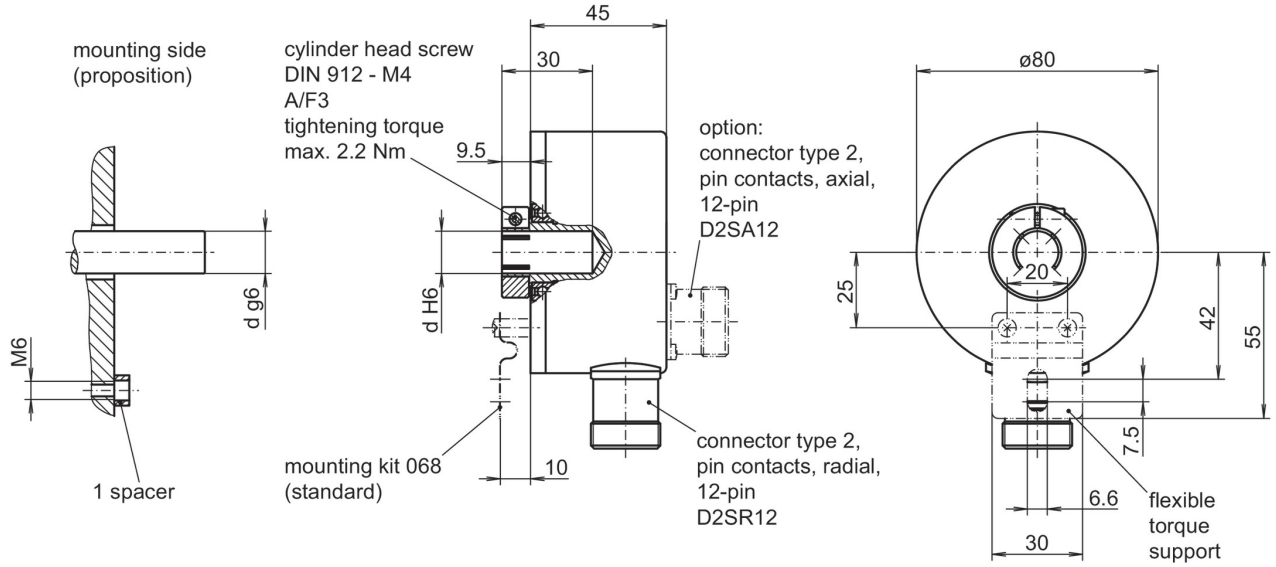
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Dimensions



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Ordering reference

	ITD 40 A 4 Y109	#####	#	NI	######	#	##	####	068
Product									
	ITD 40 A 4 Y109								
Pulse number									
200		200							
360		360							
500		500							
512		512							
720		720							
1000		1000							
1024		1024							
2048		2048							
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				
Flange connector type 2, pin contacts, axial, 12-pin					D2SA12				
Operating temperature									
-20...+70 °C						S			
-20...+100 °C						E			
Blind hollow shaft									
ø10 mm							10		
ø15 mm							15		
Protection									
IP 54								IP54	
IP 65								IP65	
Mounting kit									
Mounting kit 068									068

Other diameters on request.

Accessories

Connectors and cables

11072792	Connector M23 - S2BG12, 1 m cable (incremental)

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