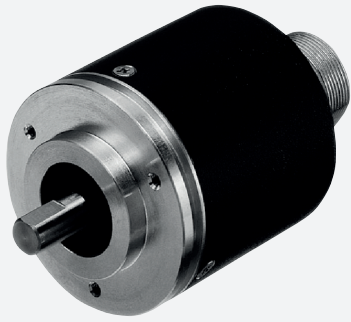




## Incremental rotary encoder

### RVI50N-09B\*\*A\*T

- Sturdy and compact design
- Up to 2500 ppr
- 4.75 V ... 30 V with short-circuit proof push-pull output

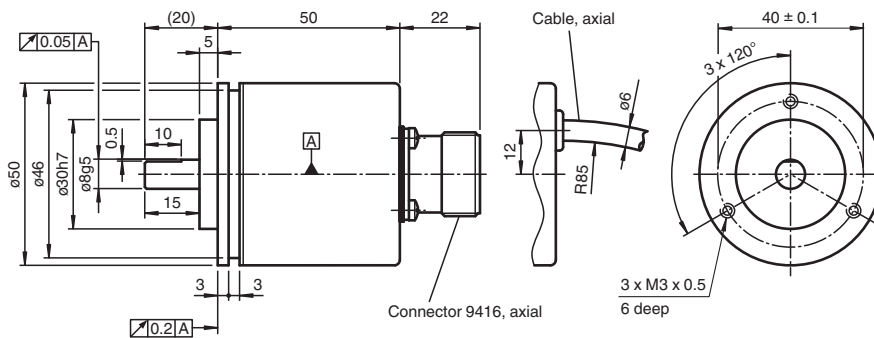
## Incremental rotary encoder



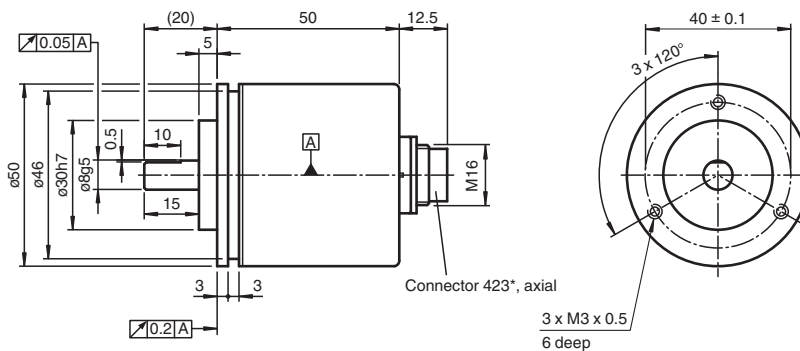
## Function

The RVI50 is characterised by its small housing diameter of 50 mm with equal technical data compared to other encoder series. The centering shoulder makes it possible to fit the unit very precisely. In addition to the three M3 holes, the encoder has a servo infeed on the circumference. This allows you to make a slight adjustment to the reference point of the incremental rotary encoder by turning the housing. The clamping element that grips into the servo infeed ensures that the incremental rotary encoder stays firmly in place without slipping out of adjustment. The pulse disk is designed in plastic up to 600 pulses. Beyond that, glass is used.

## Dimensions

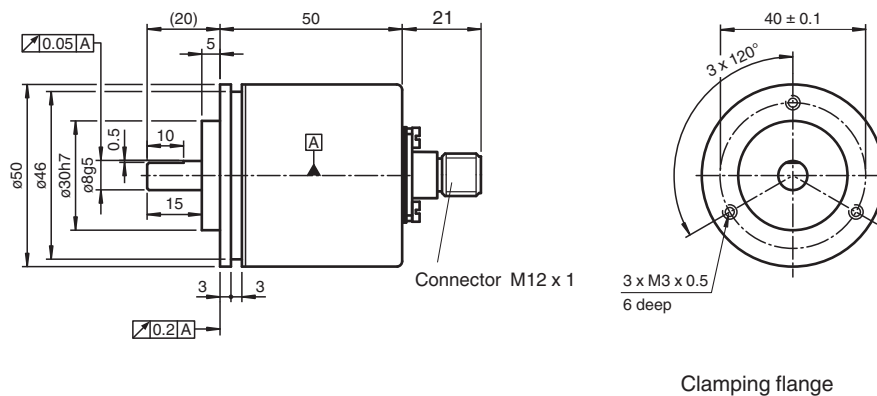


Clamping flange



Clamping flange

## Dimensions



## Technical Data

### General specifications

|                |                        |
|----------------|------------------------|
| Detection type | photoelectric sampling |
| Pulse count    | max. 2500              |

### Electrical specifications

|                        |       |                  |
|------------------------|-------|------------------|
| Operating voltage      | $U_B$ | 4.75 ... 30 V DC |
| No-load supply current | $I_0$ | max. 80 mA       |

### Output

|                    |                  |                                                  |
|--------------------|------------------|--------------------------------------------------|
| Output type        |                  | push-pull, incremental                           |
| Voltage drop       | U <sub>d</sub>   | < 4 V                                            |
| Load current       |                  | max. per channel 40 mA , short-circuit protected |
| Output frequency   |                  | max. 160 kHz                                     |
| Rise time          |                  | 980 ns                                           |
| De-energized delay | t <sub>off</sub> | 980 ns                                           |

### Connection

|           |                                                    |
|-----------|----------------------------------------------------|
| Connector | type 9416 (M23), 12-pin or type 42306 (M16), 6-pin |
| Cable     | Ø6 mm, 5 x 0.38 mm <sup>2</sup> , 0.5 m            |

### Standard conformity

|                      |                                              |
|----------------------|----------------------------------------------|
| Degree of protection | DIN EN 60529, IP50                           |
| 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       |

### Approvals and certificates

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

### Ambient conditions

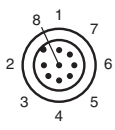
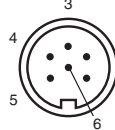
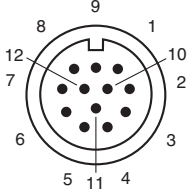
|                       |                                |
|-----------------------|--------------------------------|
| Operating temperature |                                |
| Glass disk            | -20 ... 70 °C (-4 ... 158 °F)  |
| Plastic disk          | -20 ... 60 °C (-4 ... 140 °F)  |
| Storage temperature   |                                |
| Glass disk            | -40 ... 70 °C (-40 ... 158 °F) |
| Plastic disk          | -40 ... 60 °C (-40 ... 140 °F) |

### Mechanical specifications

|          |                        |
|----------|------------------------|
| Material |                        |
| Housing  | powder coated aluminum |
| Flange   | 3.1645 aluminum        |

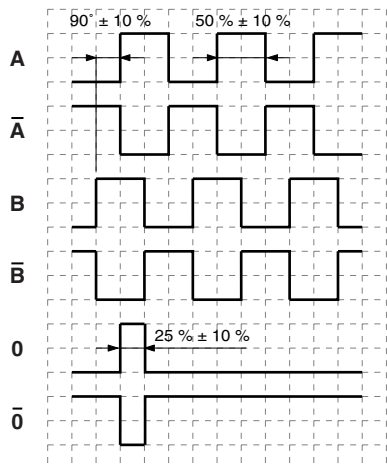
**Technical Data**

|                   |  |                                   |
|-------------------|--|-----------------------------------|
| Shaft             |  | Stainless steel 1.4305 / AISI 303 |
| Mass              |  | approx. 220 g                     |
| Rotational speed  |  | max. 10000 min <sup>-1</sup>      |
| Moment of inertia |  | ≤ 5 gcm <sup>2</sup>              |
| Starting torque   |  | ≤ 1.5 Ncm                         |
| Shaft load        |  |                                   |
| Axial             |  | 30 N                              |
| Radial            |  | 50 N                              |
| Dimensions        |  |                                   |
| Length            |  | 55 mm                             |
| Diameter          |  | 50 mm                             |

| Signal          | Cable Ø6 mm, 5-core | Connector M12 x 1, 8-pin                                                          | Connector 42306 (M16), 6-pin                                                       | Connector 9416 (M23), 12-pin                                                        |
|-----------------|---------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
| GND             | Black               | 1                                                                                 | 5                                                                                  | 8                                                                                   |
| +U <sub>b</sub> | Red                 | 2                                                                                 | 4                                                                                  | 7                                                                                   |
| A               | Green               | 3                                                                                 | 1                                                                                  | 1                                                                                   |
| B               | White               | 5                                                                                 | 2                                                                                  | 3                                                                                   |
| $\bar{A}$       | -                   | 4                                                                                 | -                                                                                  | 2                                                                                   |
| $\bar{B}$       | -                   | 6                                                                                 | -                                                                                  | 4                                                                                   |
| 0               | Yellow              | 7                                                                                 | 3                                                                                  | 5                                                                                   |
| $\bar{0}$       | -                   | 8                                                                                 | -                                                                                  | 6                                                                                   |
| Screen          | -                   | Housing                                                                           | Housing                                                                            | Housing                                                                             |
|                 |                     |  |  |  |

Operation

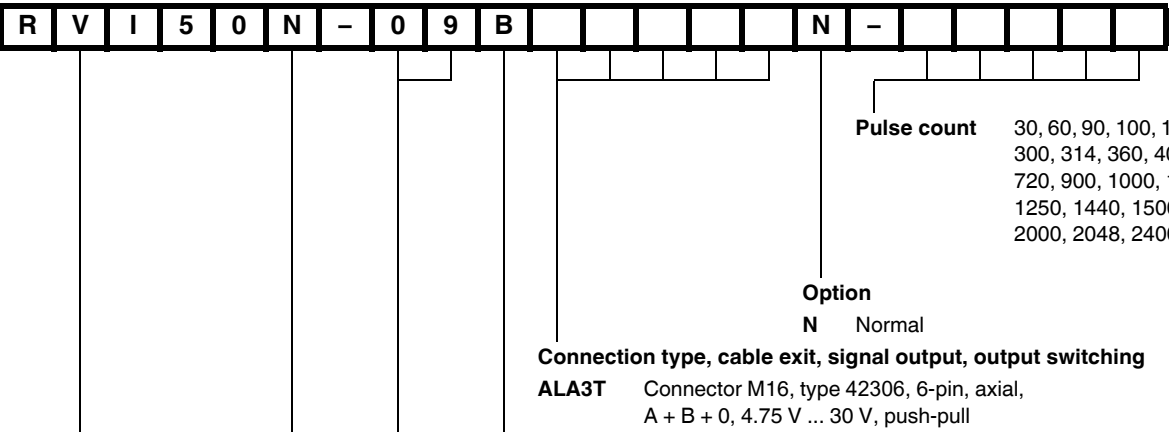
Signal outputs



↻ cw - with view onto the shaft

Type Code

Order code



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

Order code

|   |   |   |   |   |   |   |   |   |   |  |  |  |  |  |   |   |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|---|---|--|--|--|--|
| R | V | I | 5 | 0 | N | - | 0 | 9 | B |  |  |  |  |  | N | - |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|--|--|--|--|--|---|---|--|--|--|--|

Shaft version

V Solid shaft

Housing material

N Aluminium, powder coated

Shaft dimension

09 Shaft Ø8 mm x 15 mm

Flange version

B Clamping flange

Option

N Normal

Pulse count

30, 60, 90, 100, 180, 200, 250, 300, 314, 360, 400, 500, 600, 720, 900, 1000, 1024, 1200, 1250, 1440, 1500, 1800, 2000, 2048, 2400, 2500

AAA3T

Connector M23, type 9416, 12-pin, axial, A + B + 0, 4.75 V ... 30 V, push-pull

AAA66

Connector M23, type 9416, 12-pin, axial, A + B + 0 and  $\bar{A} + \bar{B} + 0$ , 5 V, RS 422

BEA66

Connector M12 x 1, 8-pin, axial, A + B + 0 and  $\bar{A} + \bar{B} + 0$ , 5 V, RS 422

BEA3T

Connector M12 x 1, 8-pin, axial, A + B + 0, 4.75 V ... 30 V, push-pull

K0A3T

Cable Ø6 mm, 5 x 0.38 mm<sup>2</sup>, 0.5 m, axial, A + B + 0, 4.75 V ... 30 V, push-pull

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