

# Incremental rotary encoder

## TVI58N-01NKYR6TN-01000

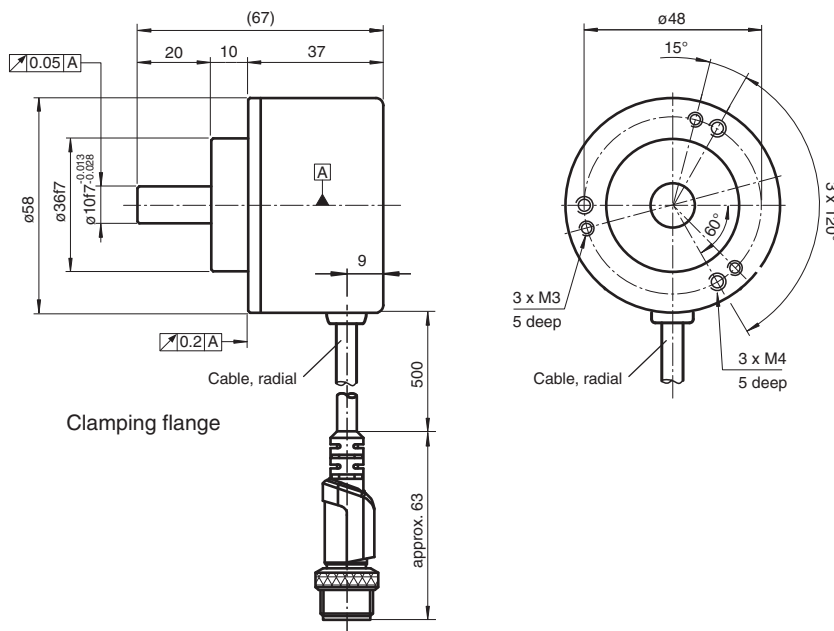
- Sturdy and compact design
- Up to 1000 ppr
- 4.75 V ... 30 V with short-circuit proof push-pull output
- RS 422 functionality at 5 V operation
- Loadable metal disk



### Function

The TVI58 extends the economical target line of Pepperl+Fuchs. With its outside diameter of 58 mm, the device is fully mechanical compatible to the usual industry standard. The technology of the rotary encoder is optimally adapted to the 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 1000 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.

### Dimensions



### Technical Data

#### General specifications

Pulse count max. 1000

#### 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

Release date: 2021-07-01 Date of issue: 2021-07-01 Filename: 186186\_eng.pdf

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

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

Germany: +49 621 776 1111  
fa-info@de.pepperl-fuchs.com


Singapore: +65 6779 9091  
fa-info@sg.pepperl-fuchs.com

**PF** PEPPERL+FUCHS

## Technical Data

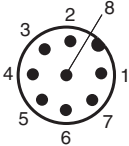
Output type		push-pull, incremental or RS-422, incremental
Amplitude		
Voltage drop	$U_d$	$\leq 2.5 \text{ V}$ ( $< 2.5 \text{ V}$ )
Load current		max. per channel 30 mA, short-circuit protected (max. per channel 20 mA, conditionally short-circuit proof)
Output frequency		max. 100 kHz (max. 100 kHz)
Rise time		980 ns (225 ns)
De-energized delay	$t_{\text{off}}$	980 ns (225 ns)
<b>Connection</b>		
Cable		0.5 m cable, M12 x 1 connector
<b>Standard conformity</b>		
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
<b>Approvals and certificates</b>		
UL approval		cULus Listed, General Purpose, Class 2 Power Source
Maximum permissible ambient temperature		max. 60 °C (max. 140 °F)
<b>Ambient conditions</b>		
Operating temperature		
Nickel disk		-10 ... 70 °C (14 ... 158 °F)
Storage temperature		
Nickel disk		-40 ... 80 °C (-40 ... 176 °F)
<b>Mechanical specifications</b>		
Material		
Housing		aluminum, blank
Flange		3.1645 aluminum
Shaft		Stainless steel 1.4305 / AISI 303
Mass		approx. 220 g
Rotational speed		max. 6000 min <sup>-1</sup>
Moment of inertia		$\leq 20 \text{ gcm}^2$
Starting torque		$\leq 0.5 \text{ Ncm}$
Shaft load		
Axial		20 N
Radial		40 N

## Accessories

	<b>MBT-36ALS</b>	Spring-loaded mounting bracket with a diameter of 36 mm
---	------------------	---

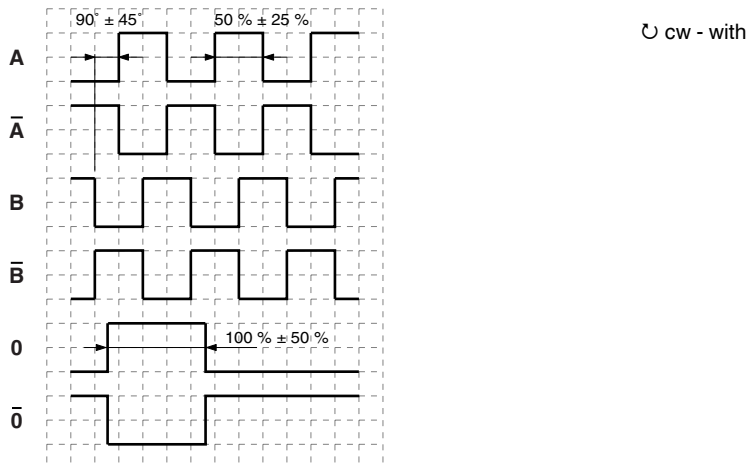
**Electrical connection**

Signal	Connector M12 x 1, 8-pin
GND	1
+U <sub>b</sub>	2
A	3
B	5
$\bar{A}$	4
$\bar{B}$	6
0	7
$\bar{0}$	8



**Operation**

**Signal outputs**



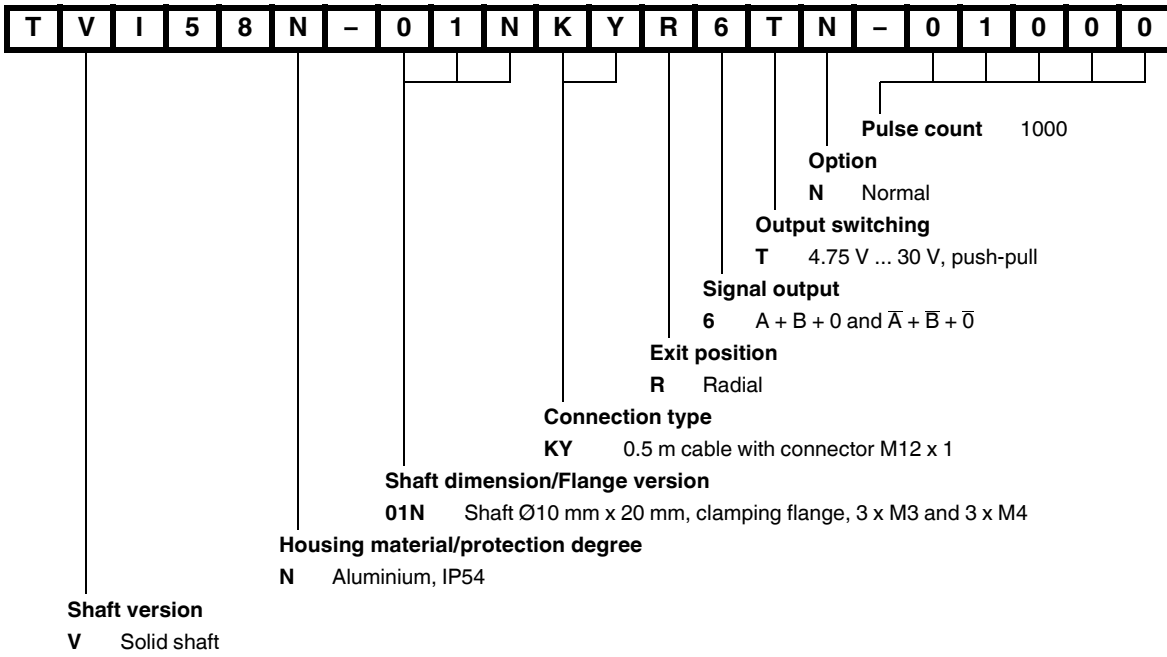
**Accessories**

Accessories	Socket	Wire colour
Cable 5 m with cable socket M12 x 1, 8-pin V1-05M-08P-G	1	white
	2	brown
Cable 10 m with cable socket M12 x 1, 8-pin V1-10M-08P-G	3	green
	4	yellow
	5	grey
	6	pink
	7	blue
	8	red
	Nut	Screen

For additional information on the accessories, please see the "Accessories" section.

**Order code**

Release date: 2021-07-01 Date of issue: 2021-07-01 Filename: 186186\_eng.pdf



Release date: 2021-07-01 Date of issue: 2021-07-01 Filename: 186186\_eng.pdf