



Incremental rotary encoder

TVI50N-09BK0**T

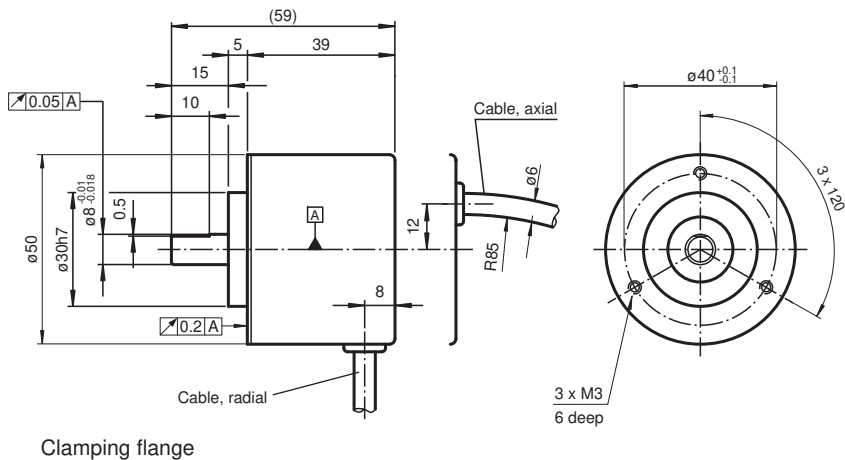
- Sturdy and compact design
- Up to 1024 ppr
- 4.75 V ... 30 V with short-circuit proof push-pull output
- RS 422 functionality at 5 V operation



Function

The TVI50 is the starting point for the new economical target line of Pepperl+Fuchs. With a small outside diameter of 50 mm, the unit is ideal for use in industrial areas where 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.

Dimensions



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)	

Technical Data

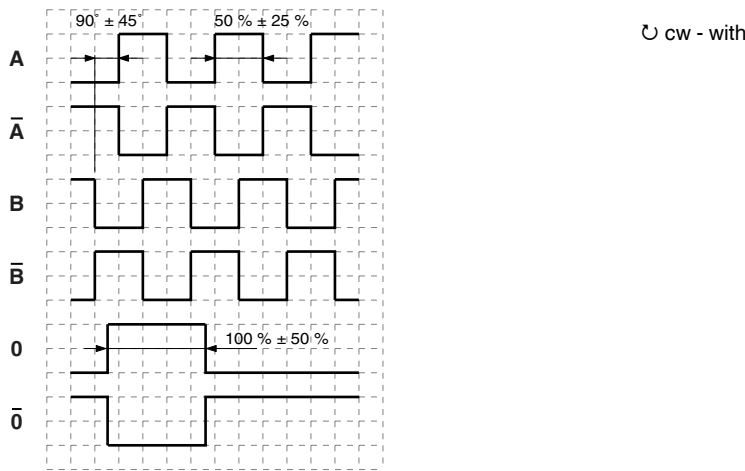
Output frequency		max. 100 kHz (max. 100 kHz)
Rise time		980 ns (225 ns)
De-energized delay	t_{off}	980 ns (225 ns)
Connection		
Cable		Ø6 mm, 8 x 0.128 mm ² , 0.5 m
Standard conformity		
Degree of protection		DIN EN 60529, IP40, IP54
Climatic testing		DIN EN 60068-2-3, no moisture condensation
Emitted interference		EN IEC 61000-6-4:2019
Noise immunity		EN IEC 61000-6-2:2019
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		-40 ... 80 °C (-40 ... 176 °F)
Mechanical specifications		
Material		
Housing		aluminum, blank
Flange		3.1645 aluminum
Shaft		Stainless steel 1.4305 / AISI 303
Mass		approx. 220 g
Rotational speed		max. 6000 min ⁻¹
Moment of inertia		≤ 5 gcm ²
Starting torque		≤ 0.5 Ncm
Shaft load		
Axial		20 N
Radial		40 N
Dimensions		
Length		44 mm
Diameter		50 mm

Connection

Signal	Cable Ø6 mm, 8-core
GND	Blue
+U _b	Brown
A	Black
B	White
\bar{A}	Violet
\bar{B}	Grey
0	Orange
$\bar{0}$	Yellow
Screen	-

Operation

Signal outputs



Type Code

Order code

T	V	I	5	0	N	-			B	K			6	T	N	-						
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Pulse count 50, 100, 200, 360, 400, 500, 1000, 1024

Option
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
A Axial
R Radial

Connection type
K0 Cable Ø6 mm, 8 x 0.128 mm², 0.5 m
K2 Cable Ø6 mm, 8 x 0.128 mm², 2 m
K5 Cable Ø6 mm, 8 x 0.128 mm², 5 m
KA Cable Ø6 mm, 8 x 0.128 mm², 10 m

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

Order code

T	V	I	5	0	N	-			B	K			6	T	N	-					
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Shaft version

V Solid shaft

Housing material

N Aluminium, IP40

T Aluminium, IP54

Shaft dimension

09 Shaft Ø8 mm x 15 mm

14 Shaft Ø6 mm x 15 mm

23 Shaft Ø5 mm x 15 mm

Flange version

B Clamping flange

Option

N Normal

Output switching

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

Pulse count

50, 100, 200, 360, 400, 500, 1000, 1024