Baumer
Passion for Sensors

Incremental encoders

ITD 48 A 4 Y 2

Redundant encoders

200…2048 pulses per revolution

Overview

- Redundant design
- 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



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)	ø83 mm

Technical data - mechanical design	
Shaft type	ø10...16 mm (blind hollow shaft)
Mounting kit	050
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 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.	1000 g

Optional

- Extended operating temperature range

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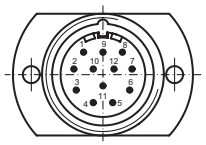
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Terminal assignment

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	–



Trigger level

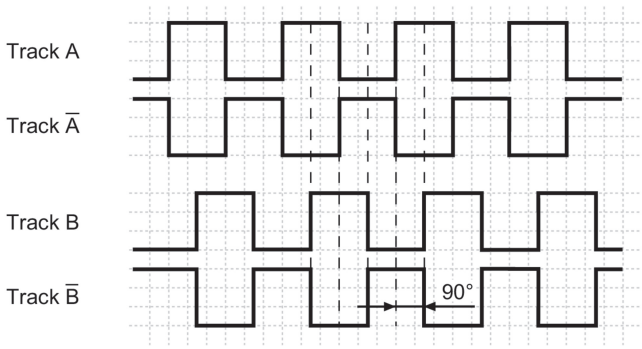
Outputs	**Linedriver**
Output level High	≥2.4 V
Output level Low	≤0.5 V
Load	≤70 mA

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

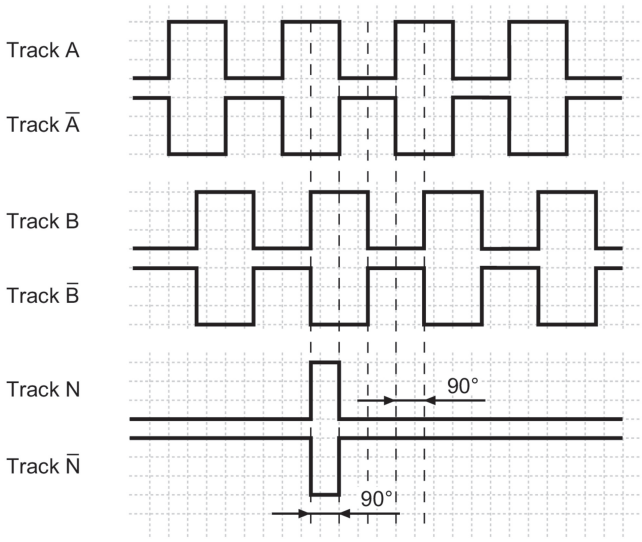
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals



NI-Output signals



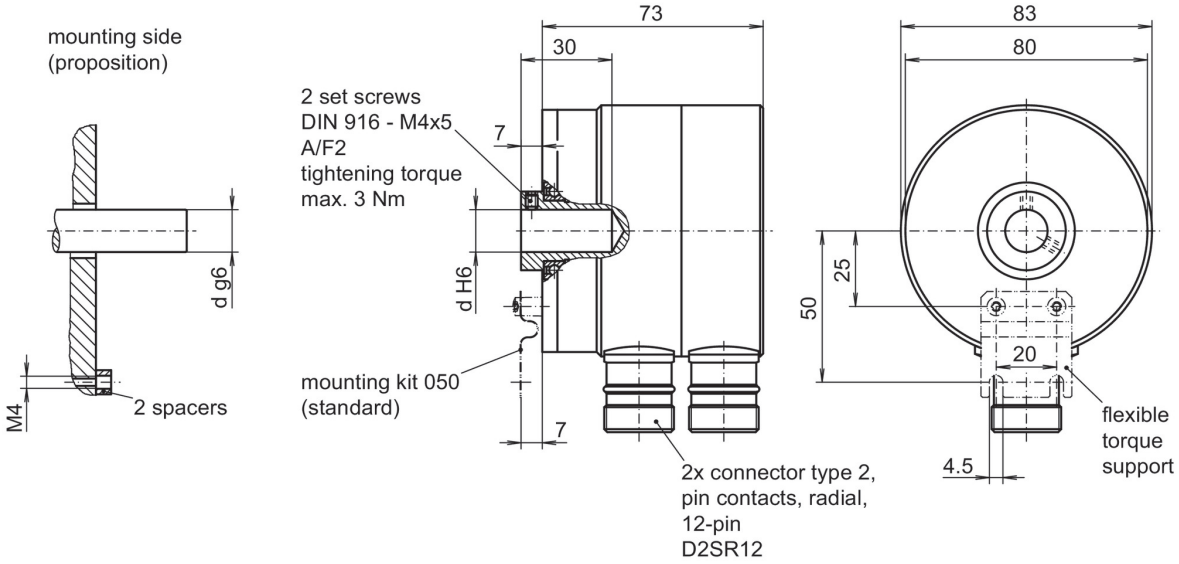
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Dimensions



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Redundant encoders

200…2048 pulses per revolution

Ordering reference

	ITD 48 A 4 Y 2	##	##	#	####	D2SR12	#	##	IP65	050
Product										
	ITD 48 A 4 Y 2									
Pulse number 1										
200		200								
360		360								
500		500								
512		512								
720		720								
1000		1000								
1024		1024								
2000		2000								
2048		2048								
Pulse number 2										
200			200							
360			360							
500			500							
512			512							
720			720							
1000			1000							
1024			1024							
2000			2000							
2048			2048							
Voltage supply / signals										
2x 8...30 VDC / HTL level, push-pull				H/H						
2x 5 VDC / TTL level, linedriver				T/T						
2x 8...30 VDC / TTL level, linedriver				R/R						
1x 8...30 VDC / HTL level, push-pull; 1x 5 VDC / TTL level, linedriver				H/T						
1x 8...30 VDC / HTL level, push-pull; 1x 8...30 VDC / TTL level, linedriver				H/R						
1x 5 VDC / TTL level, linedriver; 1x 8...30 VDC / HTL level, push-pull				T/H						
1x 5 VDC / TTL level, linedriver; 1x 8...30 VDC / TTL level, linedriver				T/R						
1x 8...30 VDC / TTL level, linedriver; 1x 8...30 VDC / HTL level, push-pull				R/H						
1x 8...30 VDC / TTL level, linedriver; 1x 5 VDC / TTL level, linedriver				R/T						
Output signals										
2x A, A inv, B, B inv					BI/BI					
2x A, A inv, B, B inv, N, N inv					NI/NI					
1x A, A inv, B, B inv; 1x A, A inv, B, B inv, N, N inv					BI/NI					
1x A, A inv, B, B inv, N, N inv; 1x A, A inv, B, B inv					NI/BI					
Connection										
Flange connector type 2, pin contacts, radial, 12-pin						D2SR12				
Operating temperature										
-30...+85 °C							S			
-30...+85 °C							E			
Blind hollow shaft										
ø10 mm								10		
ø11 mm								11		
ø12 mm								12		
ø12.7 mm								12.7		
ø14 mm								14		
ø15 mm								15		
ø16 mm								16		

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Ordering reference

	ITD 48 A 4 Y 2	##	##	#	####	D2SR12	#	##	IP65	050
Protection										
IP 65									IP65	
Mounting kit										
Mounting kit 050										050

Accessories

Connectors and cables

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

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