

# Remote Temperature Measurement Module ConTrace AS

## Purpose

The remote temperature measurement module ConTrace AS is used for temperature control of process pipelines and tanks of different industries.

Designed for installation in control cabinets.

## Description

The remote temperature measurement module ConTrace AS is one of the components of the specialized control system for electrical heating ConTrace. Transmission of temperatures data is carried out via RS-485 (Modbus RTU). This makes possible to use the ConTrace AS modules as a part of third-party control systems that support this type of communication.

Using ConTrace AS modules allows for centralized control and transmission values of the temperatures of remote objects, which is particularly effective for a

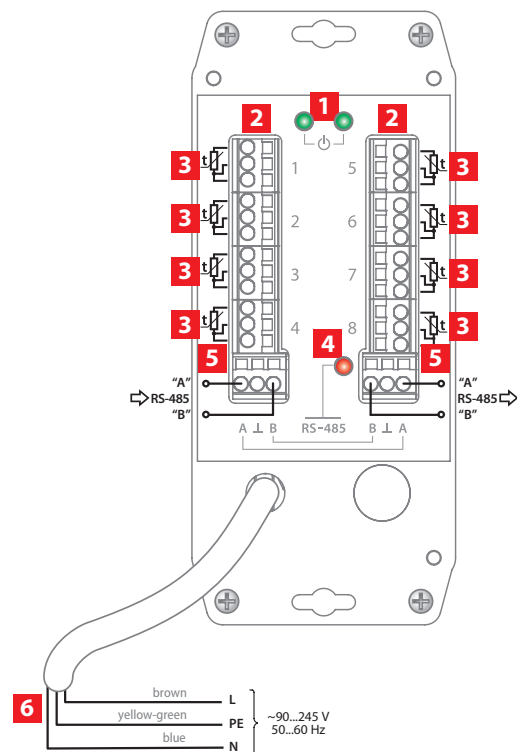
large gathering of measurement points within a radius of 100 m. For each ConTrace AS module up to 8 RTD temperature sensors can be connected. Incoming data from sensors are transferred to the control device by means of only one cable according to the RS-485 standard. At a distance of 1,200 m, up to 16 ConTrace remote temperature measurement devices can be connected in series. This makes it possible to monitor changes in the temperature characteristics of the electrical heating system at 128 points simultaneously.

ConTrace remote temperature measuring devices are fully compatible with each other, which allows the use of ConTrace AS modules installed in control cabinets simultaneously with ConTrace AS-xxx-Ex units located in an explosive area. The ConTrace AS modules can be connected in series with the field units of the remote temperature measurement ConTrace ASxxx-Ex in any order.

## Construction



## Connection and Indication



## Features and Application Areas

- Connection of 8 temperature sensors
- Up to 16 blocks can be daisy-chained together
- Up to 128 temperature sensors when scaling the system
- Maximum distance of the module from the control cabinet to 1,200 m
- Intrinsically safe circuit

1. Voltage presence LED
2. Terminal blocks for temperature sensors
3. Note for connecting temperature sensors
4. Data transfer LED on the RS-485 interface
5. Terminal blocks for the RS-485 interface
6. Power wires

# Electric Heating Control System ConTrace

## Technical Data

Ex marking	[Ex ia m] IIC
Supply voltage	90...245 VAC, 50...60 Hz
Power consumption, max	5 W
Interface	RS-485
Communication protocol	Modbus RTU
RS485 interface connection	A, B, com
RS485 communication speed	9 600 ...115 200 bps.
Max length of the RS485 network segment	1200 m*
Terminal blocks for connections	
1. Temperature Sensors	up do 2,5 mm <sup>2</sup>
2. Interface cable	
The length of the power supply wires	210 mm
The cross section of the supply wires	0.75 mm <sup>2</sup>
Ground wire length	230 mm
The cross-section of the ground wire	4.0 mm <sup>2</sup>
Number of temperature measurement channels	8
The resolution of the ADC of the measuring channel	23 bits
Type of sensors	see the table "Types of sensors"
Temperature measurement range	-100...+500 °C
Accuracy of measurements	0.5 °C
Maximum sensor distance from the unit	100 m
Sensor connection circuit	three-wire circuit
Operating temperature range	-55...+50 °C
Degree of protection	IP20
Dimensions (W×H×D), mm	81.4×189.4×64
Weight, g	1 000
Service life	not less than 10 years

\* Depends on the selected data rate and the conditions for the protection of the control cable against electromagnetic interference

## Sensors Types

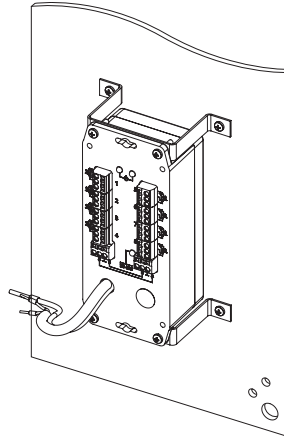
Material	Type of RTD	Measuring range, °C
Platinum	PT50	-100 ... +500
	PT100	
	Cu50	
Copper	Cu100	-100 ... +200
	50M	
	100M	

## Approvals

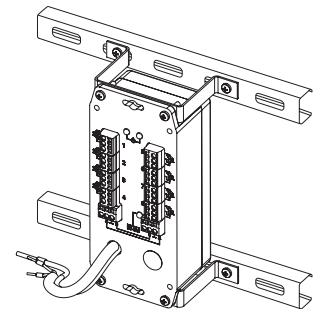


## Installation

Mounting to the mounting plate

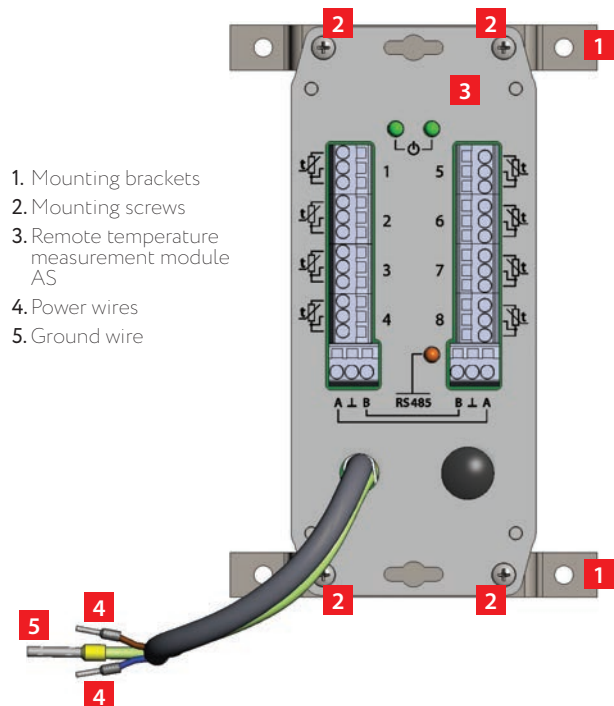


Mounting on profiles and traverses



## Construction

The remote temperature measurement module AS is supplied with mounting brackets and mounting screws in the kit.



## Types

Name	Order code
Remote temperature measurement module ConTrace AS	3220002020