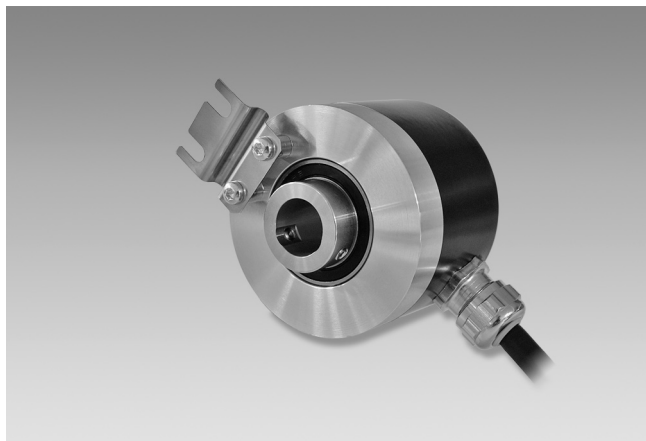


Incremental encoders

End shaft $\varnothing 8$ to $\varnothing 14$ mm

Resolution 50...1024 pulses

ITD 20 A 4



ITD 20 A 4 with end shaft

Features

- Encoder with end shaft max. $\varnothing 14$ 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

Housing	$\varnothing 58$ mm
Shaft	$\varnothing 8$...14 mm end shaft
Mounting kit variant	01
Protection DIN EN 60529	IP 65
Operating speed	≤ 8000 rpm ≤ 5000 rpm IP 65 at $>70^\circ\text{C}$
Starting torque	≤ 0.01 Nm
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Materials	Housing: aluminium, black, powder-coated Shaft: stainless steel
Operating temperature	-20 ... $+70^\circ\text{C}$ -20 ... $+100^\circ\text{C}$
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
Weight approx.	260 g
Connection	Cable 1 m

Incremental encoders

End shaft $\varnothing 8$ to $\varnothing 14$ mm

Resolution 50...1024 pulses

ITD 20 A 4

Part number

ITD 20 A 4

--	--	--	--	--	--	--	--	--	--

IP65 **01**

Mounting kit
01 Mounting accessory kit 01

Protection
IP65 IP 65

End shaft
8 End shaft $\varnothing 8$ mm
9 End shaft $\varnothing 9$ mm
10 End shaft $\varnothing 10$ mm
11 End shaft $\varnothing 11$ mm
12 End shaft $\varnothing 12$ mm
14 End shaft $\varnothing 14$ 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, N, N 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 $\varnothing 8$ to $\varnothing 14$ mm

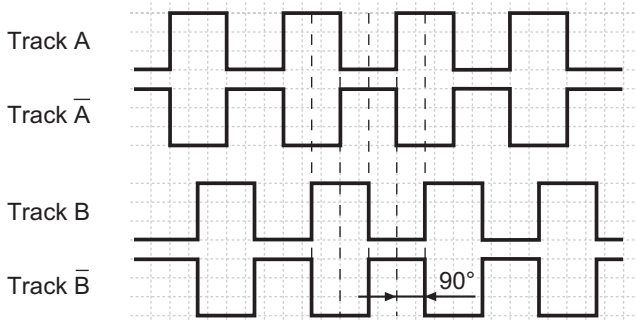
Resolution 50...1024 pulses

ITD 20 A 4

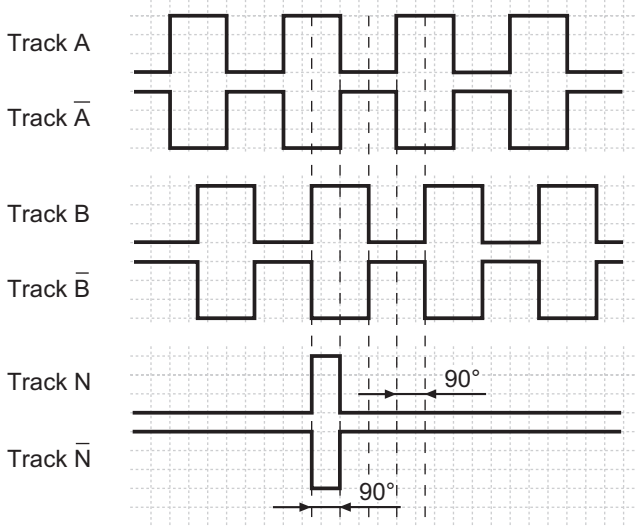
Output signals

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 mm ²	UB
white 0,5 mm ²	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	$\geq UB - 3$ V
Output level Low	≤ 1.5 V
Load	≤ 70 mA

Incremental encoders

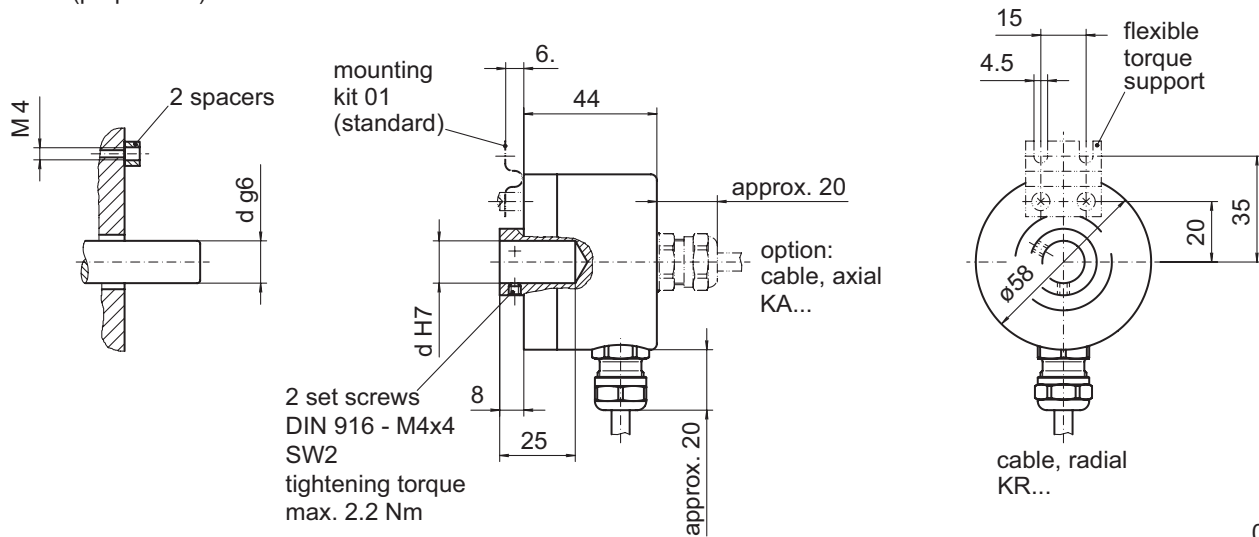
End shaft $\varnothing 8$ to $\varnothing 14$ mm

Resolution 50...1024 pulses

ITD 20 A 4

Dimensions

mounting side
(proposition)



029- 1