Incremental encoders

Hollow shaft ø10 to ø14 mm

Resolution 1…4096 pulses

ITD2PH00



ITD2PH00 with hollow shaft

Features

- **Programmable encoder**
- **Resolution 1...4096 ppr programmable**
- **Configurable by PC software: Pulse number in increments of one, output signal level TTL or HTL, zero pulse width and position, rotating direction**
- **No additional programming lines**
- **Consistent supply voltage 4.75...30 VDC**
- **Optical sensing**
- **Reduces stock costs**

Optional

- **Programmer kit ITDxP**

Technical data - electrical ratings

Voltage supply	4.75...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤40 mA (24 VDC) ≤130 mA (4.75 VDC)
Resolution (steps/turn)	1...4096
Reference signal	Zero pulse, programmable
Sensing method	Optical
Output frequency	≤300 kHz (TTL) ≤160 kHz (HTL)
Output signals	A, B, N + inverted
Output circuit	Push-pull short-circuit proof
Programmable parameters	Output resolution in increments of one (can be different for A and B) Output signal level (TTL or HTL) Zero pulse width and position Rotational direction CW/CCW
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 55011

Technical data - mechanical design

Dimensions (flange)	ø58 mm
Shaft	ø10 mm hollow shaft ø12 mm hollow shaft ø14 mm hollow shaft
Motor shaft tolerance	0.25 mm axial 0.1 mm radial
Protection DIN EN 60529	IP 65
Operating speed	≤6000 rpm (mechanical) ≤8000 rpm (electric)
Starting torque	≤0.01 Nm
Materials	Housing: aluminium Shaft: stainless steel
Operating temperature	-30...+100 °C
Relative humidity	90 % non-condensing
Resistance	DIN EN 60068-2-6 Vibration 20 g, 55-2000 Hz DIN EN 60068-2-27 Shock 100 g, 6 ms
Connection	Board connector, 8-pin
Weight approx.	150 g

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

ITD2PH00

Part number

ITD2PH00	XXXX	P	NI	S21SG8	E		IP65

Protection
IP65 IP 65

Hollow shaft
10 Hollow shaft ø10 mm
12 Hollow shaft ø12 mm
14 Hollow shaft ø14 mm

Operating temperature
E -30...+100 °C

Connection
S21SG8 Board connector type 21, pin contacts, straight, 8-pin

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

Voltage supply / signals
P 4.75...30 VDC / TTL/HTL programmable (factory-set TTL programmed)

Pulses
XXXX

(1024 ppr factory setting)
1...4096 ppr programmable.

Accessories

Connectors and cables	
11072169	Connection cable with wire end sleeves (UL/CSA) L = 1 m
11079089	Connection cable with rear mount socket M23, 12-poles L = 1 m
11079111	Connection cable with D-SUB connector, 9-poles L = 1 m
11079113	Connection cable with coupling M12, 8-poles L = 1 m
Mounting accessories	
11066080	Mounting kit 002
11066083	Mounting kit 006
11073114	Mounting kit 019
11073119	Mounting kit 021
11069239	Mounting kit 092
Programming accessories	
11079110	Scope of supply: Programmer kit ITDxP (Programmer Box ITDxP, connection cable with D-SUB (9 poles), USB cable, CD ITDxP (software, driver and manual)

Further connection cable lengths see accessories.

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Incremental encoders

Hollow shaft ø10 to ø14 mm

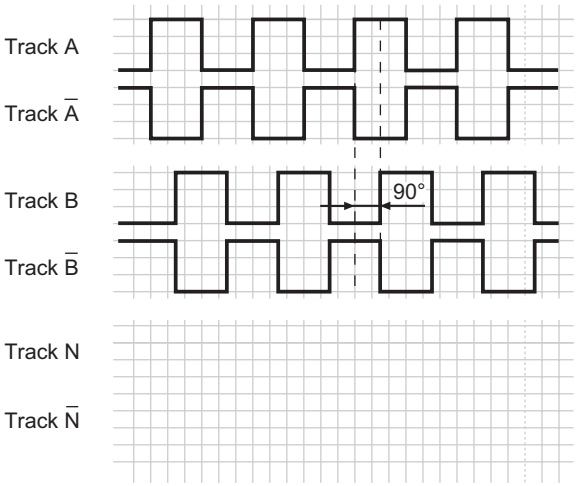
Resolution 1…4096 pulses

ITD2PH00

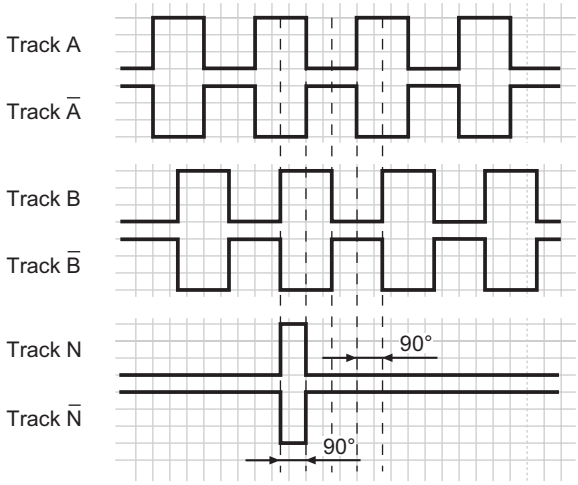
Output signals

With the software of the programmer-kit ITDxP are possible five different variants of the programming zero pulse.
On following diagrams the direction of rotation is represented in the clockwise direction with view at the mounting side.

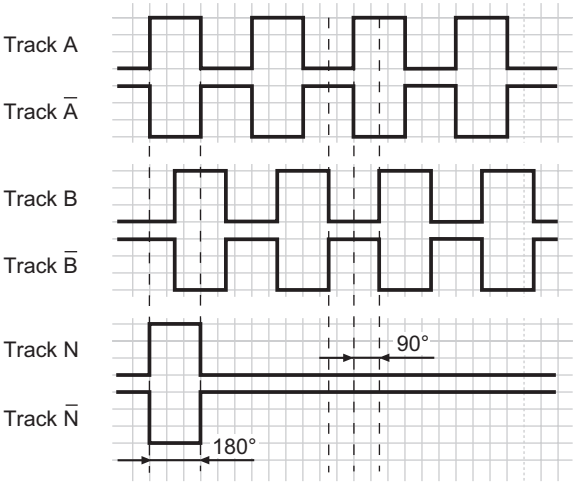
No zero pulse (**None**)



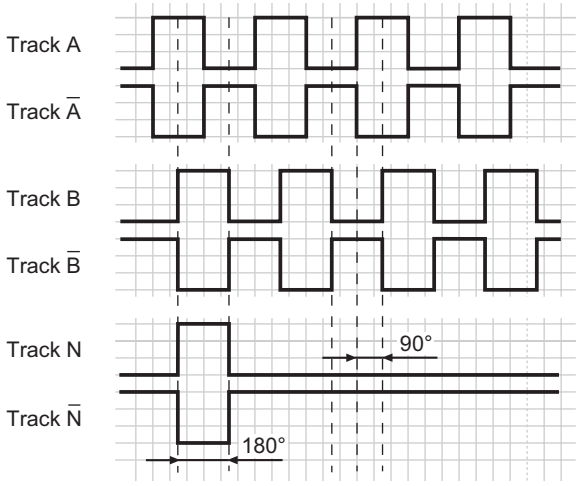
Zero pulse 90° A&B (**90° A&B**)



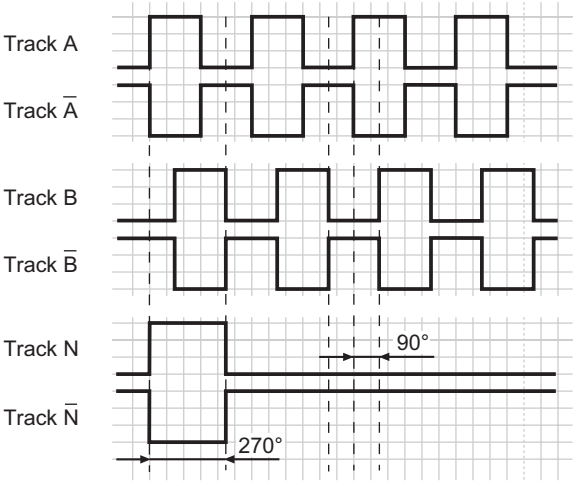
Zero pulse 180° A (**180° A**)



Zero pulse 180° B (**180° B**)



270° zero pulse (**270°**)



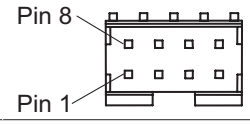
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ITD2PH00

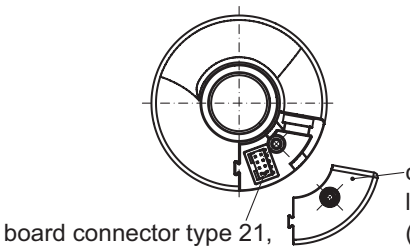
Trigger level	
Outputs	**Linedriver**
Output level High	≥2.4 V
Output level Low	≤0.5 V
Load	≤70 mA

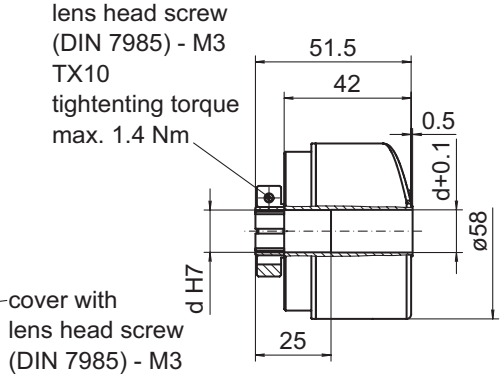
Outputs	**Push-pull** short-circuit proof
Output level High	≥UB -3 V
Output level Low	≤1.5 V
Load	≤70 mA

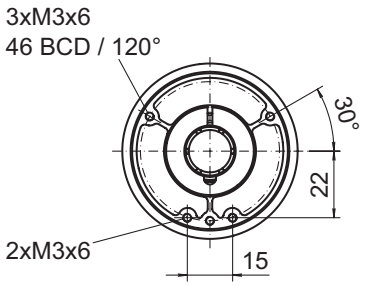
Terminal assignment	
Connector	Assignment
Pin 3	Track A
Pin 4	Track A inv.
Pin 5	Track B
Pin 6	Track B inv.
Pin 7	Track N
Pin 8	Track N inv.
Pin 1	UB
Pin 2	GND



Dimensions







Mounting option for mounting kits of the ITD 2. - series.

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