



### 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.

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

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. 50000

### 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	-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)

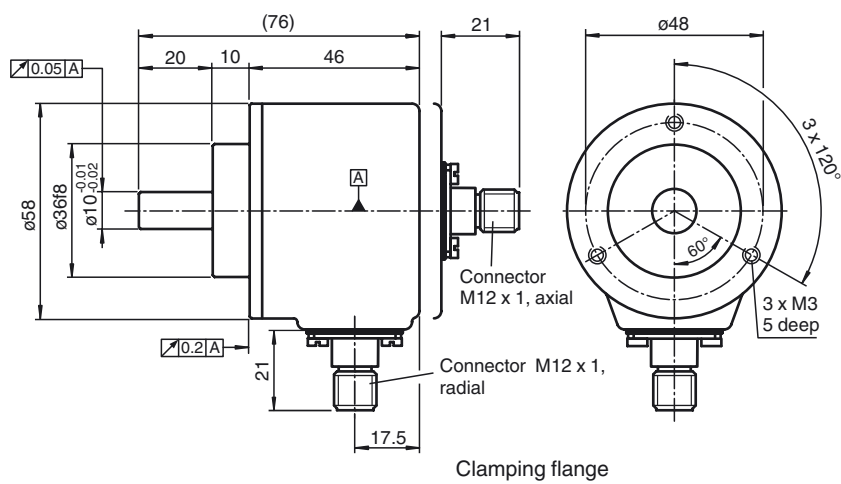
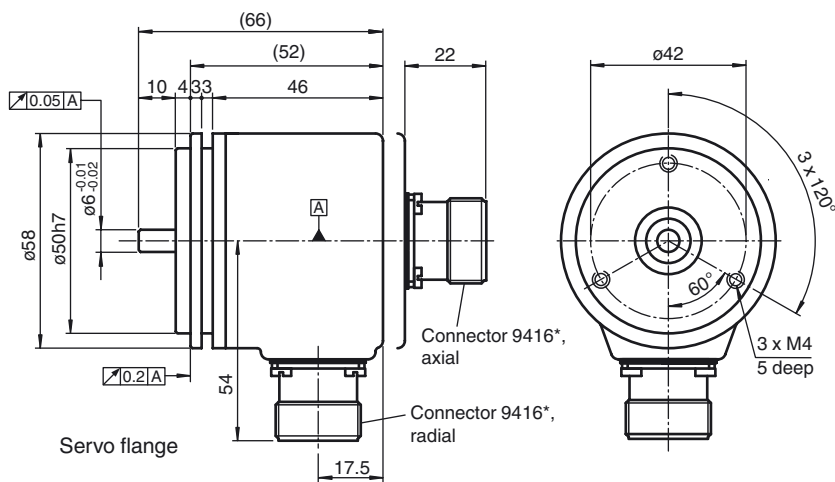
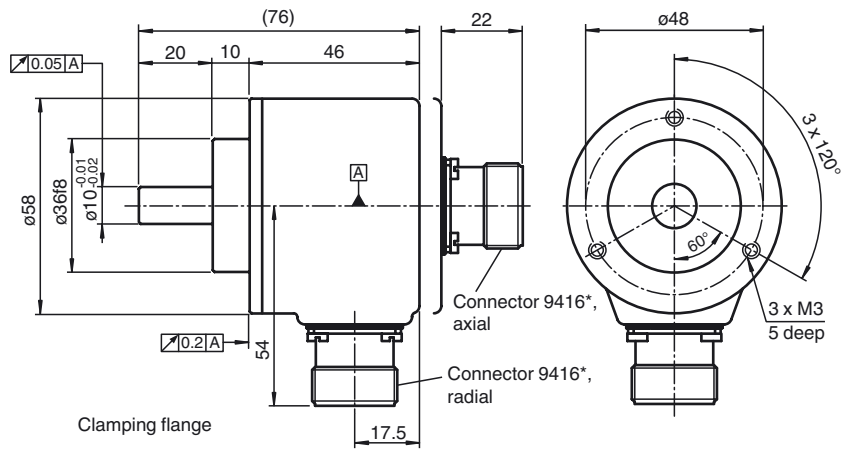
### Mechanical specifications

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>

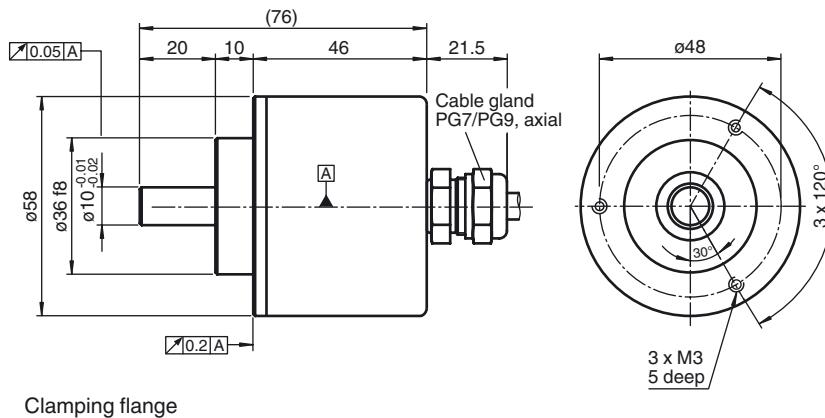
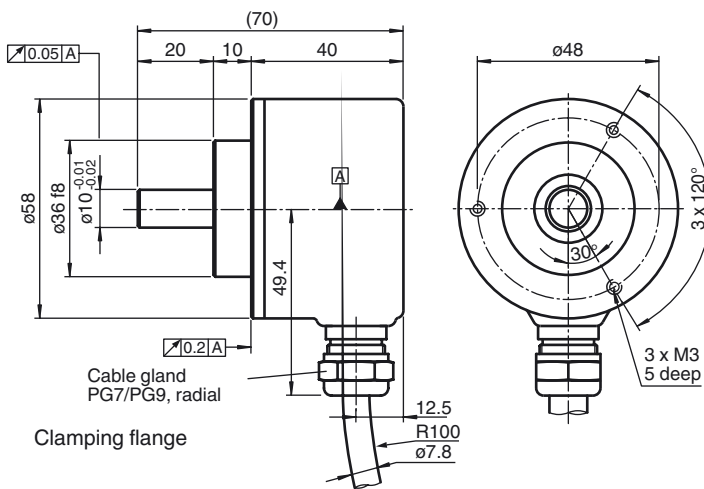
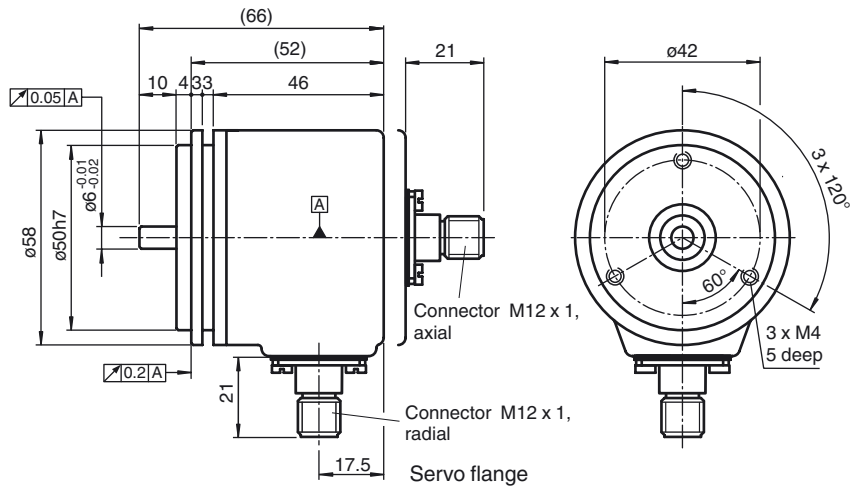
### Approvals and certificates

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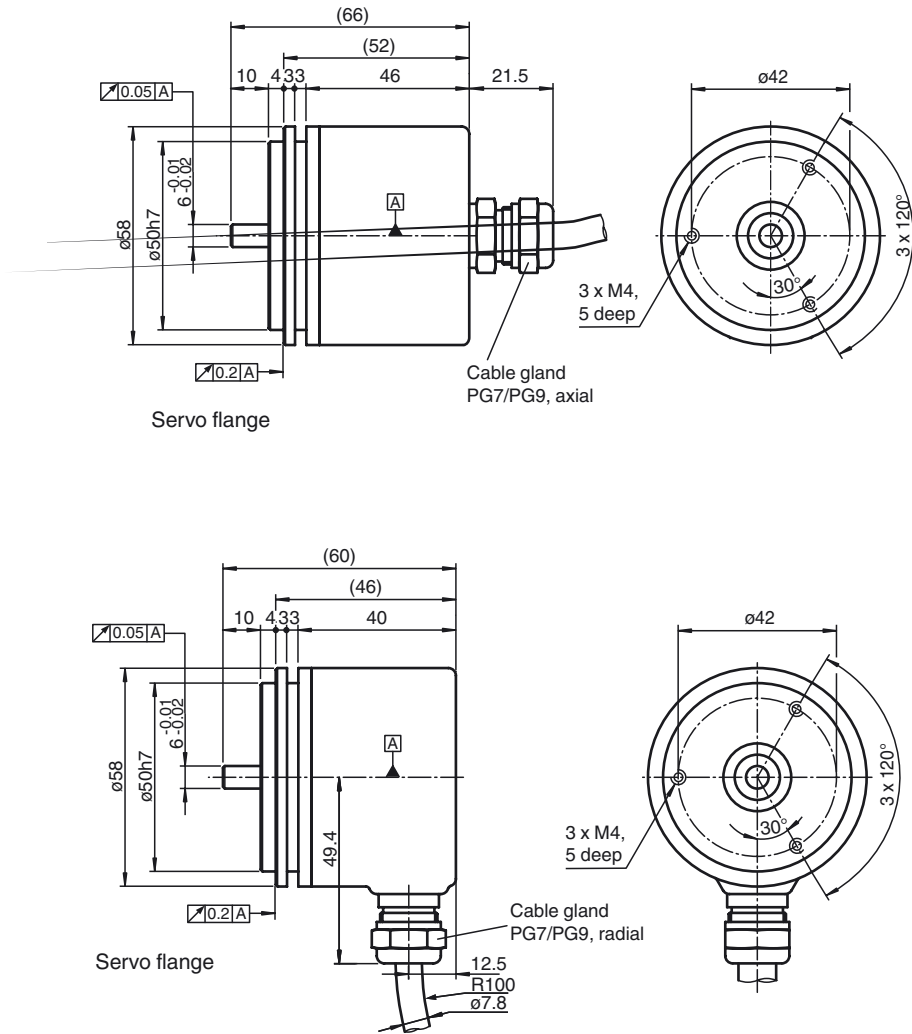
Dimensions



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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
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)

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