

Incremental encoders

End shaft $\varnothing 10$ to $\varnothing 16$ mm

Resolution 200...2048 pulses

ITD 40 A 4 Y109



ITD 40 A 4 Y109 with end shaft

Technical data - electrical ratings

Voltage supply	5 VDC ± 5 % 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤ 100 mA
Resolution (steps/turn)	200...2048
Reference signal	Zero pulse, width 90°
Sensing method	Optical
Output frequency	≤ 120 kHz
Output signals	A, B, N + inverted
Output circuit	TTL linedriver (short-circuit proof) HTL push-pull (short-circuit proof)
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 55011

Features

- Encoder with end shaft $\varnothing 10$ -16 mm
- Resolution max. 2048 ppr
- Optical sensing
- Mounting by torque support
- TTL or HTL output signals
- Flange socket radial or axial

Optional

- Cable with connector
- Extended operating temperature range

Technical data - mechanical design

Dimensions (flange)	$\varnothing 80$ mm
Shaft	$\varnothing 10$...16 mm end shaft
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Mounting kit variant	068
Protection DIN EN 60529	IP 65
Operating speed	≤ 8000 rpm ≤ 5000 rpm IP 65 (> 70 °C)
Starting torque	≤ 0.01 Nm
Materials	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

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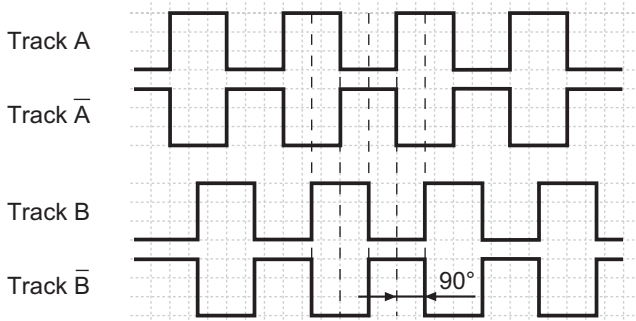
Resolution 200...2048 pulses

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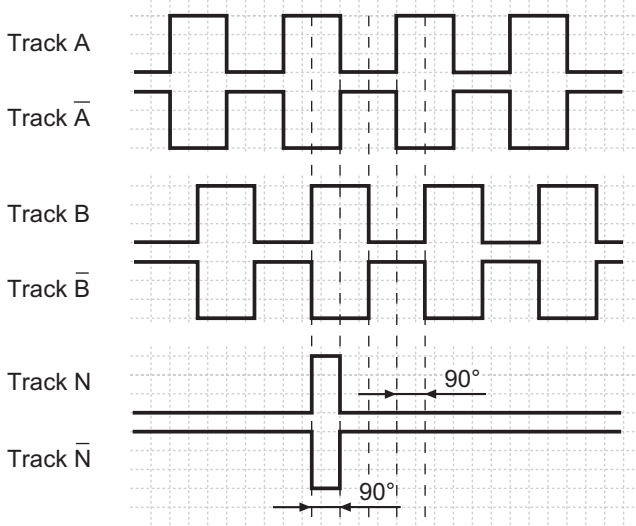
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals

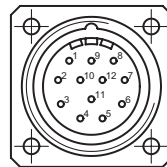


NI-Output signals



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	$\geq UB - 3$ V
Output level Low	≤ 1.5 V
Load	≤ 70 mA

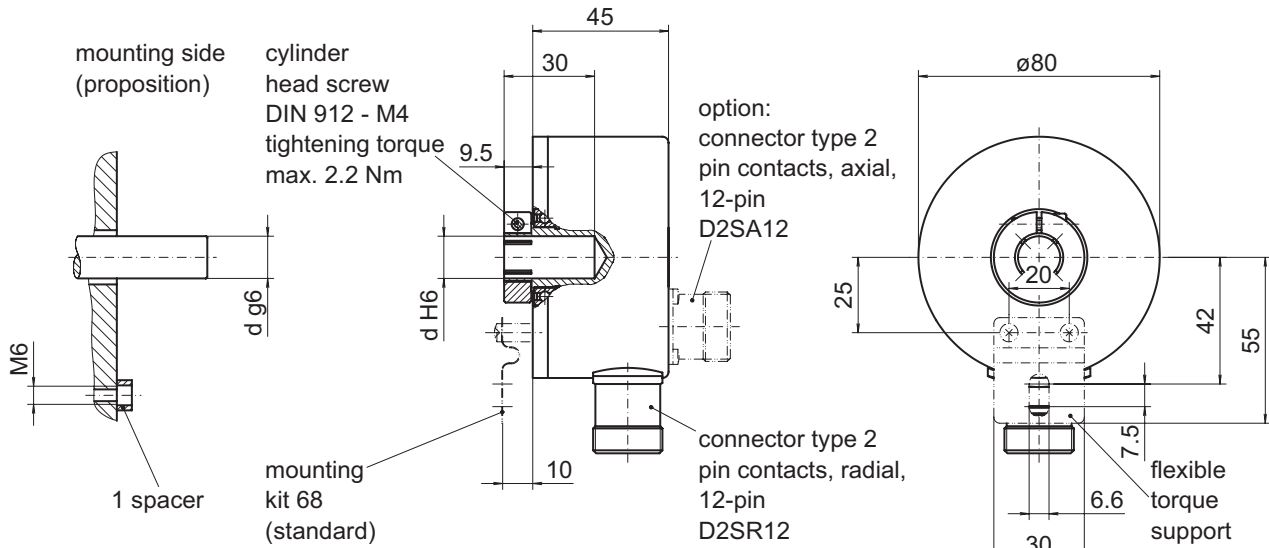
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Dimensions



026- 5 Y109