



Incremental rotary encoder TVI40N

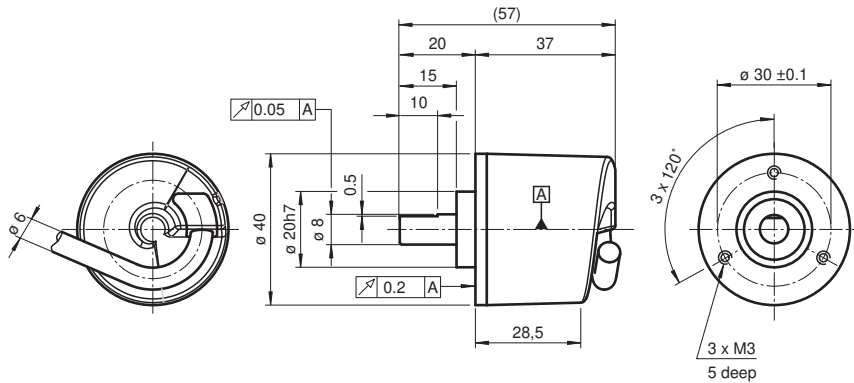
- Compact design
- Up to 1024 ppr
- 4.75 V ... 30 V with short-circuit proof push-pull output
- RS 422 functionality at 5 V operation
- Tangential cable outlet



Function

The TVI40 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 provides the ideal combination of non-sensitivity to temperature and high resolution. The appearance of this rotary encoder is the tangential cable outlet. This ensures a buckling-free, carefully laying of the connection cable in tangential, radial or axial manner.

Dimensions



Release date: 2022-12-12 Date of issue: 2022-12-12 Filename: t39661_eng.pdf

Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

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www.pepperl-fuchs.com

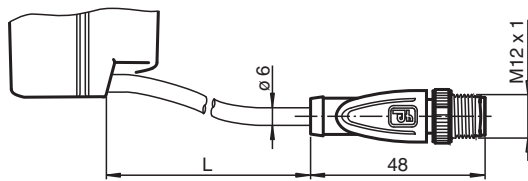
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Dimensions



Technical Data

General specifications		
Detection type		photoelectric sampling
Pulse count		max. 1024
Functional safety related parameters		
MTTF _d		140 a
Mission Time (T _M)		20 a
Diagnostic Coverage (DC)		0 %
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		∅6 mm, 8 x 0,128 mm ² connection with plug M12, 8-pin, L = 0.2 m
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
Approvals and certificates		
UL approval		cULus Listed, General Purpose, Class 2 Power Source
Maximum permissible ambient temperature		max. 60 °C (max. 140 °F)
Ambient conditions		
Operating temperature		-10 ... 70 °C (14 ... 158 °F)
Storage temperature		-25 ... 85 °C (-13 ... 185 °F)
Mechanical specifications		
Material		

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Technical Data

Housing	Polycarbonate
Flange	3.1645 aluminum
Shaft	Stainless steel 1.4305 / AISI 303
Mass	approx. 180 g
Rotational speed	max. 6000 min ⁻¹
Moment of inertia	≤ 4.3 gcm ²
Starting torque	≤ 0.2 Ncm
Shaft load	
Axial	max. 20 N
Radial	max. 30 N
Life span	≥ 2 x 10 ⁹ revolutions (max. shaft loading)

Accessories

	9108, 6	Measuring wheel
	9109, 6	Measuring wheel for shaft diameter 6 mm
	9110, 6	Measuring wheel for shaft diameter 6 mm
	9113, 6	Measuring wheel for shaft diameter 6 mm
	9101, 8	Measuring wheel for shaft diameter 8 mm
	9102, 8	Measuring wheel for shaft diameter 8 mm
	9103, 8	Measuring wheel for shaft diameter 8 mm
	9108, 8	Measuring wheel for shaft diameter 8 mm
	9109, 8	Measuring wheel for shaft diameter 8 mm
	9110, 8	Measuring wheel for shaft diameter 8 mm
	9112, 8	Measuring wheel for shaft diameter 8 mm
	9113, 8	Measuring wheel for shaft diameter 8 mm

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Shaft version
V Solid shaft

Housing material
N Plastic

Shaft dimension
19 Shaft Ø1/8" x 15 mm
23 Shaft Ø5 mm x 15 mm
14 Shaft Ø6 mm x 15 mm
17 Shaft Ø1/4" x 15 mm
09 Shaft Ø8 mm x 15 mm

T Clamping flange

Pulse count 25, 50, 60, 100, 150, 180, 200,
 250, 360, 400, 500, 600,
 1000, 1024

Temperature range
N Normal

Output switching
T 4.75 V ... 30 V, push-pull