



Model Number

THI40N

Features

- Compact design
- Up to 1024 ppr
- 4.75 V ... 30 V with short-circuit proof push-pull output
- RS 422 functionality at 5 V operation
- Loadable metal disk

Description

The THI40 continues the new economical target line of Pepperl+Fuchs. With a small outside diameter of 40 mm, the unit is ideal for use in industrial areas where very little space is available.

The technology of the rotary encoder is adapted to the new requirements of the rotary encoder market. Innovative fast technology with Opto-ASIC forms the central basis of the device. The rotary encoder is available with a pulse count of up to 1024 pulses per revolution.

The rotary encoder is equipped with a metal disk that can accept a high load. It provides the ideal combination of non-sensitivity to temperature and high resolution.

Technical data

General specifications

Detection type	photoelectric sampling
Pulse count	max. 1024

Electrical specifications

Operating voltage U_B	4.75 ... 30 V DC 5 V DC for RS-422
No-load supply current I_0	max. 55 mA

Output

Output type	push-pull, incremental or RS-422, incremental
Voltage drop U_d	≤ 2.5 V (< 2.5 V)
Load current	max. per channel 30 mA, short-circuit protected (max. per channel 20 mA, conditionally short-circuit proof)
Output frequency	max. 100 kHz (max. 100 kHz)
Rise time	980 ns (225 ns)
De-energized delay t_{off}	980 ns (225 ns)

Connection

Cable	$\varnothing 5$ mm, 8 x 0.08 mm ² , 2 m
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Standard conformity

Degree of protection	DIN EN 60529, IP54
Climatic testing	DIN EN 60068-2-3, no moisture condensation
Emitted interference	EN 61000-6-4:2007/A1:2011
Noise immunity	EN 61000-6-2:2005
Shock resistance	DIN EN 60068-2-27, 100 g, 6 ms
Vibration resistance	DIN EN 60068-2-6, 10 g, 10 ... 2000 Hz

Ambient conditions

Operating temperature	
Nickel disk	-10 ... 70 °C (14 ... 158 °F)
Storage temperature	
Nickel disk	-25 ... 85 °C (-13 ... 185 °F)

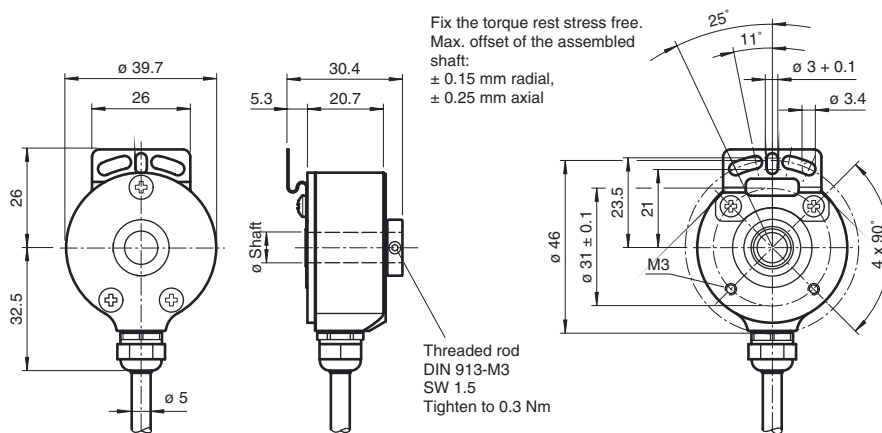
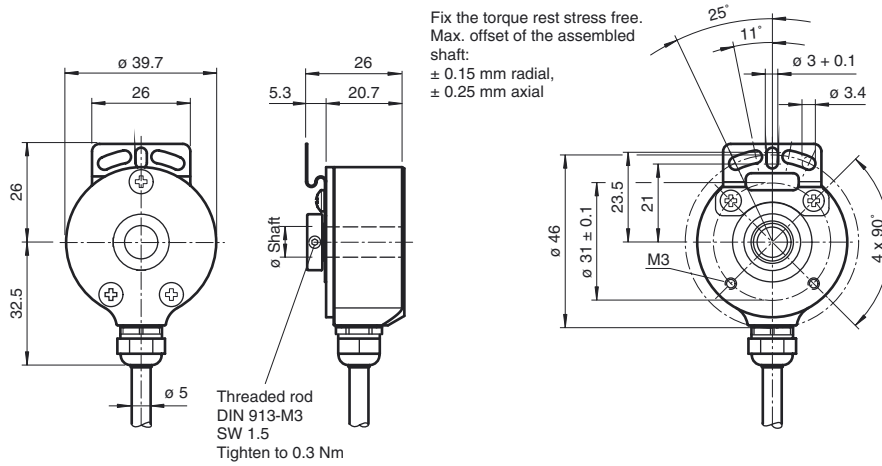
Mechanical specifications

Material	
Housing	aluminum
Flange	aluminum
Shaft	Stainless steel
Mass	approx. 160 g
Rotational speed	max. 6000 min ⁻¹
Moment of inertia	≤ 5 gcm ²
Starting torque	≤ 1 Ncm

Approvals and certificates

UL approval	cULus Listed, General Purpose, Class 2 Power Source
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Dimensions

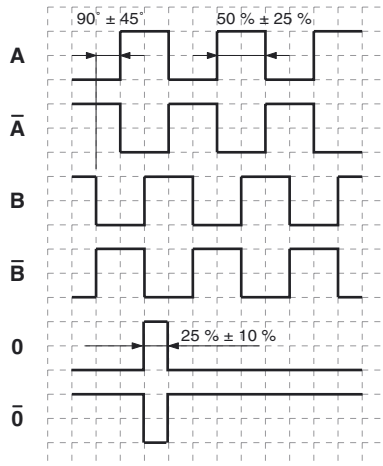


Electrical connection

Signal	Cable, 8-core
GND	White
+U _b	Brown
A	Green
B	Grey
\bar{A}	Yellow
\bar{B}	Pink
0	Blue
$\bar{0}$	Red
Screen	-

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Signal outputs



↻ cw - with view onto the shaft

Order code

T	H	I	4	0	N	-			A	K	2	R	6	T	N	-				
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Pulse count
25, 50, 100, 150, 180, 200, 250, 360, 400, 500, 1000, 1024

Temperature range
N normal

Output switching
T 4,75 V ... 30 V, push-pull

Signal output
6 A + B + 0 and \bar{A} + \bar{B} + $\bar{0}$

Exit position
R radial

Connection type
K2 cable Ø5 mm, 8 x 0.08 mm², 2 m

Flange type
A Hollow shaft

Shaft dimensions
 0S Hollow shaft Ø6 mm, clamping ring at flange side
 0U Hollow shaft Ø6.35 mm, clamping ring at flange side
 0C Hollow shaft Ø8 mm, clamping ring at flange side
 0X Hollow shaft Ø3/16", clamping ring at flange side
 2A Hollow shaft Ø5/16", clamping ring at flange side
 1S Hollow shaft Ø6 mm, clamping ring at cover side
 1U Hollow shaft Ø6.35 mm, clamping ring at cover side
 1C Hollow shaft Ø8 mm, clamping ring at cover side
 1X Hollow shaft Ø3/16", clamping ring at cover side
 3A Hollow shaft Ø5/16", clamping ring at cover side

Housing material
N Aluminium

Shaft version
H Hollow shaft

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