# WIRELESS CURRENT LOOP Rpp 2.00



## Radio transmission of the current value 0-20mA and binary signals

Range up to 300m without transceiver

# Unlicensed band 868 MHz

# **Coded transmission**

The device is designed for wireless transmission of 0-20 mA current loop signals and two binary signals. It consists of two modules: a transmitter and a receiver. It is used in case of difficulties with laying the wire, when the measuring point is moving or when the already laid cable is subject to frequent mechanical damage. An additional effect of the application is the galvanic separation of the measuring sensor and controller. The transmitter was designed to minimize energy consumption in the sleep state. The current consumption is then 7  $\mu$ A.

The transmitter processes the input measuring signals and sends them to the receiver, which forces the outputs of the current and digital signals to be output. The operating status of the device is signaled optically. The transmission takes place in the band, intended for Low Power Radio Device (LPRD), without permits or fees.

The transmitter is additionally equipped with a keyed voltage output, which can be used, for example, for switching the sensor. The receiver, on the other hand, has two digital signals, input and output, designed to work with the field controller. The input can be used, for example, to control the transmission and the output to report the status of the device.

Transmitted data packets contain an individual address, which allows the work of many devices in the same area.

The devices are delivered with fixed values of operating frequency, baud rate, transmit power and packet address. These parameters can be changed at the recipient's request in the intervals given in the technical data.

If it is necessary to display the value of the measuring current, you can use the receiver in the <u>Rpp 2.01-O</u> version with the OLED display.

# **Technical data**

Operating frequency: 868.29388 (868.0 ÷ 868.6) MHz

Modulation type: GFSK

Transmission power: +10 (-10 ÷ +10) dBm

Receiver sensitivity: -110 dBm

Range: 300 m in the open area (without use of a transceiver)

Transmission: autonomous, average value every 30 seconds (min. 103 ms), test mode 2 s

Transmission speed: 1.2 (1.2 ÷ 500) kbps

Polite spectrum access - CCA Clear Channel Assessment

#### Antenna: SMA socket

- transmitter - external, straight

- receiver - internal, right angle

## I / O signal:

- analog: current 0-20 mA

- bistable: transmitter: input - potential free contact

receiver: input - LOW GND ÷ 9.0 V, HIGH 22.2 V ÷ Vcc output - HIGH 16.3 V at 4.75 mA

Display (option): OLED, white, diagonal 1.3" (29.4 mm x 14.7 mm)

Transfer accuracy: 0.25% in the range of 4 ÷ 20 mA

Transmitter input resistance: 100  $\Omega$ 

Output resistance 0-20 mA of the receiver: max. 750  $\Omega$ 

#### Power Vcc - external:

- transmitter 16 ÷ 24 V DC, max 55 mA.
- receiver 24 V DC ± 5%, max. 60 mA

## Terms of use:

- temperature -20 ÷ +55 ° C
- relative humidity < 95%

## Housing (W × H × D):

- transmitter: 58 × 64 × 35, aluminum, wall mounted, IP65 (IP67 on request)

- receiver: 82 × 80 × 55, polycarbonate, wall mounted, IP65

Connections: - transmitter: three cable entries M8, IP68, outer diameter of the wire 3.0 ÷ 4.0 mm, core diameter max. 0.75 mm<sup>2</sup>
- receiver: cable entry Pg7, IP68, outer diameter of the cable 3.5 ÷ 6 mm, core diameter max. 0.75 mm<sup>2</sup>



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