



### Model Number

RVI58N-\*\*\*\*\*X

### Features

- Up to 50,000 ppr
- Extended temperature range
- Industrial standard housing Ø58 mm
- Servo or clamping flange
- 10 V ... 30 V with RS 422 interface

### 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 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. 50 mA

### Output

Output type	RS 422, incremental
Load current	max. per channel 20 mA , conditionally short-circuit proof (not with U <sub>b</sub> ), reverse polarity protected
Output frequency	max. 200 kHz
Rise time	100 ns

### Connection

Connector	type 9416, 12-pin, type 9416L, 12-pin
Cable	Ø7.8 mm, 6 x 2 x 0.14 mm <sup>2</sup> , 1 m

### Standard conformity

Protection degree	DIN EN 60529, IP65
Climatic testing	DIN EN 60068-2-78 , no moisture condensation
Emitted interference	EN 61000-6-4:2007
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)

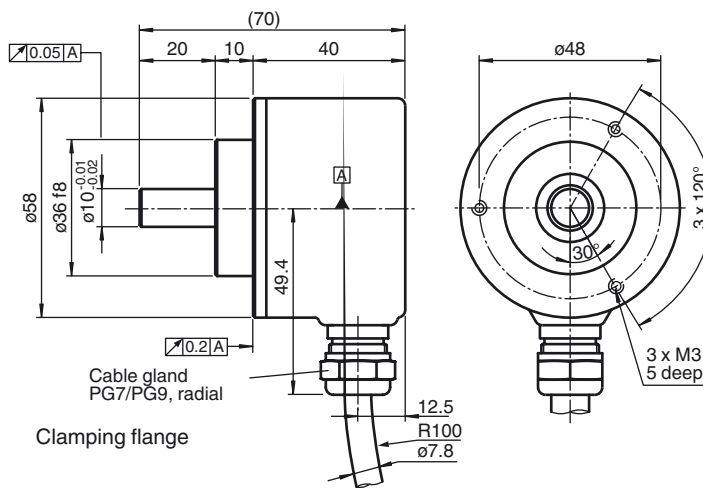
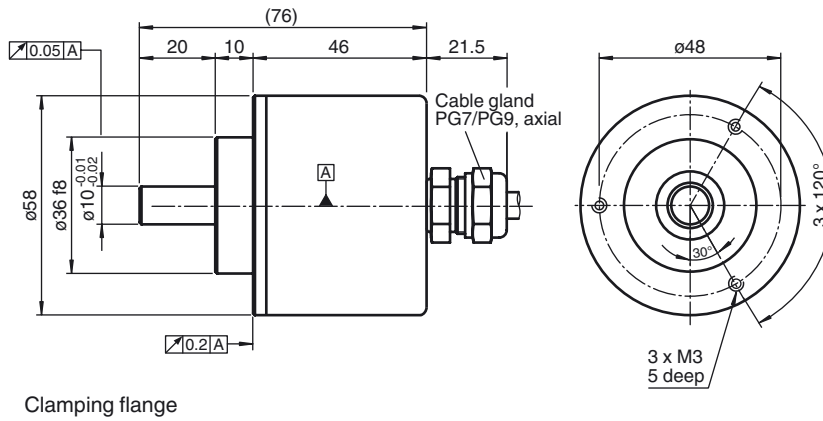
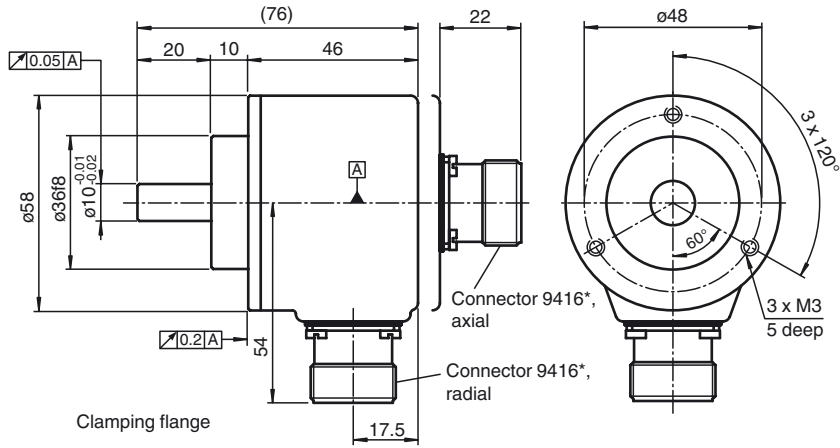
### Mechanical specifications

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>

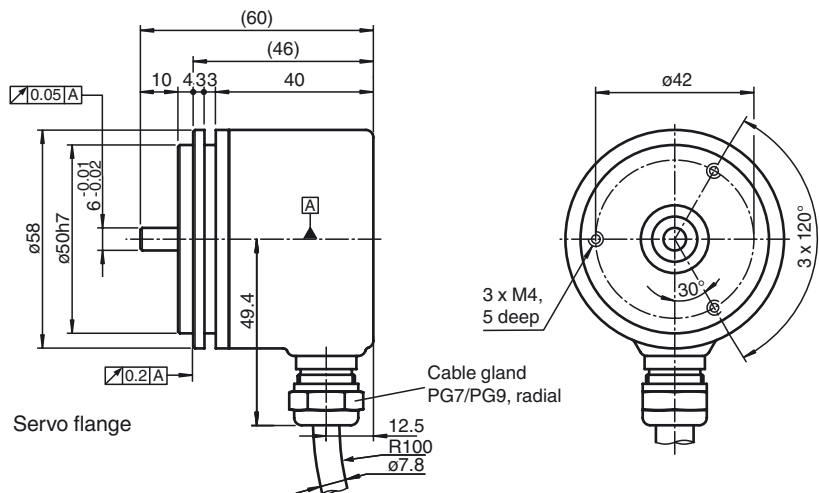
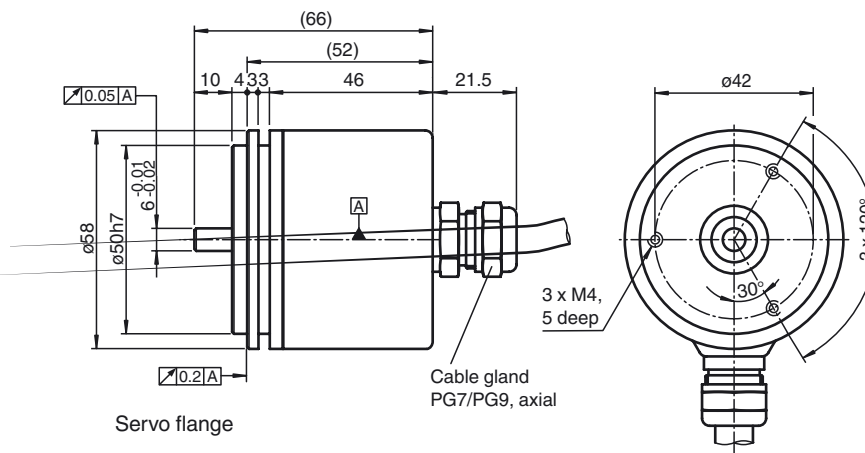
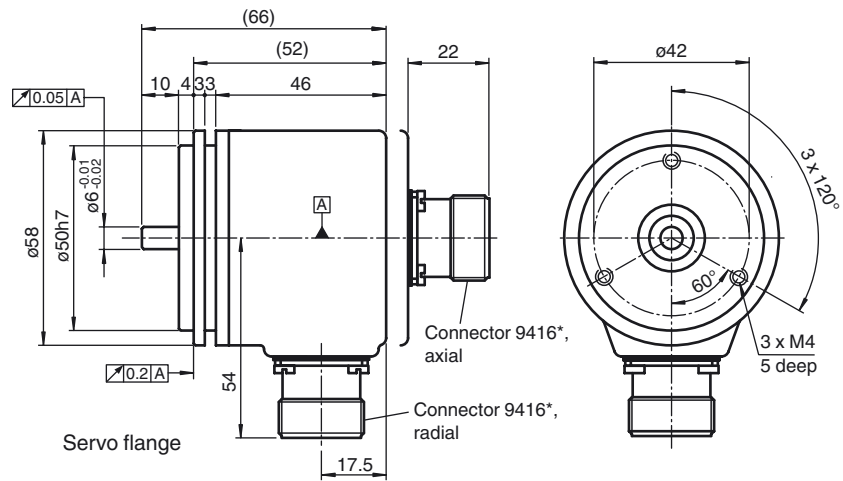
### Approvals and certificates

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

Dimensions



Release date: 2011-11-04 09:08 Date of issue: 2011-11-04 t151796\_eng.xml



Release date: 2011-11-04 09:08 Date of issue: 2011-11-04 t151796\_eng.xml

**Accessories****9203**

Angled flange

**9213**

Mounting bracket, spring-loaded for clamping flange

**9310-3**

Synchro clamping element

**9416**

Cable connector

**9416L**

Cable connector

**9300**

Mounting bracket for servo flange

**KW-10/10**

Helical coupling

**KW-6/10**

Helical coupling

**KW-6/6**

Helical coupling

**KW-6/8**

Helical coupling

**9401 10\*10**

Spring steel coupling

**9401 10\*12**

Spring steel coupling

**Accessories****9401 6\*10**

Spring steel coupling

**9401 6\*6**

Spring steel coupling

**9402 6\*6**

Spring steel coupling

**9404 10\*10**

Spring disk coupling

**9404 6\*6**

Spring disk coupling

**9409 10\*10**

Bellows coupling

**9409 6\*10**

Bellows coupling

**9409 6\*6**

Bellows coupling

**9409 6\*8**

Bellows coupling

**9410 10\*10**

Precision coupling

**9410 10\*12**

Precision coupling

**9460 6\*6**

Stainless steel bellows coupling

**9410 6\*6**

Precision coupling

**9460 10\*10**

Stainless steel bellows coupling

**9102, 10**

Measurement wheel

**9103, 10**

Measurement wheel

**9108, 10**

Measurement wheel

**9109, 10**

Measurement wheel

**9110, 10**

Measurement wheel

**9112, 10**

Measurement wheel

**9113, 10**

Measurement wheel

**9108, 6**

Measurement wheel

**9109, 6**

Measurement wheel

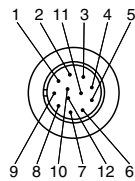
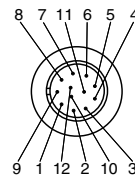
**9110, 6**

Measurement wheel

**9113, 6**

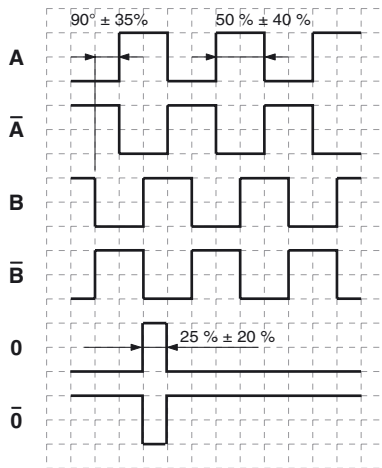
Measurement wheel

**Electrical connection**

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

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

**Signal outputs**



↻ cw - with view onto the shaft clamping ring

Release date: 2011-11-04 09:08 Date of issue: 2011-11-04 t151796\_eng.xml

Order code

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

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

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

**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

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

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

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

**Output switching**  
**X** 10 V ... 30 V, RS 422

**Option**  
**N** Normal  
**T** Extended temperature range, -40 °C

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

Release date: 2011-11-04 09:08 Date of issue: 2011-11-04 t151796\_eng.xml