

Model Number

RVI50N-09BA*6**

Incremental rotary encoder

Features

- **Sturdy and compact design**
- **Up to 2500 ppr**
- **5 V with RS-422 interface**

Description

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.

Technical data

General specifications

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

Electrical specifications

| | |
|------------------------------|------------------|
| Operating voltage U_B | 5 V DC \pm 5 % |
| No-load supply current I_0 | max. 150 mA |

Output

| | |
|------------------------------|---|
| Output type | RS 422, incremental |
| Load current | max. per channel 20 mA, conditionally short-circuit proof |
| Output frequency | max. 160 kHz |
| Rise time | 100 ns |
| De-energized delay t_{off} | 100 ns |

Connection

| | |
|-----------|--|
| Connector | type 9416 (M23), 12-pin or type 42306 (M16), 6-pin |
| Cable | \varnothing 6 mm, 5 x 0.38 mm ² , 0.5 m |

Standard conformity

| | |
|----------------------|--|
| Degree of protection | DIN EN 60529, IP50 |
| Climatic testing | DIN EN 60068-2-3, no moisture condensation |
| Emitted interference | EN 61000-6-4:2007/A1:2011 |
| Noise immunity | DIN EN 50082-2 |
| 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 | -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) |

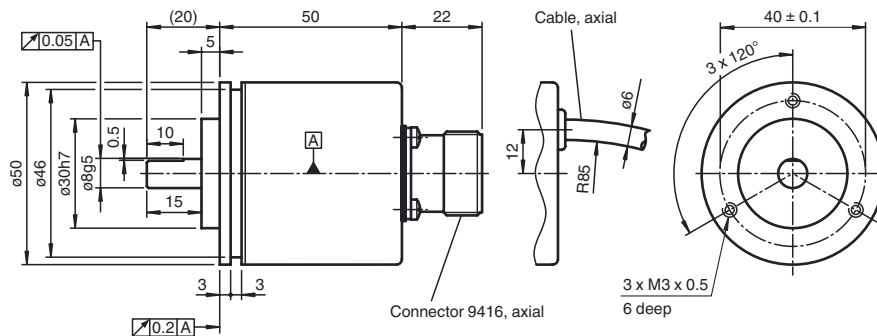
Mechanical specifications

| | |
|-------------------|-----------------------------------|
| Material | |
| Housing | powder coated aluminum |
| Flange | 3.1645 aluminum |
| Shaft | Stainless steel 1.4305 / AISI 303 |
| Mass | approx. 220 g |
| Rotational speed | max. 10000 min ⁻¹ |
| Moment of inertia | \leq 5 gcm ² |
| Starting torque | \leq 1.5 Ncm |
| Shaft load | |
| Axial | 30 N |
| Radial | 50 N |

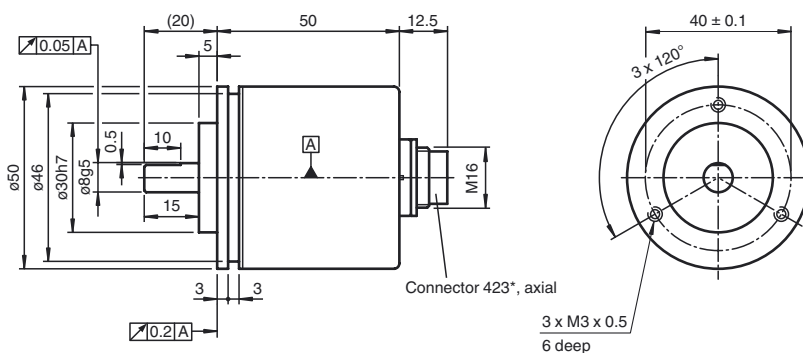
Approvals and certificates

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

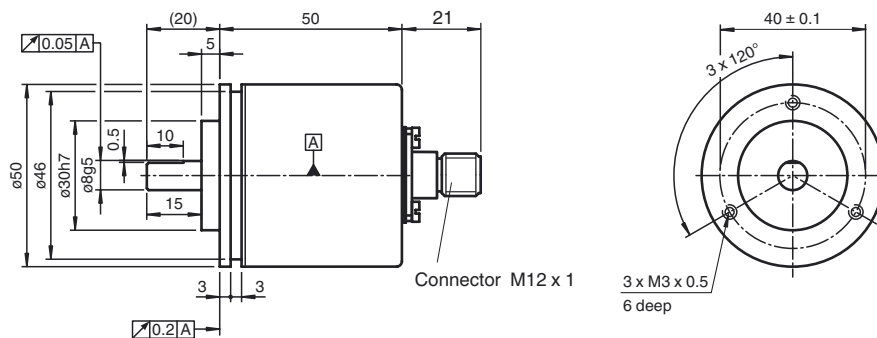
Dimensions



Clamping flange



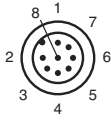
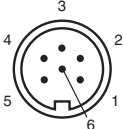
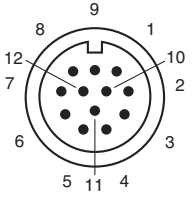
Clamping flange



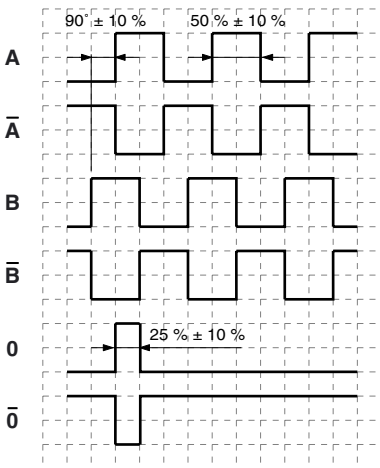
Clamping flange

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Electrical connection

| 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 _b | 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 |
| | |  |  |  |

Signal outputs



⌚ cw - with view onto the shaft

Order code

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

| | | | | | | |
|--|--|---|---|--|--|--|
| <p>Shaft version V Solid shaft</p> | <p>Housing material N Aluminium, powder coated</p> | <p>Shaft dimension 09 Shaft Ø8 mm x 15 mm</p> | <p>Flange version B Clamping flange</p> | <p>Option N Normal</p> | <p>Connection type, cable exit, signal output, output switching ALA3T Connector M16, type 42306, 6-pin, axial, A + B + 0, 4.75 V ... 30 V, push-pull 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 A-bar + B-bar + 0, 5 V, RS 422 BEA66 Connector M12 x 1, 8-pin, axial, A + B + 0 and A-bar + B-bar + 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 mm², 0.5 m, axial, A + B + 0, 4.75 V ... 30 V, push-pull</p> | <p>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</p> |
|--|--|---|---|--|--|--|

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