



COMET P3116 Temperature Humidity Transmitter User Guide

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Economy humidity and temperature transmitter
QUICK START MANUAL
P3116

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DESCRIPTION

The P3116 transmitter with 4-20 mA current outputs is designed to measure temperature and relative humidity of air using the external probe that is part of the device. The probe is interchangeable without calibration to a specific device and regardless of the length of the cable.

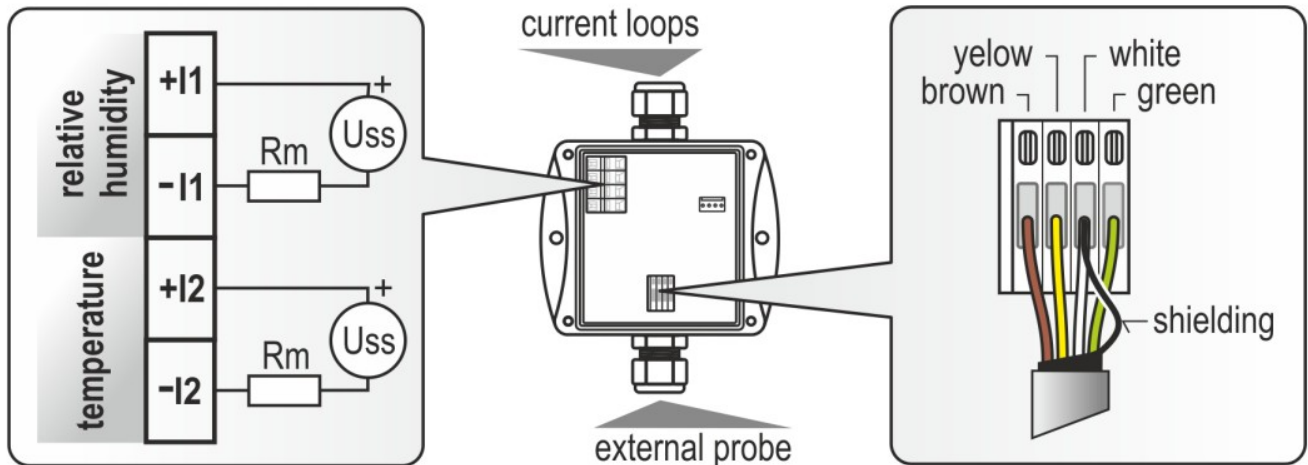
The transmitter communicates by two galvanically separated current loops. Each loop has two-wire connection

and each loop requires power from evaluation device. It is always necessary to connect loop I1, which supplies power to measurement part of the device.

DEVICE PRODUCT INSTALATION

Devices are designed for wall mounting. There are two mounting holes at the sides of the case. The transmitter fasten in any position, the recommended probe working position is with sensor cover downwards.

The connecting terminals are accessible after unscrewing the four screws in the corners of the case and removing the lid (see figure). Pass the connecting cable through released gland and connect the wires to terminals (for device connection it is recommended to use a shielded cable with maximum length of 1200m and with external diameter of 4 to 8 mm). Finally tighten the gland and screw the lid (check the integrity of the seal).

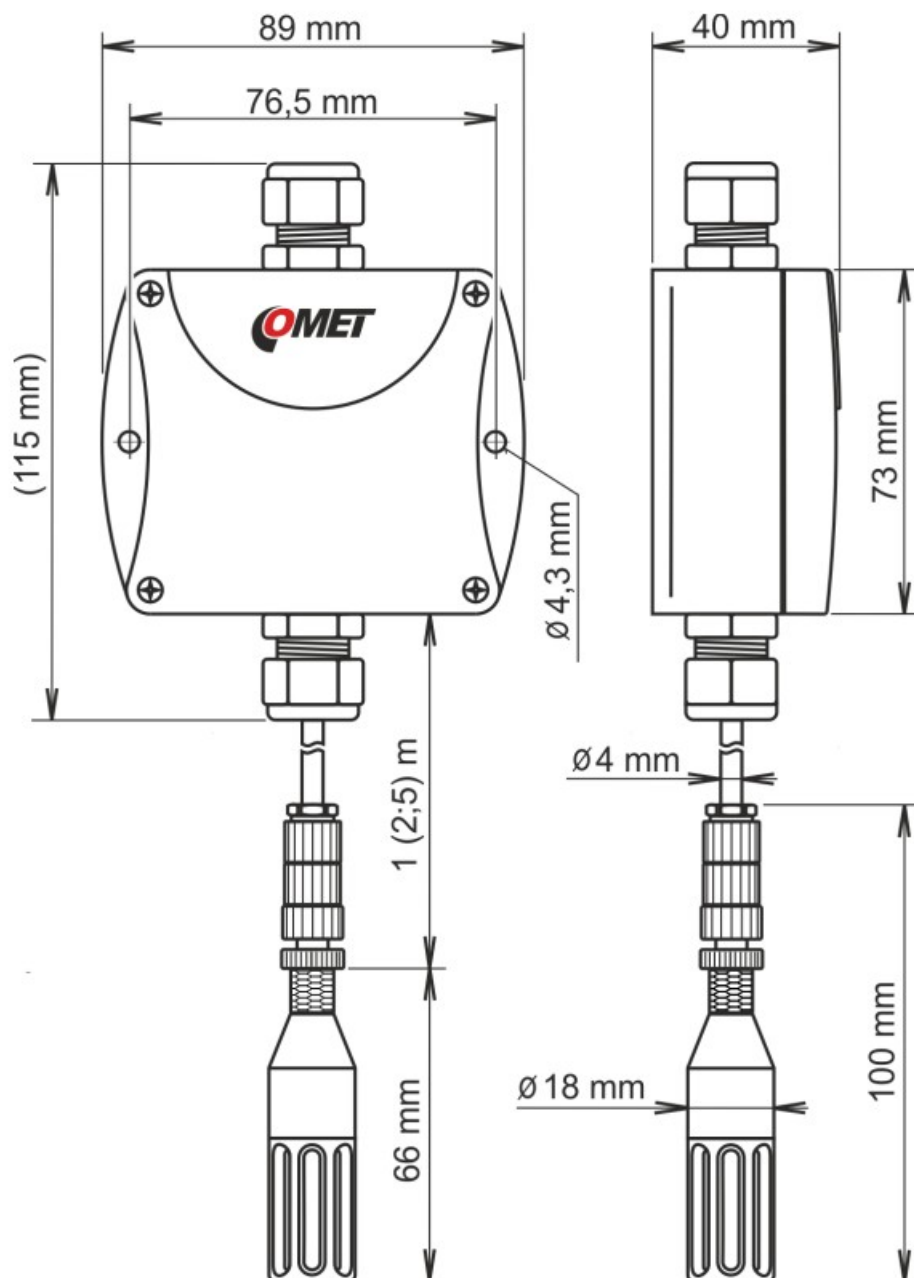


The loop resistance value $R_c = R_m + \text{resistance of wires}$ must fulfill the condition $R_c[\Omega] < 40 \times U_{ss}[V] - 360$.

The external probe cable can be disconnected and reconnected or replaced. The connection terminal block is accessible after removing the lid (see figure).

Devices don't require special operation and maintenance. It is recommended periodically to verify the accuracy of measurement.

DIMENSIONS



WARNING

- Don't operate the probe of the device in an environment in a state of condensation or in an environment of water aerosol for a long time.
- Don't use and don't store the device probe without a sensor cover.
- Don't connect transmitter while power supply voltage is on.
- The cables should be located as far as possible from potential interference sources.
- Installation, commissioning and maintenance may only be carried out by personnel with qualification by applicable regulations and standards.

MEASURED VALUES

Temperature:

Measuring range: -20 to +80 °C

Accuracy: ± 0.4 °C

Resolution: 0.1 °C

Response time: $t_{90} < 15$ min (temperature step 20 °C)

Relative humidity:

Measuring range: 0 to 100 %RH (no condensation)

Accuracy: ± 1.8 %RH from 0 to 90 %RH at 23 °C

Resolution: 0.1 %RH

Temperature error: 0.05 % RH/°C (0 °C to +60 °C)

Response time: $t_{90} < 9$ s (humidity step 65 %RH, constant temperature)

GENERAL

Power supply voltage: 9 to 30 Vdc

Current output in case of error: < 3.8 mA or > 22 mA

Recommended calibration interval: 1 year

Protection: transmitter – IP65 external probe – IP40

Working position: transmitter – any position external probe – any position

Storage temperature range: -20 to +80 °C

Storage humidity range: 5 to 95 %RH (no condensation)

Electromagnetic compatibility: EN 61326-1

Weight: 190 g (1 meter cable), 220 g (2 m), 310 g (5 m)

Housing material: transmitter – ASA, external probe – ABS

OPERATING CONDITIONS

Temperature operating range: transmitter -30 to +80 °C

external probe -20 to +80 °C

Relative humidity operating range: transmitter 0 to 100 %RH external probe 5 to 85 %RH *

* for continuous operation

CALCULATION OF THE MEASURED VALUES

Temperature: $T[^\circ\text{C}] = 6.25 \times I[\text{mA}] - 45$

Relative humidity: $\text{RH}[\% \text{RH}] = 6.25 \times I[\text{mA}] - 25$

END OF OPEATION

Disconnect the device and dispose it according to current legislation for dealing with electronic equipment.

TECHNICAL SUPPORT AND SERVICE

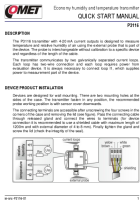
Technical support and service is provided by distributor. For contact see warranty certificate.

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Documents / Resources



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