

Overview

- Redundant design
- Encoder with blind hollow shaft $\varnothing 10...16$ 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)	$\varnothing 83$ mm
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Technical data - mechanical design

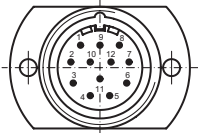
Shaft type	$\varnothing 10...16$ mm (blind hollow shaft)
Mounting kit	050
Protection EN 60529	IP 65
Operating speed	≤ 8000 rpm ≤ 5000 rpm IP 65 (> 70 °C)
Starting torque	$\leq 0,01$ Nm ($+20$ °C)
Material	Housing: aluminium Shaft: stainless steel
Operating temperature	$-20...+70$ °C $-20...+100$ °C
Relative 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

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

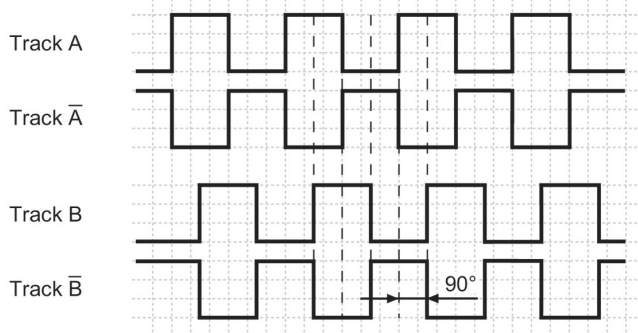
Outputs	Linedriver
Output level High	$\geq 2.4 \text{ V}$
Output level Low	$\leq 0.5 \text{ V}$
Load	$\leq 70 \text{ mA}$

Outputs	Push-pull short-circuit proof
Output level High	$\geq U_B - 3 \text{ V}$
Output level Low	$\leq 1.5 \text{ V}$
Load	$\leq 70 \text{ mA}$

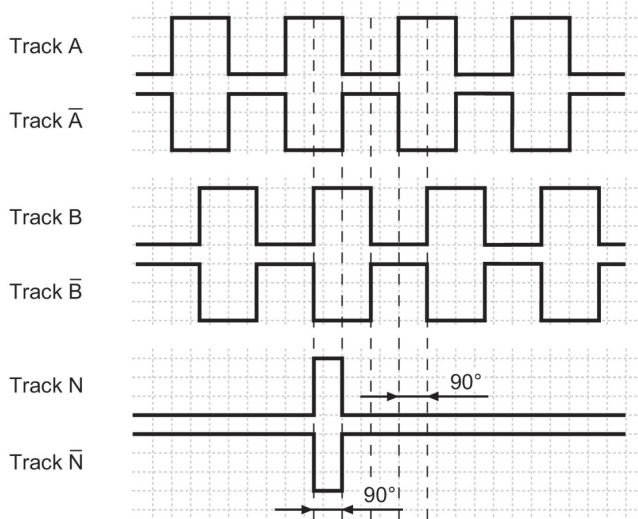
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals



NI-Output signals

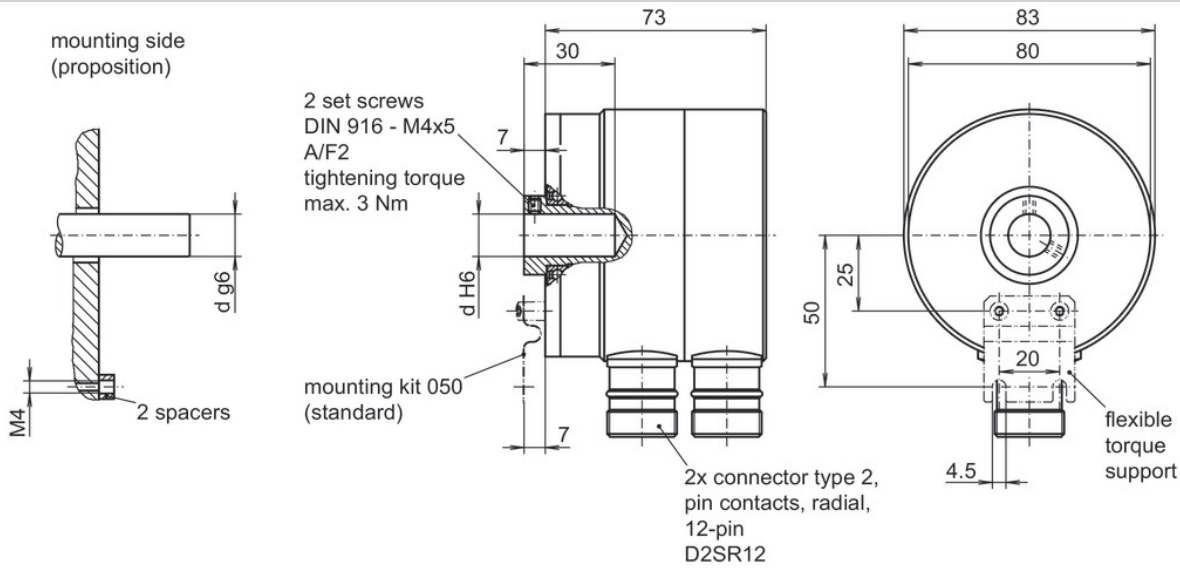


ITD 48 A 4 Y 2

Redundant encoders

200...2048 pulses per revolution

Dimensions



ITD 48 A 4 Y 2

Redundant encoders

200...2048 pulses per revolution

Ordering reference

Product		ITD 48 A 4 Y 2	##	##	#	####	D2SR12	#	##	IP65	050
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											
-20...+70 °C								S			
-20...+100 °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	

ITD 48 A 4 Y 2

Redundant encoders

200...2048 pulses per revolution

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)