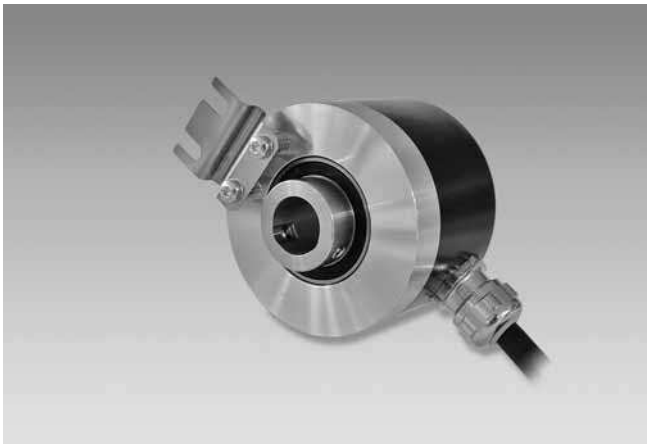
Incremental encoders

End shaft ø8 to ø14 mm

Resolution 50…1024 pulses

ITD 20 A 4



ITD 20 A 4 with end shaft

Features

- **Encoder with end shaft max. ø14 mm**
- **Resolution max. 1024 ppr**
- **Optical sensing**
- **Mounting by torque support**
- **TTL or HTL output signals**
- **Cable output radial or axial**

Optional

- **Cable with connector**
- **Extended operating temperature range**

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)	50...1024
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)	ø58 mm
Shaft	ø8...14 mm end shaft
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Mounting kit variant	001
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, 6 ms
Connection	Cable 1 m
Weight approx.	260 g

ITD 20 A 4

Part number

ITD 20 A 4 [ ] [ ] [ ] [ ] [ ] [ ] **IP65** **001**

Mounting kit
001 Mounting accessory kit 001

Protection
IP65 IP 65

End shaft
8 End shaft ø8 mm
9 End shaft ø9 mm
10 End shaft ø10 mm
11 End shaft ø11 mm
12 End shaft ø12 mm
14 End shaft ø14 mm

Operating temperature
S -20...+70 °C
E -20...+100 °C

Connection
KR1 Cable 1 m, radial
KA1 Cable 1 m, axial

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)

50	90	200	360	600
60	100	250	400	1000
64	120	254	500	1024
88	128	256	512	

Incremental encoders

End shaft ø8 to ø14 mm

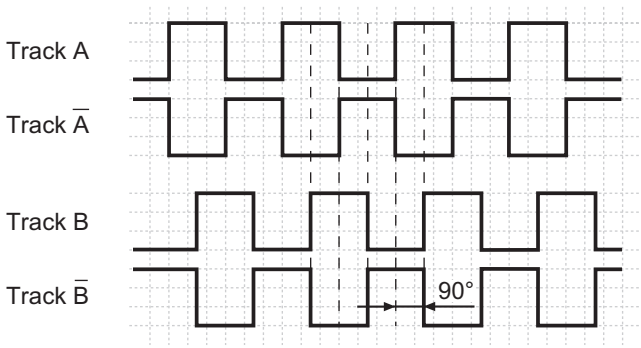
Resolution 50…1024 pulses

ITD 20 A 4

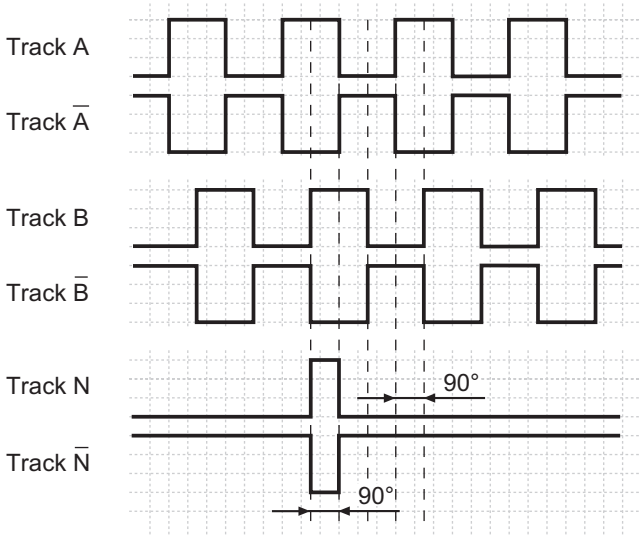
Output signals

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 0,5 mm²	UB
white 0,5 mm²	GND
blue	UB-Sense
white	GND-Sense
transparent	Shield/Housing

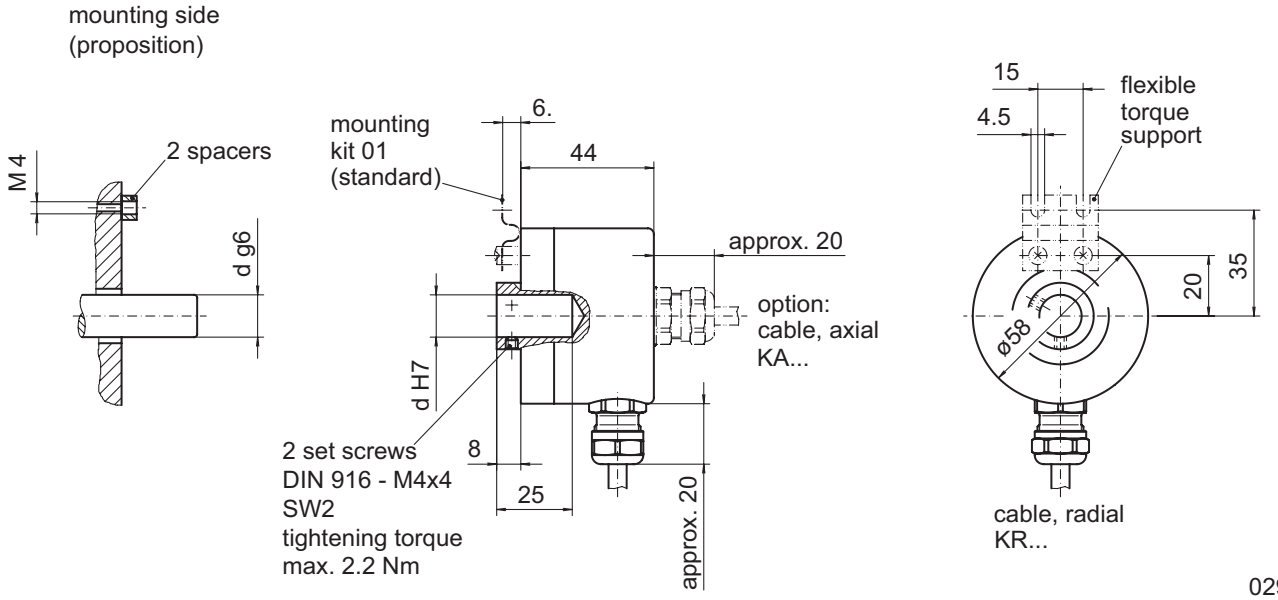
Trigger level

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	≥UB -3 V
Output level Low	≤1.5 V
Load	≤70 mA

ITD 20 A 4

Dimensions



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