

Incremental encoders

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

Resolution 200...2048 pulses

ITD 40 A 4 Y145



ITD 40 A 4 Y145 with end shaft

Features

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

Optional

- Cable with connector

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

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	≤ 4000 rpm
Starting torque	≤ 0.01 Nm
Materials	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	-40 ... $+70$ °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, 11 ms
Connection	Cable 1 m
Weight approx.	600 g

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Part number

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			KR1	H		IP65	068
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Mounting kit

068 Mounting accessory kit 068

Protection

IP65 IP 65

End shaft

10	End shaft $\varnothing 10$ mm
11	End shaft $\varnothing 11$ mm
12	End shaft $\varnothing 12$ mm
12.7	End shaft $\varnothing 12.7$ mm
14	End shaft $\varnothing 14$ mm
15	End shaft $\varnothing 15$ mm
16	End shaft $\varnothing 16$ mm

Operating temperature

H -40...+70 °C

Connection

KR1 Cable 1 m, radial

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)

200	500	720	1024	2048
360	512	1000	2000	

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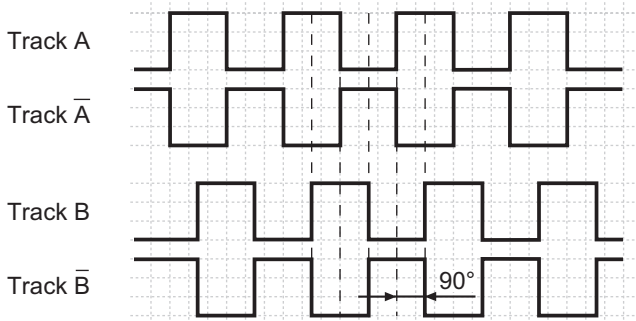
Resolution 200...2048 pulses

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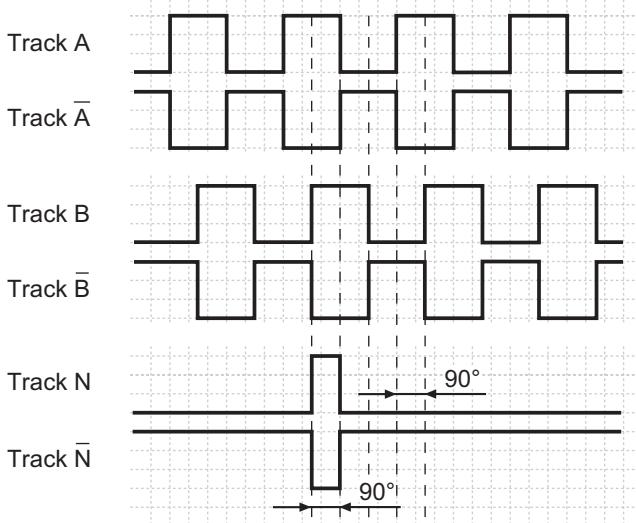
Output signals

Clockwise rotation when looking at the mounting side.

BI-Output signals



NI-Output signals



Terminal assignment

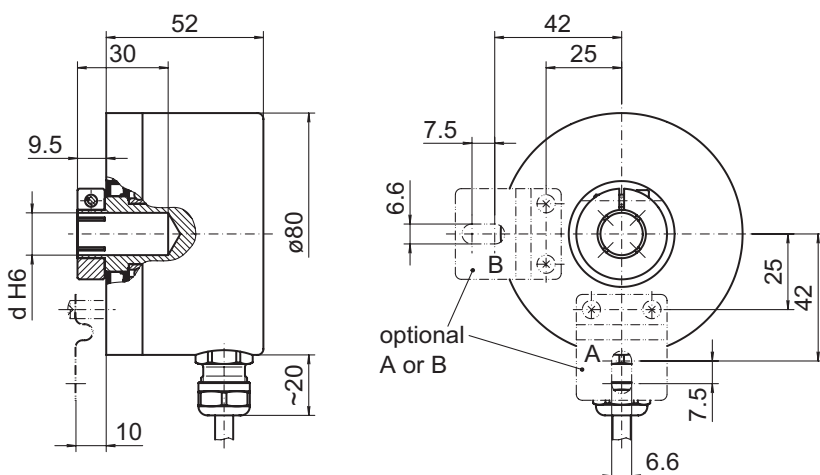
Core colour	Assignment
brown	Track A
green	Track A inv.
grey	Track B
pink	Track B inv.
red	Track N
black	Track N inv.
brown-green 0,5 mm ²	UB
white-green 0,5 mm ²	GND
yellow	UB-Sense
blue 0,5 mm ²	24 VDC (Heating), max. 1.1 A
white 0,5 mm ²	GND (Heating)
transparent	Shield/Housing

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

Dimensions



026- 5 Y145

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