

# Incremental encoders

Through hollow shaft  $\varnothing 30$  to  $\varnothing 50$  mm

1024...10000 pulses per revolution

## ITD61H00



ITD61H00 with through hollow shaft

### Features

- Robust encoder in size  $\varnothing 120$  mm
- Precise optical sensing
- Universal voltage supply 4.75...30 VDC
- Output signal level TTL or HTL
- Through hollow shaft  $\varnothing 30$ ...50 mm
- Pulses per revolution up to 10 000
- B-side clamping
- Stainless steel design (1.4305)

### Technical data - electrical ratings

Voltage supply	8...30 VDC 4.75...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	$\leq 100$ mA
Pulses per revolution	1024...10000
Reference signal	Zero pulse, width $90^\circ$
Sensing method	Optical
Output frequency	$\leq 300$ kHz (UB = 5 VDC, at 4.75...30 VDC) $\leq 160$ kHz (UB > 5 VDC, at 4.75...30 VDC) $\leq 300$ kHz (at 8...30 VDC)
Output signals	A, B, N + inverted
Output stages	Push-pull short-circuit proof
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3
Approval	UL 508 / CSA 22.2

### Technical data - mechanical design

Size (flange)	$\varnothing 120$ mm
Shaft type	$\varnothing 30$ ...50 mm (through hollow shaft)
Motor shaft tolerance	0.5 mm axial 0.1 mm radial
Mounting kit	051 058
Protection DIN EN 60529	IP 54
Operating speed	$\leq 4000$ rpm
Materials	Housing: stainless steel 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 30 g, 11 ms
Connection	Cable 1 m Connector M23 type 2, 12-pin
Weight approx.	2000 g

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## Part number

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Mounting kit

051 Mounting kit 051

058 Mounting kit 058

Protection

IP54 IP 54

Through hollow shaft

30  $\varnothing 30$  mm

35  $\varnothing 35$  mm

40  $\varnothing 40$  mm

45  $\varnothing 45$  mm

50  $\varnothing 50$  mm

Operating temperature

S -20...+70 °C

Connection

D2SR12 Flange connector type 2, pin contacts, radial, 12-pin

KR1 Cable 1 m, radial

Output signals

NI A, A inv, B, B inv, 0, 0 inv (signal sequence A leading B (CW))

SI A, A inv, B, B inv, 0, 0 inv (signal sequence B leading A (CW))

Voltage supply / signals

R 8...30 VDC / Uout = 5 V

V 4.75...30 VDC / Uout = Uin

Pulse number - see table

## Pulse number

1024	2048	2500	4096	10000
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Other diameters on request.

Subject to modification in technic and design. Errors and omissions excepted.

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Through hollow shaft  $\varnothing 30$  to  $\varnothing 50$  mm

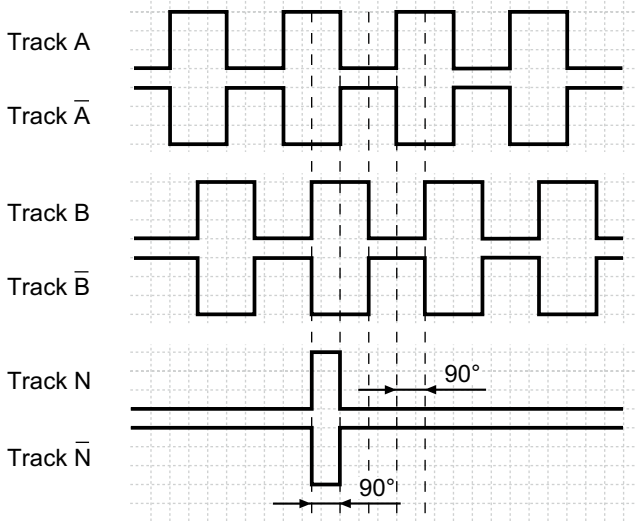
1024...10000 pulses per revolution

## ITD61H00

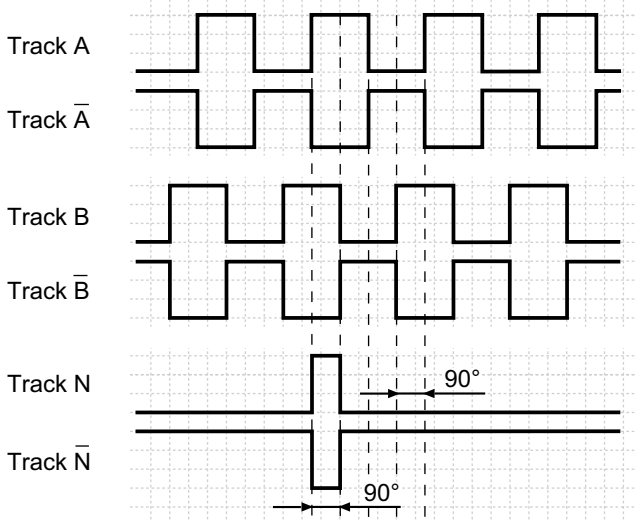
### Output signals

Clockwise rotation when looking at the mounting side.

#### NI-Output signals



#### SI-Output signals



### Terminal assignment

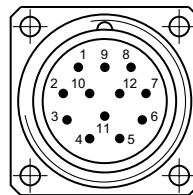
#### Cable

Core color	Assignment
green	Track A
brown	Track A inv.
grey	Track B
black	Track B inv.
pink	Track N
white	Track N inv.
red	UB
blue	GND
yellow	UB-Sense
violet	GND-Sense
transparent	Shield/Housing

Cable: PUR, [5x2x0,14 mm<sup>2</sup>], bending radius >70 mm, outer diameter 7 mm

#### Flange connector M23, 12-pin

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	4.75...30 VDC / $U_{OUT} = U_{IN}$
Output level High	$\geq U_B - 3$ V
Output level Low	$\leq 1$ V
Load	$\leq 30$ mA

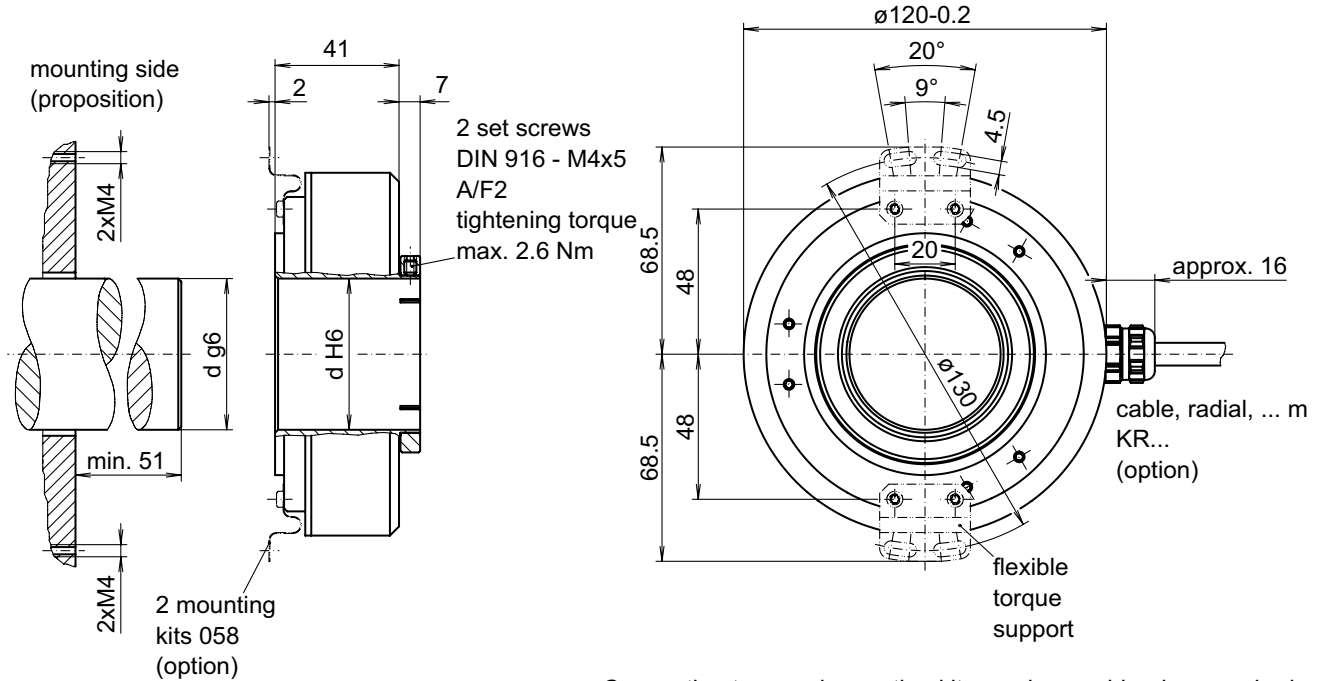
Outputs	8...30 VDC / $U_{OUT} = 5$ V
Output level High	$\geq 2.4$ V
Output level Low	$\leq 0.5$ V
Load	$\leq 30$ mA

# Incremental encoders

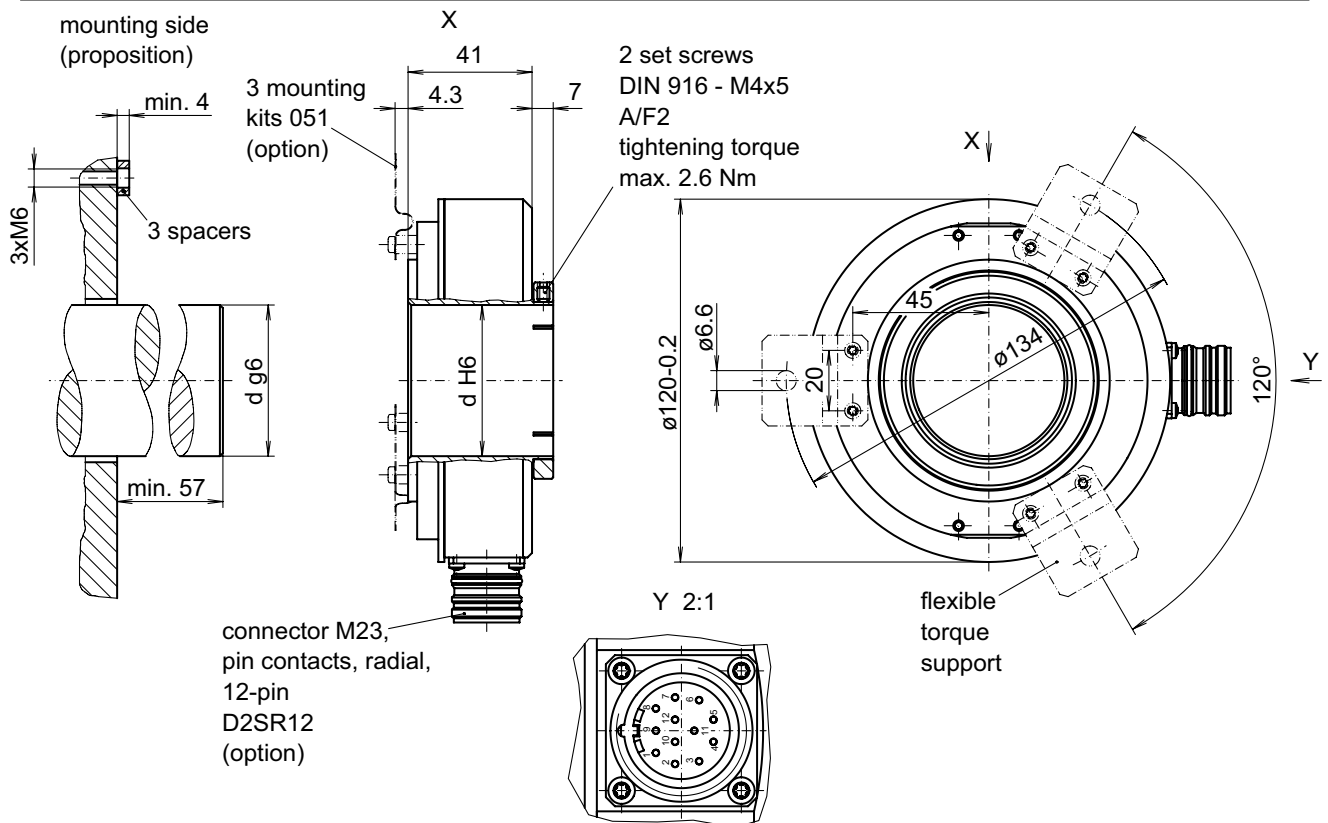
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## Dimensions



Connection type and mounting kits can be combined as required.



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