



### Model Number

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

### Features

- Up to 50,000 ppr
- Extended temperature range
- Industrial standard housing Ø58 mm
- Servo or clamping flange
- 10 V ... 30 V with short-circuit proof push-pull output

### Description

High performance are key words for this rotary encoder. The outstanding features of this encoder include a high angle resolution and an optional extended temperature range.

Usually all six output channels of this incremental rotary encoder are assigned to ensure flexible use of the encoder in a wide range of applications.

This incremental rotary encoder is available as a clamping flange version with a Ø10 mm x 20 mm shaft or a servo flange version with a Ø6 mm x 10 mm shaft.

The electrical connection is made via a 8-pin or a 12-pin round connector. A version with a cable connection is also available.

## Technical data

### General specifications

Detection type	photoelectric sampling
Pulse count	max. 50000

### Functional safety related parameters

MTTF <sub>d</sub>	140 a
Mission Time (T <sub>M</sub> )	20 a
L <sub>10h</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	-5 ... 80 °C (23 ... 176 °F) , movable cable -20 ... 80 °C (-4 ... 176 °F) , fixed cable -40 ... 80 °C (-40 ... 176 °F) with Option T , fixed cable
Storage temperature	-40 ... 85 °C (-40 ... 185 °F)

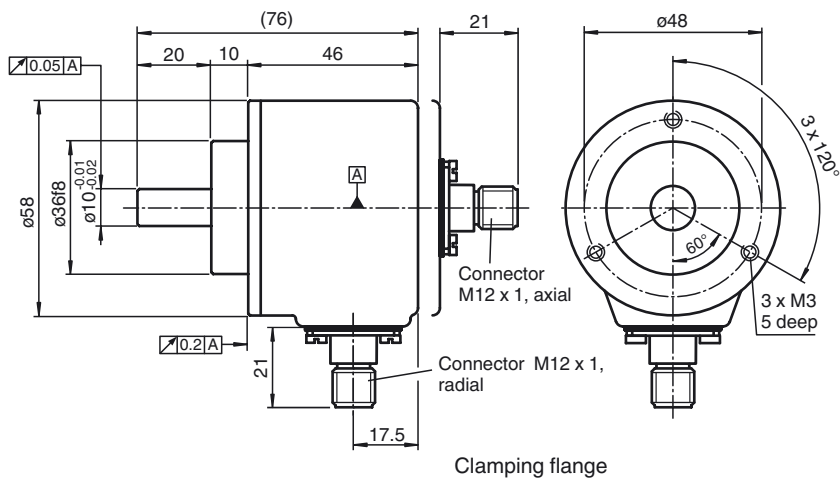
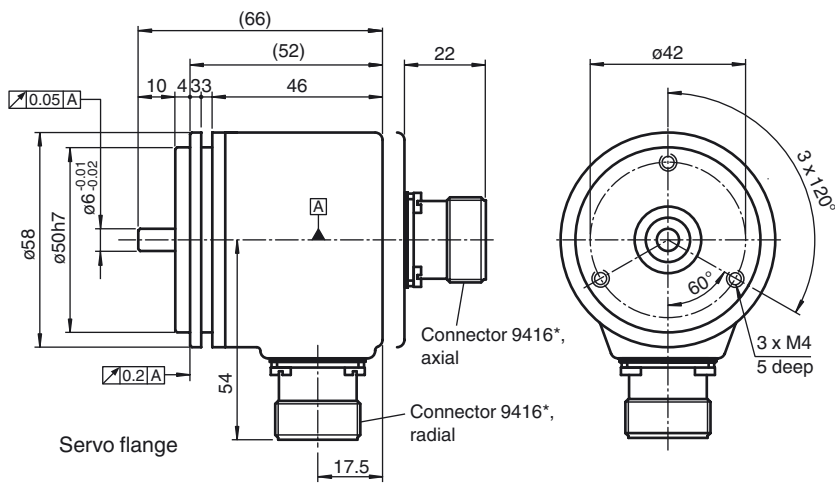
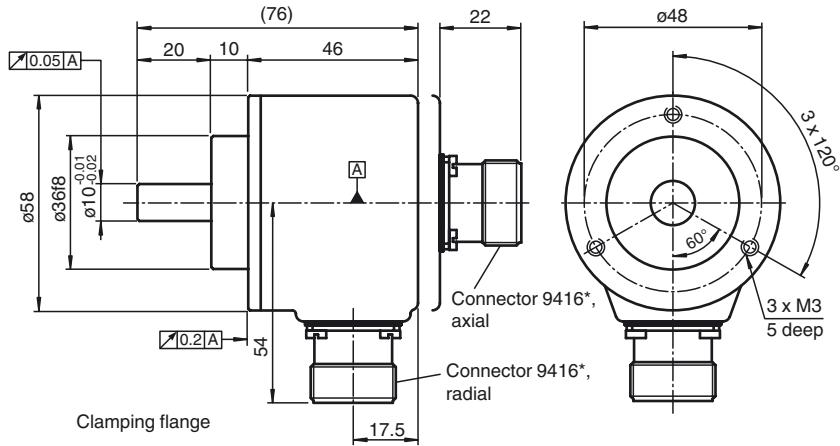
### Mechanical specifications

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>

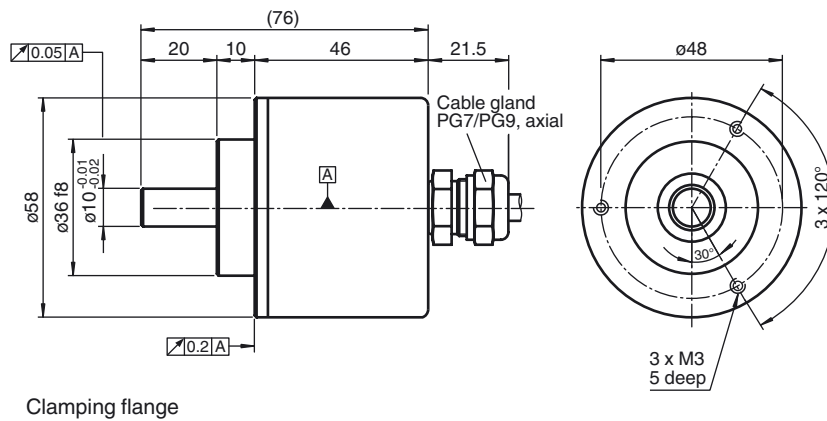
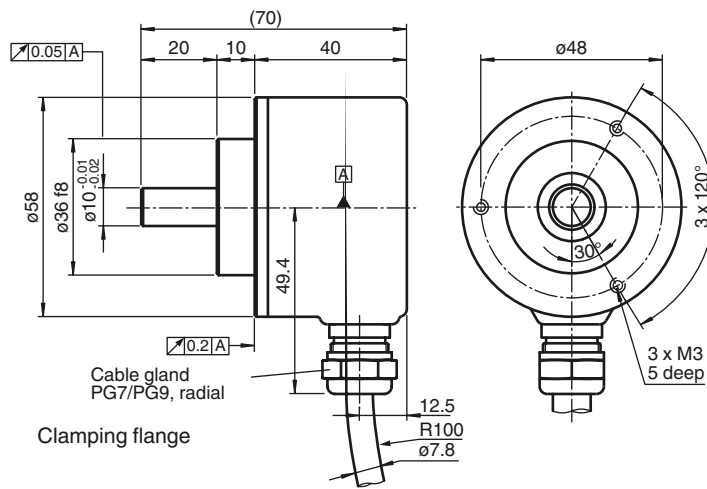
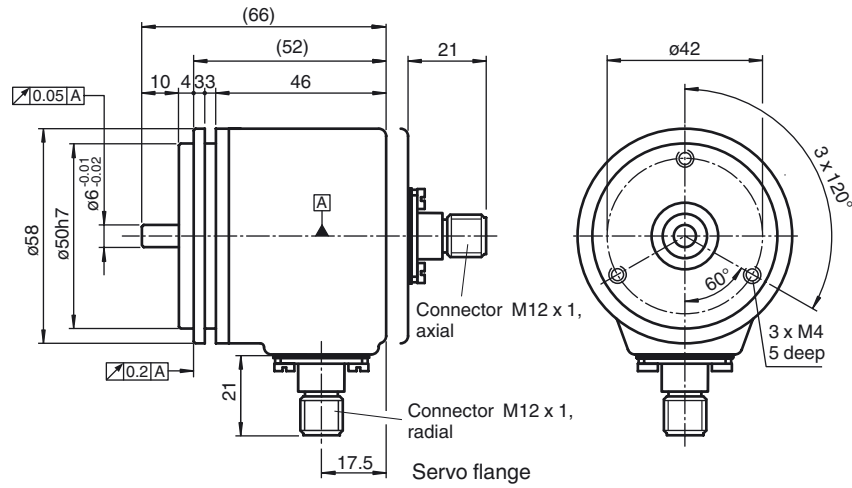
### Approvals and certificates

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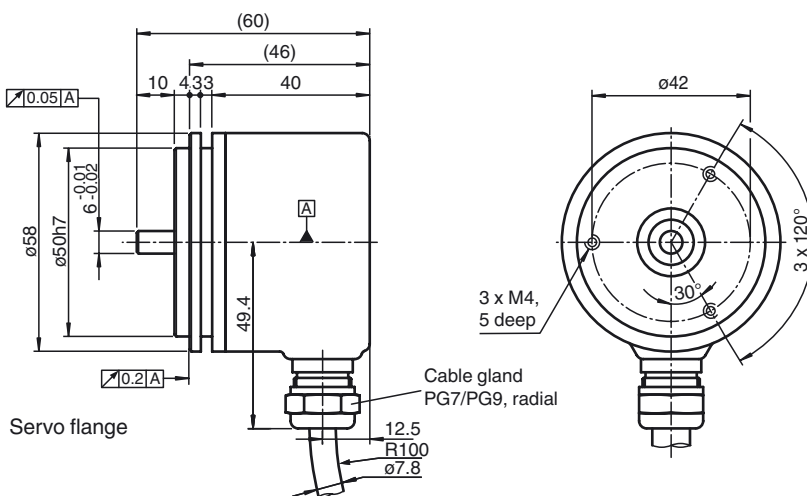
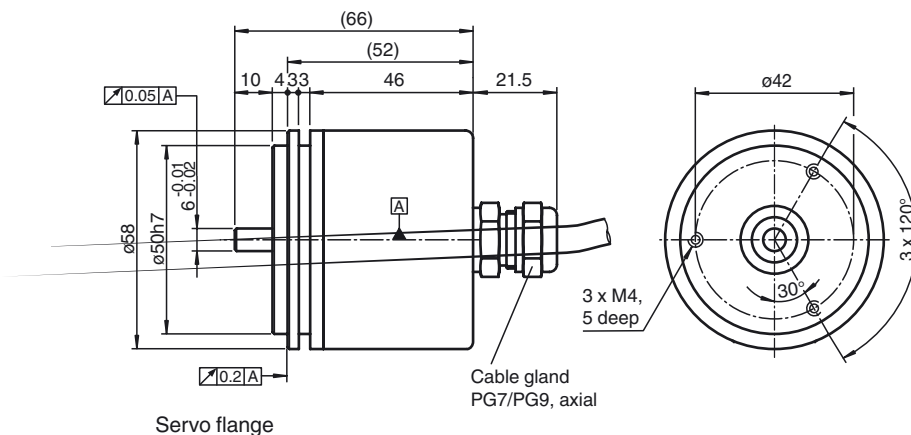
Dimensions



Release date: 2014-12-11 09:14 Date of issue: 2016-01-26 t151797\_eng.xml



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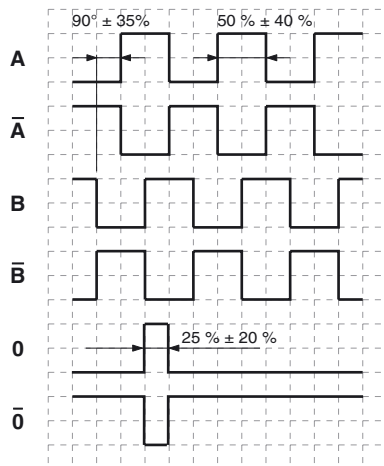
Electrical connection

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
$\bar{A}$	Yellow	6	6	4
$\bar{B}$	Pink	1	1	6
0	Blue	3	3	7
$\bar{0}$	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	-

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

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## Signal outputs



⌚ cw - with view onto the shaft clamping ring

## Order code

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

**Pulse count** 1024, 2048, 2500, 4096,  
5000, 8192, 10000, 20000,  
50000

**Option**

**N** Normal

**T** Extended temperature range, -40 °C

**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