



### Model Number

RV178

### Features

- **Sturdy design**
- **Up to 5000 ppr**
- **10 V ... 30 V with short-circuit proof push-pull output**

### Description

One special feature of this incremental rotary encoder is the mechanical versatility of the flange. The rotary encoder has a centering shoulder with a diameter of 42 mm and one with a diameter of 56 mm. In addition to the four M4 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 1500 pulses. Beyond that, glass is used.

## Technical data

### General specifications

Pulse count max. 5000

### Electrical specifications

Operating voltage  $U_B$  10 ... 30 V DC

No-load supply current  $I_0$  max. 80 mA

### Output

Output type push-pull, incremental

Voltage drop  $U_d$  < 4 V

Load current max. per channel 40 mA, short-circuit protected, reverse polarity protected

Output frequency max. 100 kHz

Rise time 250 ns

De-energized delay  $t_{off}$  250 ns

### Connection

Connector type 42306 (M16), 6-pin

Cable Ø6 mm, 5 x 0.38 mm<sup>2</sup>, 2 m

### Standard conformity

Degree of protection DIN EN 60529, IP65

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

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. 630 g

Rotational speed

max. 6000 min<sup>-1</sup>

Moment of inertia

100 gcm<sup>2</sup>

Starting torque

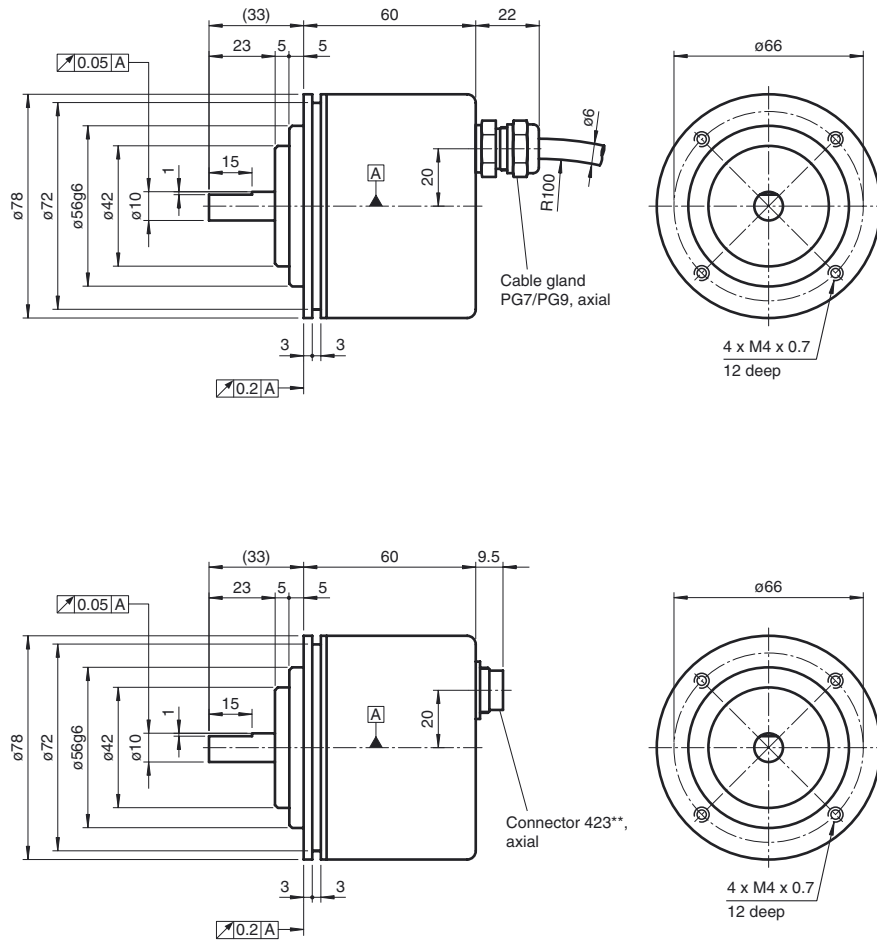
≤ 1.5 Ncm

Shaft load

Axial 50 N

Radial 100 N

Dimensions

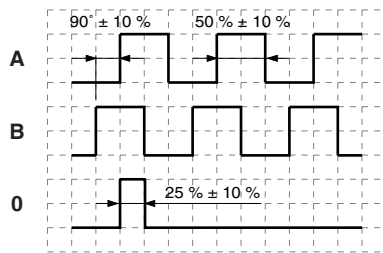


Electrical connection

| Signal          | Cable Ø6 mm, 5-core | Connector 42306, 6-pin |
|-----------------|---------------------|------------------------|
| GND             | Black               | 5                      |
| +U <sub>b</sub> | Red                 | 4                      |
| A               | Green               | 1                      |
| B               | White               | 2                      |
| 0               | Yellow              | 3                      |
| Screen          | -                   | Housing                |

Release date: 2014-12-12 16:29 Date of issue: 2014-12-12 t2437\_eng.xml

## Signal outputs



↻ cw - with view onto the shaft

Order code

**R V I 7 8 N - 1 0 C A 3 1 N -**

