TEMPERATURE SENSORS FOR HVACR AND BUILDING AUTOMATION APPLICATIONS

This specification applies to temperature sensors with various technical specifications and mechanical structures for wall mounting in industrial premises. The sensors in a sealed (IP65) housing are listed below, divided into the type of sensor used, its accuracy class, and the type of sensor communication with other system devices.
The sensors in question are used in the broadly understood HVACR industry, in BMS systems and building automation. Due to the measurement resistor being placed in a ventilated filter at the end of the measurement probe, it is a sensor with low measurement inertia.

TEMPERATURE SENSORS IN TIGHT HOUSINGS – IP65
" fast "

HCC-01Ka / HCC-02Ka series

SENSORS WITH PROPORTIONAL OUTPUT – RESISTIVE SENSORS

Sensor list/order code:

- **HCC-01Ka/PT100/B** (channel resistance thermometer with PT100 resistance resistor in class B*)
- **HCC-01Ka/PT100/A** (channel resistance thermometer with PT100 resistance resistor in classA*)
- **HCC-01Ka/PT100/1/3B** (channel resistance thermometer with PT100 resistance resistor in class 1/3B*)
- **HCC-01Ka/PT100/1/10A** (channel resistance thermometer with PT100 resistance resistor in class 1/10A*)
- **HCC-01Ka/PT1000/B** (channel resistance thermometer with PT1000 resistance resistor in classe B*)
- **HCC-01Ka/NTC1,8K** (channel resistance thermometer with thermistor NTC1,8K)
- **HCC-01Ka/NTC2,2K** (channel resistance thermometer with thermistor NTC2,2K)
- **HCC-01Ka/NTC5K** (channel resistance thermometer with thermistor NTC5K)
- **HCC-01Ka/NTC10KCAREL** (channel resistance thermometer with thermistor NTC10KCAREL)
- **HCC-01Ka/NTC10K3A1** (channel resistance thermometer with thermistor NTC10K3A1)
- **HCC-01Kab/NTC10K4A1** (channel resistance thermometer with thermistor NTC10K4A1)
- **HCC-01Ka/NTC20K** (channel resistance thermometer with thermistor NTC20K)

** The class of the resistance resistor does not mean the same accuracy class for the entire resistance thermometer - sensor*

SENSORS WITH ANALOG OUTPUT – 0...10 V and 4...20 mA

Sensor list/order code:

- **HCC-02Ka/4...20mA/-40...80°C** (analog output 4...20mA with measuring range -40...80°C*)
- **HCC-02Ka/0...10V/-40...80°C** (analog output 0...10V with measuring range -40...80°C*)

** when ordering, please specify any temperature processing range from -40...80°C. If there is no such range in the code of the ordered sensor, a sensor with the default range of -30...70°C will be sold..*

Technical data

HCC-01Ka series:

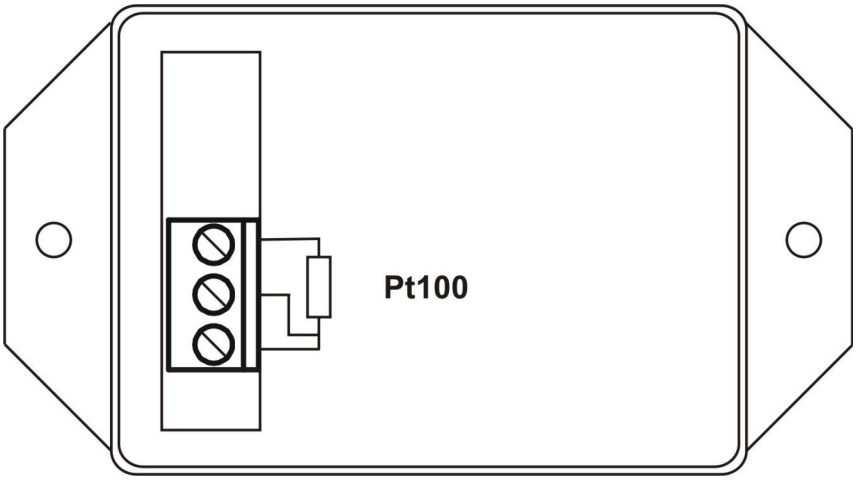
- output type: proportional to the placed sensor
- accuracy: according to the sensor class (the final sensor class can only be determined after testing in a calibration laboratory)
- protection: IP65
- housing material: ABS
- housing dimensions: 112 x 62 x 32 mm

HCC-02Ka series:

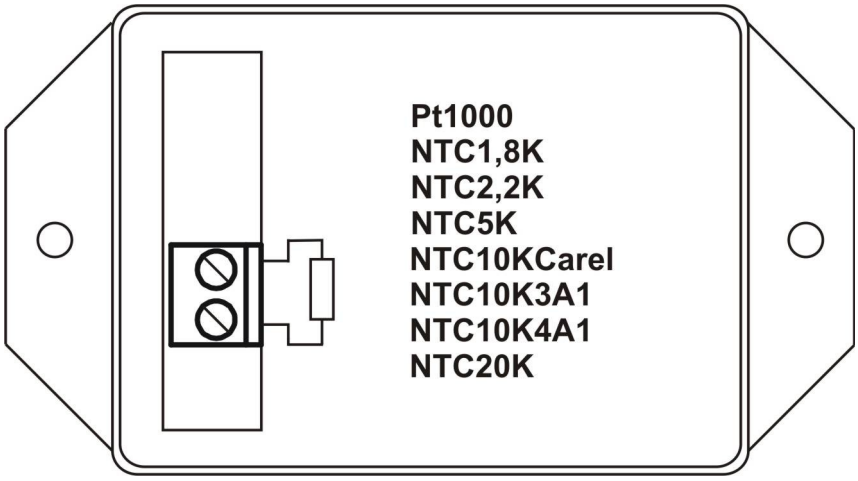
- temperature range: -40...80°C
- working temperature: -40...80°C
- measurement sensor: PT100 in class A
- type of analog output: 0...10V or 4...20mA
- transducer accuracy 0...10V: +/-0,1%
- accuracy of the sensor with the transducer 0...10V: +/-0,2%
- transducer accuracy 4...20mA: +/-0,1%
- accuracy of the sensor with the transducer 4...20mA: +/-0,2%
- power supply for the sensor with 4...20mA output: 12...32 V DC
- power supply for the sensor with 0...10V output: 13...32 V DC or 12...24 V AC
- impact of power supply changes: +/-0,02%/V
- temperature stability: 100 ppm
- response time – analog transducer: 0,1 sek.
- protection: IP65
- housing material: ABS
- housing dimensions: 112 x 62 x 32 mm
- probe: diameter 16 mm

Drawings – description of pins:

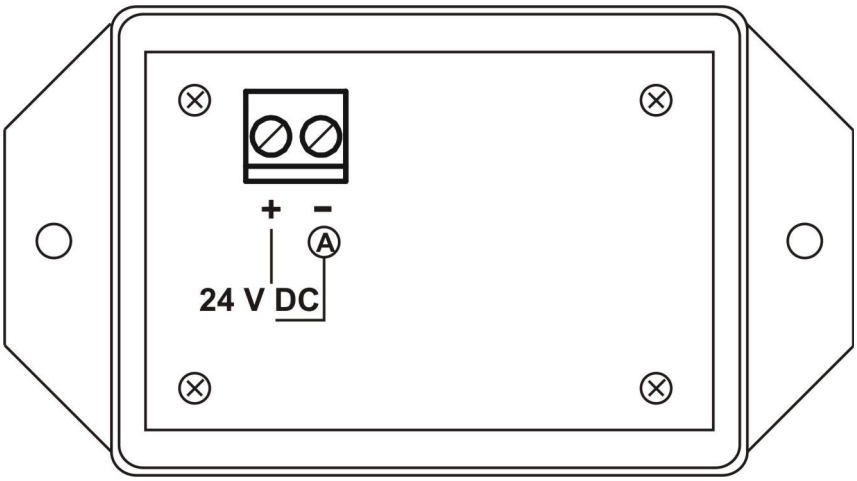
PT100 output



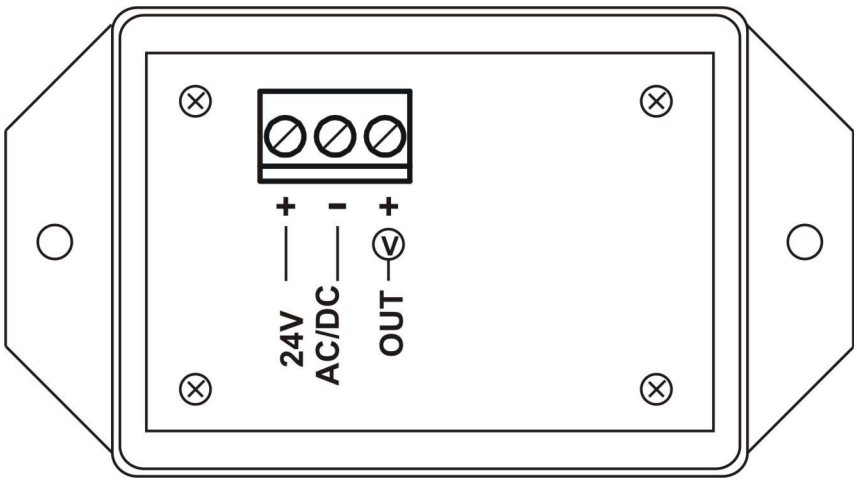
PT1000 output and thermistors



current output 4...20mA; power supply from the current loop



voltage output 0...10V



Safety information:

It is required, under penalty of loss of warranty, to comply with the following operating conditions.

- *Installation, electrical connection, maintenance and commissioning of the sensors may only be performed by trained personnel.*
- *All provisions and comments available in the documents provided by the manufacturer or distributor should be strictly observed.*
- *Due to the safety and failure-free operation of the sensor, the device can only be operated with a closed housing and in conditions that do not cause condensation of water vapor inside the device (properly selected cables for PG9 electrical bushings, installation of the seal supplied with the device in the housing, and ensuring appropriate weather conditions). .*
- *The sensor must be used only for the purposes described and confirmed in the data sheet. Other uses not as stated or beyond the description will be considered unauthorized unless written consent has been obtained. Damage resulting from such unauthorized use does not involve the manufacturer's liability and in this case falls entirely on the user.*

Transport and storage:

The device must be transported in packaging that prevents mechanical damage and access to external weather conditions.

- *Particular attention should be paid to damage to the packaging or device.*
- *The device should be stored in a dry room, without exposure to weather conditions, otherwise it should be protected against dirt and weather conditions until final installation. During transport, storage and operation, avoid exposing the device to very high and very low temperatures.*