

Sine encoders

Through hollow shaft $\varnothing 10$ to $\varnothing 14$ mm
1024, 2048 sinewave cycles per turn



ITD22H00



ITD22H00 with through hollow shaft

Features

- Robust industry standard
- Wide operating temperature range
- Up to 2048 sinewaves cycles per turn
- Sine output signals 1 Vpp
- LowHarmonics® signal quality
- Detachable cable – tangential outlet
- Perfect control quality at all rotational speeds

Technical data - electrical ratings

Voltage supply	5 VDC ± 10 % 8...30 VDC
Reverse polarity protection	Yes
Consumption w/o load	≤ 100 mA
Sinewave cycles per turn	1024...2048
Sensing method	Optical
Output frequency	≤ 180 kHz (-3 dB)
Output signals	A, B, 0
Output stages	SinCos 1 Vpp
Interference immunity	DIN EN 61000-6-2
Emitted interference	DIN EN 61000-6-3

Technical data - mechanical design

Size (flange)	$\varnothing 58$ mm
Shaft type	$\varnothing 10$ mm (through hollow shaft) $\varnothing 12$ mm (through hollow shaft) $\varnothing 14$ mm (through hollow shaft)
Protection	DIN EN 60529 IP 65
Operating speed	≤ 6000 rpm
Starting torque	≤ 0.015 Nm (+20 °C)
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, 60-2000 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.

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Part number

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		NI	S21SG8	E		IP65
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Protection

IP65 IP 65

Through hollow shaft

10 $\varnothing 10$ mm

12 $\varnothing 12$ mm

14 $\varnothing 14$ mm

Operating temperature

E -30...+100 °C

Connection

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

Output signals

NI A+, A-, B+, B-, N+, N-

Voltage supply / signals

M 5 VDC / sine 1 Vpp

S 8...30 VDC / sine 1 Vpp

Sinewave cycles - see table

Sinewave cycles

1024

| 2048

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Accessories

Connectors and cables

11072169	Connection cable with FCI, 8-pin / wire end sleeves (UL/CSA), 1 m
11093848	Connection cable with FCI, 8-pin / wire end sleeves (UL/CSA), 2 m
11092928	Connection cable with FCI, 8-pin / wire end sleeves (UL/CSA), 3 m
11077007	Connection cable with FCI, 8-pin / wire end sleeves (UL/CSA), 5 m
11080879	Connection cable with FCI, 8-pin / wire end sleeves (UL/CSA), 10 m
11079089	Connection cable with rear mount socket M23, 12-pin, 1 m
11106562	Connection cable with FCI, 8-pin / D-SUB, 9-pin, 0.3 m
11079111	Connection cable with FCI, 8-pin / D-SUB, 9-pin, 1 m
11079113	Connection cable with coupling M12, 8-pin, 1 m
11079112	Connection cable with crimp contacts (UL/CSA), 0.2 m

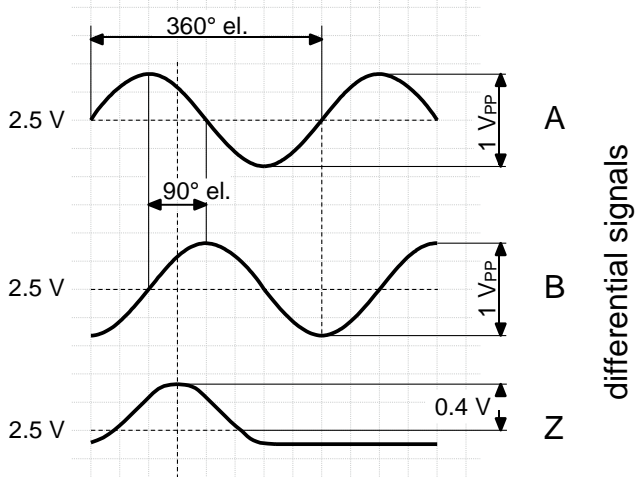
Mounting accessories

11066080	Torque arm, 1-arm, bolt circle $\varnothing 76 \dots 80$ mm, mounting M4 (mounting kit 002)
11066083	Torque arm, 1-arm, bolt circle $\varnothing 74 \dots 94$ mm, mounting M4/M5 (mounting kit 006)
11073114	Torque arm, 3-armed, bolt circle $\varnothing 76$ mm, mounting M3 (mounting kit 019)
11073119	Torque arm, 1-arm, bolt circle $\varnothing 65.5 \dots 281$ mm, mounting M4, can be cut to length (mounting kit 021)
11069239	Torque arm, 1-arm, bolt circle $\varnothing 110 \dots 130$ mm, mounting M5 (mounting kit 092)
11116921	Insulating sleeve $\varnothing 10$ mm/ $\varnothing 12$ mm/25 mm long
11116923	Insulating sleeve $\varnothing 12$ mm/ $\varnothing 14$ mm/25 mm long

Further connection cable lengths see accessories.

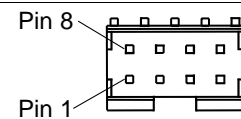
Output signals

Clockwise rotation when looking at the mounting side.



Terminal assignment

Connector	Assignment
Pin 1	UB
Pin 2	GND
Pin 3	Track A +
Pin 4	Track A -
Pin 5	Track B +
Pin 6	Track B -
Pin 7	Track N +
Pin 8	Track N -



Output signal level

Outputs	Sine
Output amplitude A + B	1 V _{PP} at Z ₀ = 120 Ω
Output amplitude N	approx. 0,4 V (useable part) at Z ₀ = 120 Ω

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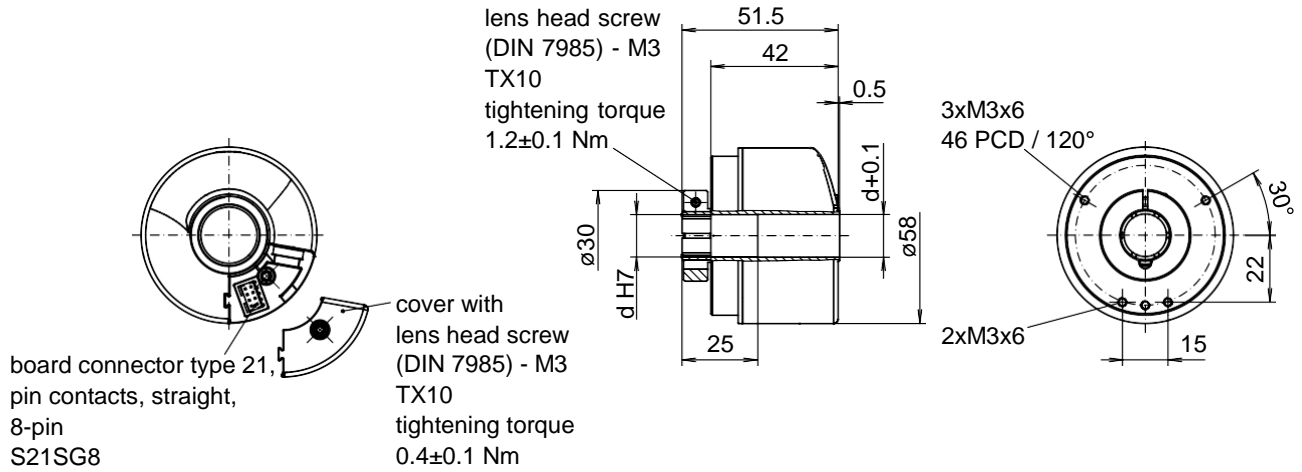
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Dimensions



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