



### Model Number

RVI58N-\*\*\*\*\*1

### Features

- Up to 5000 ppr
- Industrial standard housing Ø58 mm
- Servo or clamping flange
- 10 V ... 30 V with short-circuit proof push-pull output

### Description

Compatibility says it all for this incremental rotary encoder.

All six output channels are fitted for this incremental rotary encoder. It can thus be used universally in many different applications.

Focussing on the designs that are most often required has allowed us to offer rapid availability at an attractive price.

The pulse disk is designed in plastic up to 1500 pulses. Beyond that, glass is used.

This incremental rotary encoder is available either in clamping flange design with a shaft 10 mm in diameter x 20 mm or in servo flange design with a shaft 6 mm in diameter x 10 mm.

The electrical connection is made by a 8-pin or a 12-pin round plug connector. It is also possible to obtain a version with a cable connector.

## Technical Data

### General specifications

Detection type	photoelectric sampling
Pulse count	max. 5000

### Functional safety related parameters

MTTF <sub>d</sub>	140 a
Mission Time (T <sub>M</sub> )	20 a
L <sub>10</sub>	70 E+9 at 6000 rpm
Diagnostic Coverage (DC)	0 %

### Electrical specifications

Operating voltage U <sub>B</sub>	10 ... 30 V DC
No-load supply current I <sub>0</sub>	max. 60 mA

### Output

Output type	push-pull, incremental
Voltage drop U <sub>d</sub>	< 3 V
Load current	max. per channel 40 mA , short-circuit protected, reverse polarity protected
Output frequency	max. 200 kHz
Rise time	400 ns

### Connection

Connector	type 9416 (M23), 12-pin, type 9416L (M23), 12-pin or M12 connector, 8-pin
Cable	Ø7.8 mm, 6 x 2 x 0.14 mm <sup>2</sup> , 1 m

### Standard conformity

Degree of protection	DIN EN 60529, IP65
Climatic testing	DIN EN 60068-2-78 , 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, 3 ms
Vibration resistance	DIN EN 60068-2-6, 10 g, 10 ... 2000 Hz

### Ambient conditions

Operating temperature	
Glass disk	-5 ... 80 °C (23 ... 176 °F) , movable cable -20 ... 80 °C (-4 ... 176 °F) , fixed cable
Plastic disk	-5 ... 60 °C (23 ... 140 °F) , movable cable -20 ... 60 °C (-4 ... 140 °F) , fixed cable
Storage temperature	
Glass disk	-40 ... 85 °C (-40 ... 185 °F)
Plastic disk	-40 ... 70 °C (-40 ... 158 °F)

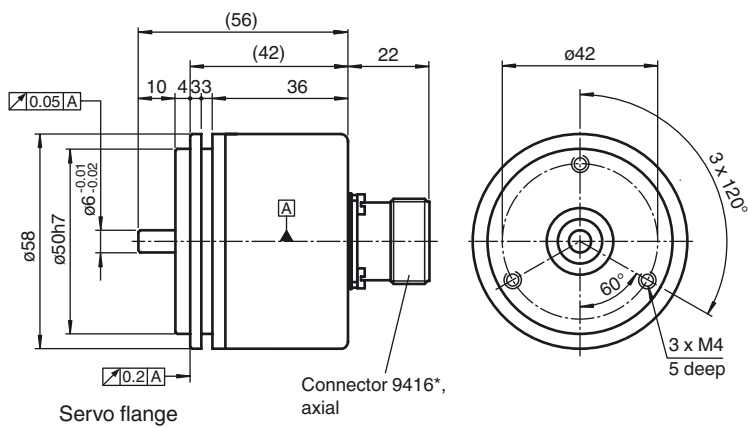
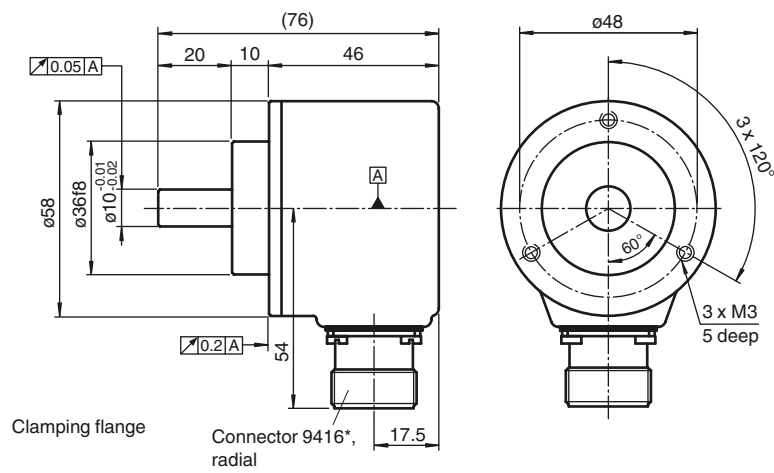
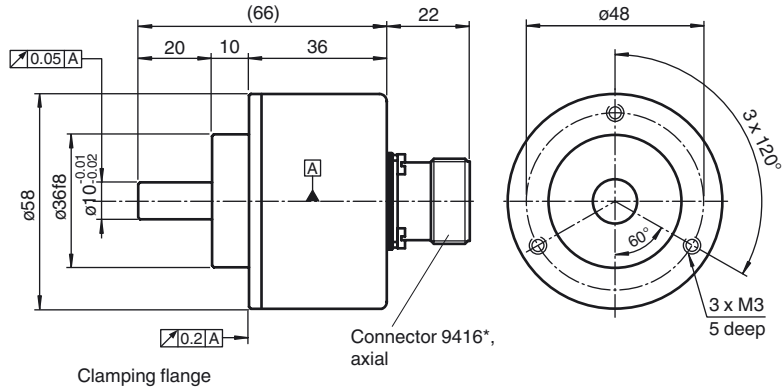
### Mechanical specifications

Material	
Housing	powder coated aluminum
Flange	3.1645 aluminum
Shaft	Stainless steel 1.4305 / AISI 303
Mass	approx. 350 g
Rotational speed	max. 12000 min <sup>-1</sup>
Moment of inertia	≤ 25 gcm <sup>2</sup>
Starting torque	≤ 1.5 Ncm
Shaft load	
Axial	40 N at max. 6000 min <sup>-1</sup> 10 N at max. 12000 min <sup>-1</sup>
Radial	60 N at max. 6000 min <sup>-1</sup> 20 N at max. 12000 min <sup>-1</sup>

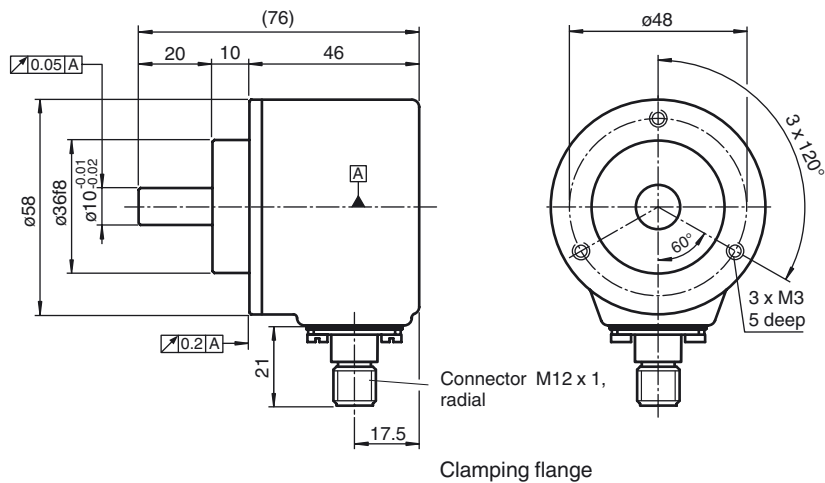
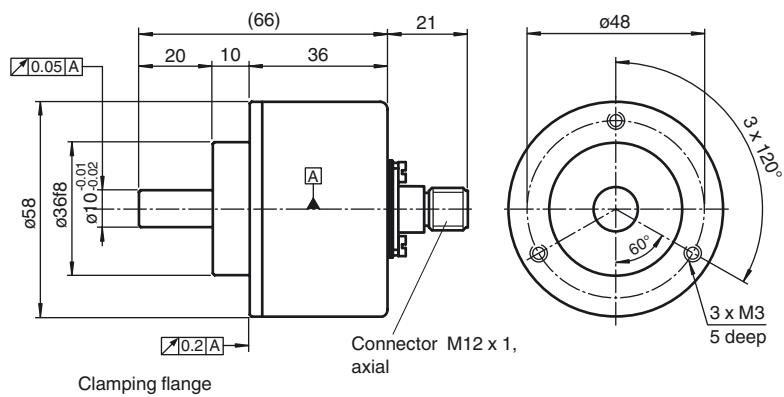
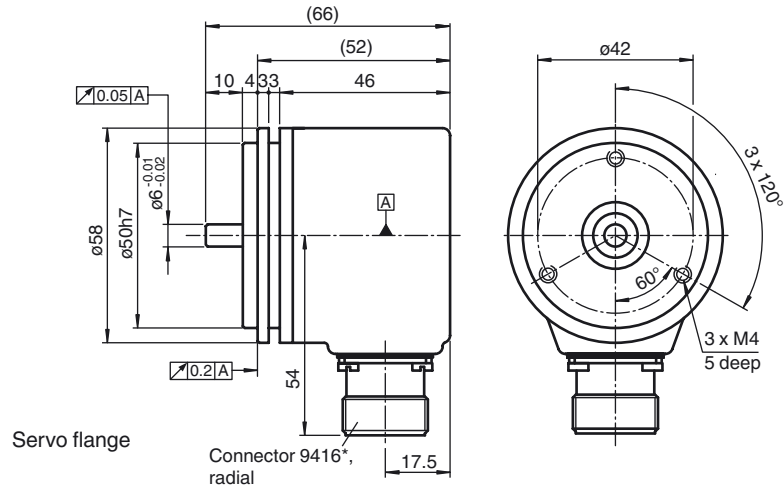
### Approvals and certificates

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

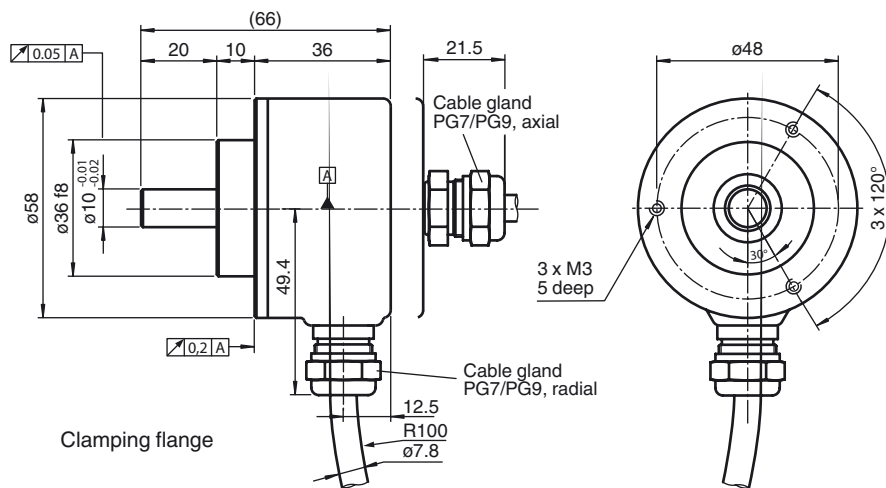
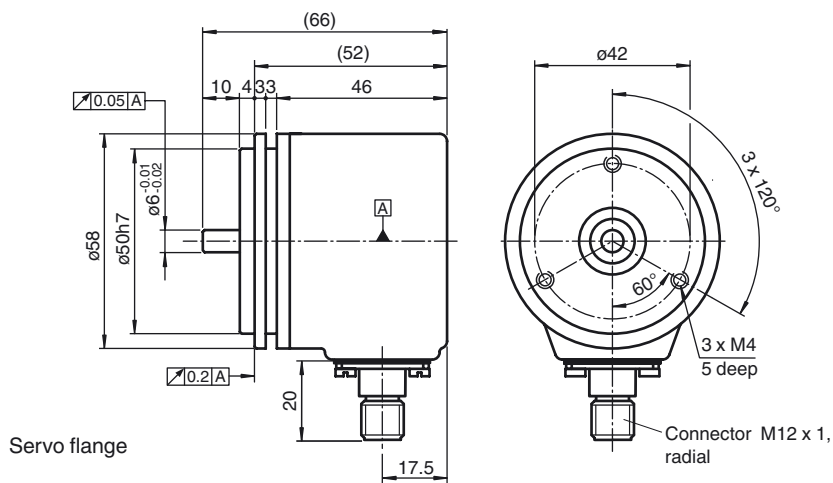
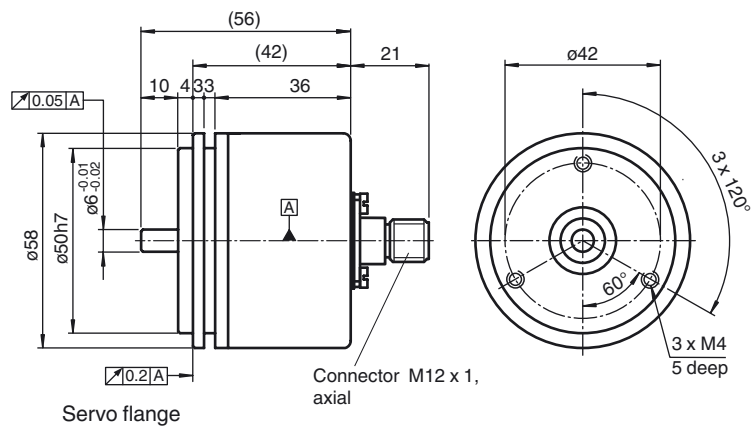
Dimensions



Release date: 2019-12-05 13:06 Date of issue: 2019-12-05 11:51794\_eng.xml



Release date: 2019-12-05 13:06 Date of issue: 2019-12-05 t151794\_eng.xml



Release date: 2019-12-05 13:06 Date of issue: 2019-12-05 11:51794\_eng.xml

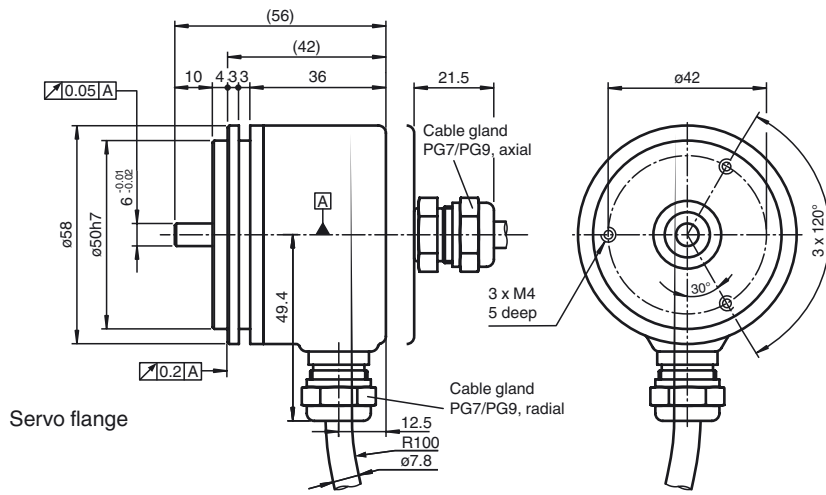
Refer to "General Notes Relating to Pepperl+Fuchs Product Information".

Pepperl+Fuchs Group  
www.pepperl-fuchs.com

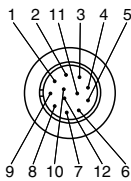
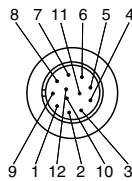
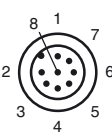
USA: +1 330 486 0001  
fa-info@us.pepperl-fuchs.com

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

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



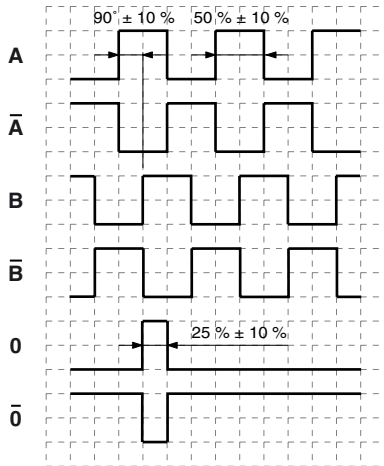
**Electrical connection**

Signal	Cable	Connector 9416	Connector 9416L	Connector M12 x 1
GND	White	10	10	1
U <sub>b</sub>	Brown	12	12	2
A	Green	5	5	3
B	Grey	8	8	5
A̅	Yellow	6	6	4
B̅	Pink	1	1	6
0	Blue	3	3	7
0̅	Red	4	4	8
U <sub>b</sub> Sens <sup>*)</sup>	Violet	2	2	-
NC	Grey/Pink	7	7	-
Screen	-	Housing	Housing	Housing
NC	-	9	9	-
GND Sens <sup>*)</sup>	Black	11	11	-
				

<sup>\*)</sup> only for devices with 5 V supply and RS 422 interface (output circuit 6)

Release date: 2019-12-05 13:06 Date of issue: 2019-12-05 t151794\_eng.xml

Signal outputs



↻ cw - with view onto the shaft

Order code

R	V	I	5	8	N	-						6	N	-					
---	---	---	---	---	---	---	--	--	--	--	--	---	---	---	--	--	--	--	--

**Pulse count** 100, 360, 500, 512, 1000, 1024, 1250, 2048, 2500, 3600, 4096, 5000

**Option**  
**N** Normal

**Output switching**  
**1** 10 V ... 30 V, push-pull  
**6** 5 V, RS 422  
**X** 10 V ... 30 V, RS 422

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

**Exit position**  
**A** Axial  
**R** Radial

**Connection type**  
**AA** Plug connector type 9416, 12-pin  
**AB** Plug connector type 9416L, 12-pin  
**BE** Plug connector M12 x 1, 8-pin  
**K1** Cable Ø7.8 mm, 6 x 2 x 0.14 mm<sup>2</sup>, 1 m

**Shaft dimension/flange version**  
**011** Shaft Ø10 mm x 20 mm with clamping flange  
**032** Shaft Ø6 mm x 10 mm with servo flange  
**044** Shaft Ø10 mm x 20 mm (flat 1 mm x 20 mm) with clamping flange

**Housing material**  
**N** Aluminium, powder coated

**Shaft version**  
**V** Solid shaft

Release date: 2019-12-05 13:06 Date of issue: 2019-12-05 11:51794\_eng.xml