

Incremental encoders

Hollow shaft $\varnothing 40$ to $\varnothing 65$ mm

Resolution 1000...2500 pulses

ITD 70 A 4 Y 9



ITD 70 A 4 Y 9 with hollow shaft

Features

- Encoder with hollow shaft max. $\varnothing 65$ mm
- Resolution max. 2500 ppr
- Optical sensing
- Mounting by torque support
- Mounting hole circle $\varnothing 164$ mm
- TTL or HTL output signals
- Flange socket radial

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)	1000...2500
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

Technical data - mechanical design

Dimensions (flange)	$\varnothing 150$ mm
Shaft	$\varnothing 40$...65 mm hollow shaft
Motor shaft tolerance	0.5 mm axial 0.1 mm radial
Mounting kit variant	051
Protection DIN EN 60529	IP 54
Operating speed	≤ 3000 rpm
Materials	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	-20 ... $+70$ °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, 6 ms
Connection	Connector M23 type 2, 12-pin
Weight approx.	2900 g

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Part number

ITD 70 A 4 Y 9 **D2SR12** **S** **IP54** **051**

Mounting kit
051 Mounting accessory kit 051

Protection
IP54 IP 54

Hollow shaft
40 Hollow shaft $\varnothing 40$ mm
45 Hollow shaft $\varnothing 45$ mm
50 Hollow shaft $\varnothing 50$ mm
55 Hollow shaft $\varnothing 55$ mm
60 Hollow shaft $\varnothing 60$ mm
65 Hollow shaft $\varnothing 65$ mm

Operating temperature
S -20...+70 °C

Connection
D2SR12 Flange socket type 2, pin contacts, radial, 12-pin

Output signals
BI A, A inv, B, B inv
NI A, A inv, B, B inv, 0, 0 inv

Voltage supply / signals
T 5 VDC / TTL level, linedriver
H 8...30 VDC / HTL level, push pull
R 8...30 VDC / TTL level, linedriver

See part number (pulses)

Part number (pulses)

1000 | 1024 | 2048 | 2500

Accessories

Connectors and cables

11072792	Connector S2BG12 with cable (ITD) L = 1 m
11072796	Connector S2BG12 with cable (ITD) L = 2 m
11072804	Connector S2BG12 with cable (ITD) L = 5 m
11072815	Connector S2BG12 with cable (ITD) L = 10 m

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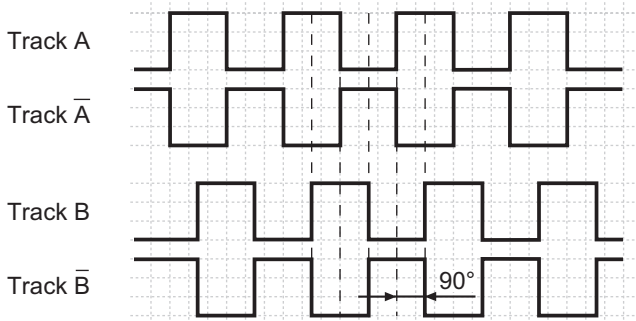
Resolution 1000...2500 pulses

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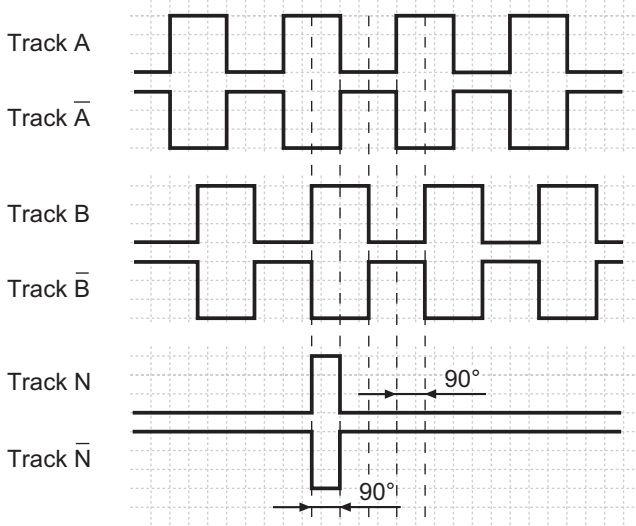
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals

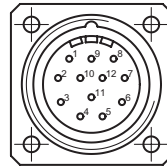


NI-Output signals



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

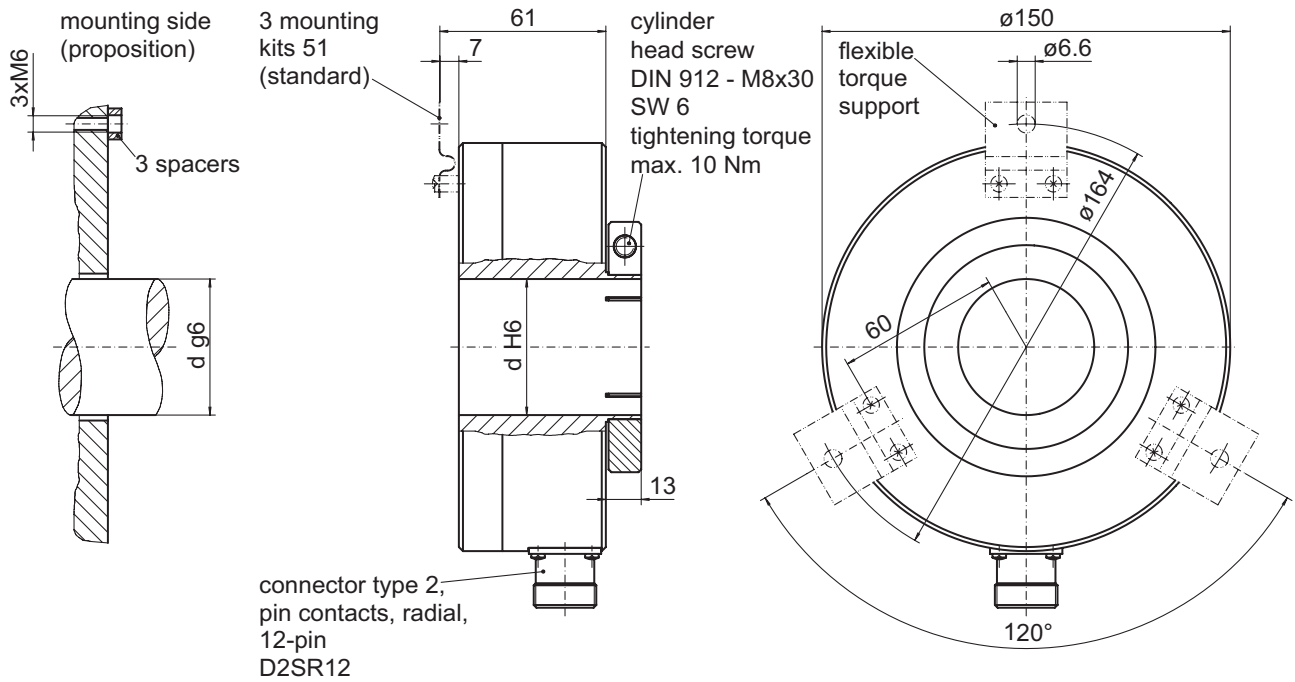
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Dimensions



026-40 Y 9