

Incremental encoders

Hollow shaft $\varnothing 10$ to $\varnothing 14$ mm

Resolution 1...4096 pulses

ITD2PH00



ITD2PH00 with hollow shaft

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

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 - mechanical design

Dimensions (flange)	$\varnothing 58$ mm
Shaft	$\varnothing 10$ mm hollow shaft $\varnothing 12$ mm hollow shaft $\varnothing 14$ 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

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Part number

ITD2PH00 XXXX P NI S21SG8 E IP65

Protection

IP65 IP 65

Hollow shaft

10 Hollow shaft $\varnothing 10$ mm

12 Hollow shaft $\varnothing 12$ mm

14 Hollow shaft $\varnothing 14$ 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

45433-01000 Connection cable with wire end sleeves
L = 1 m

45480-01000 Connection cable with rear mount socket
M23, 12-poles L = 1 m

45559-01000 Connection cable with D-SUB connector,
9-poles L = 1 m

45584-01000 Connection cable with coupling M12, 8-poles
L = 1 m

Mounting accessories

41043 Mounting kit 02

41047 Mounting kit 06

48326 Mounting kit 19

48333 Mounting kit 21

43626 Mounting kit 92

Programming accessories

45558 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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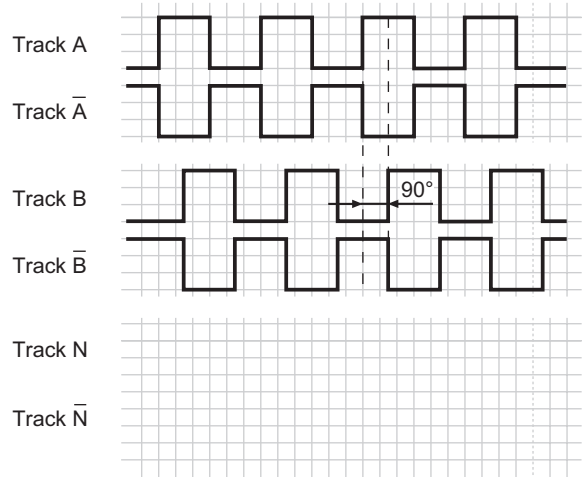
ITD2PH00

Output signals

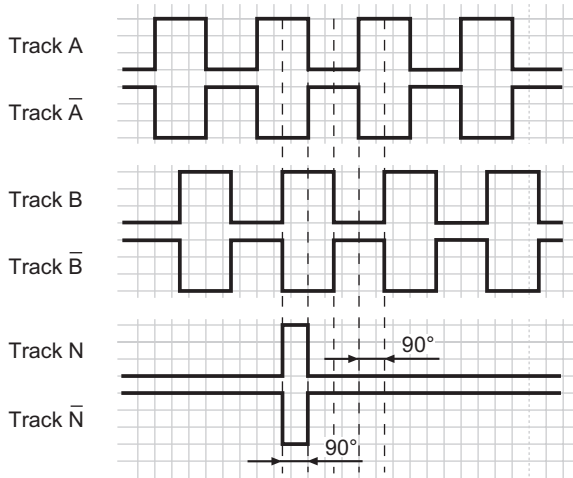
With the software of the programmer-kit ITDxP are possible five different variants of the programming zero pulse.

On following diagrams the direction of rotation is represented in the clockwise direction with view at the mounting side.

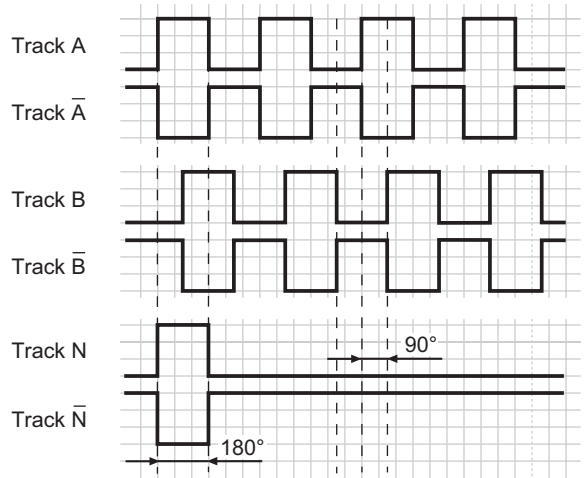
No zero pulse (None)



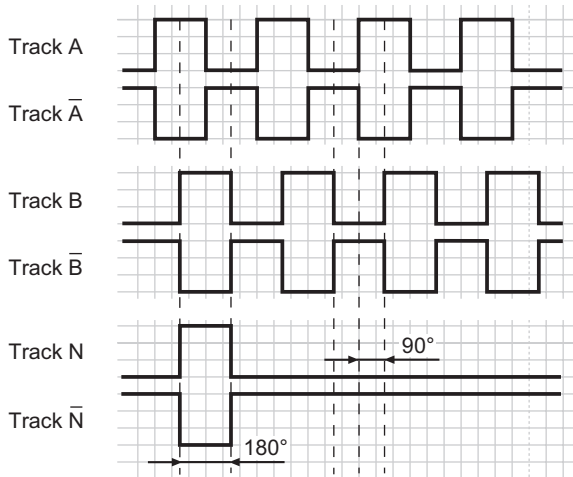
Zero pulse 90° A&B (90° A&B)



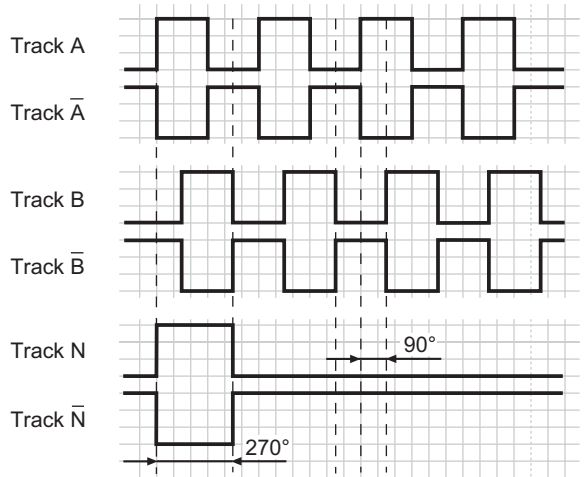
Zero pulse 180° A (180° A)



Zero pulse 180° B (180° B)



270° zero pulse (270°)



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Trigger level

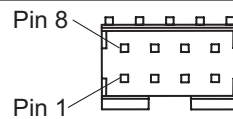
Outputs	Linedriver
Output level High	≥ 2.4 V
Output level Low	≤ 0.5 V
Load	≤ 70 mA

Outputs

Outputs	Push-pull short-circuit proof
Output level High	$\geq U_B - 3$ 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

