

### Application

Control of max. three control circuits. For a larger number of control circuits, several controllers can be linked by a device bus. The controller may communicate with up to six heat meters via the retrofittable meter bus plug-in module.



The TROVIS 5579 Heating and District Heating Controller is used to control max. three control circuits:

- Control of a primary heat exchanger or boiler with max. two mixing and one non-mixing heating circuit. Control of a DHW heating in the secondary or primary domestic hot water control circuit.
- Control of two weather-compensated heating circuits and a DHW heating with three valves in the primary circuit.
- Control of three weather-compensated heating circuits with three valves in the primary circuit.

### Special features

- Direct access to the operating modes and essential parameters of the control loops using rotary switches
- Intuitive data retrieval and input by pressing and turning the pushbutton
- Illuminated display
- 365-day clock with max. four time schedules and automatic summer time/winter time changeover; maximum three times-of-use per day (input in steps of 15 minutes)
- Room panels may be connected for each heating circuit:
  - Convenient room panels for adjustment of the operating mode, the day and night set points, the times-of-use of the heating, the controller clock and party mode. Additional display of outdoor and room temperature. Connection via device bus
  - Room panel to override operating mode and day set point
- Demand-driven control via set point request of subsequent control loops over a device bus or 0 to 10 V signal. The primary circuit controls the maximum flow temperature required plus adjustable boost.
- Applications with solar thermal DHW heating available
- Instantaneous heating systems with water flowmeter configurable
- Heating characteristics either according to gradient or four points; variable limitation of the return flow temperature
- Adaptation: automatic adaptation of the heating characteristic (room temperature sensor required)
- Optimization: calculation of the best possible activation and deactivation times of the heating (room temperature sensor required)
- Drying of jointless floors function with adjustable parameter settings
- Pump management function: speed changeover for a heating circulation pump available
- Data logging function:
  - Operating data can be saved to a data logging module
  - Data can be displayed in the data log viewer on the PC



Fig. 1 · TROVIS 5579 Heating and District Heating Controller

### Inputs and outputs

- 17 configurable inputs for Pt 1000/Pt 100, PTC/Pt 100, NTC/Pt 100, Ni 1000/ Pt 100 or Pt 500/Pt 100 temperature sensors and binary inputs
- Three-step, on/off or continuous-action control circuit outputs (0 to 10 V) configurable with PID control algorithm

### Communication

- RS-232 interface for modem or point-to-point connection to a PC
- Configuration and parameterization either using memory module or online using USB converter 3 and TROVIS-VIEW software
- Fault indication via text messages (SMS; modem required)
- Flash EPROM of the controller (operating system) can be updated via the RS-232 system bus interface (also via modem) and the RS-485 interface (via cable converter)
- RS-232/RS-485 cable converter for communication with the bus (optional)
- Meter bus plug-in module for communication with up to six heat meters (optional)

### Operation

The TROVIS 5579 Heating and District Heating Controller is adapted to the specific plant by setting the appropriate system code number. To select the code number, refer to the system schematics described in the associated mounting and operating instructions. Additional sensors and/or functions which are not part of the plant's basic configuration may be selected over function blocks.

Press the changeover key  $\rightleftharpoons$  to access the different levels. For trained staff, the configuration levels used to set function blocks are indicated by "CO" and the parameter levels are indicated by "PA". There is, for example, a clear distinction between three heating circuit levels, a domestic hot water level and a communication level.

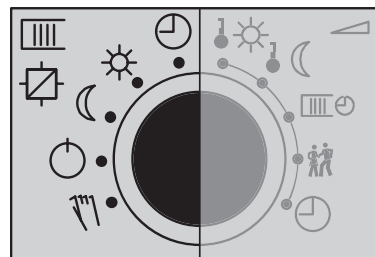
Data is retrieved and entered at the controller via a rotary pushbutton. This process is facilitated by icons displayed on the LCD. The three rotary switches are used to set the operating mode (left) and the parameters required for each circuit (right) as illustrated in Fig. 2.

### Meter bus plug-in module

The meter bus plug-in module enables you to conveniently connect heat or energy meters as well as water meters to the controller. A maximum of six meters conforming to EN 1434-3 may be connected for data transfer.

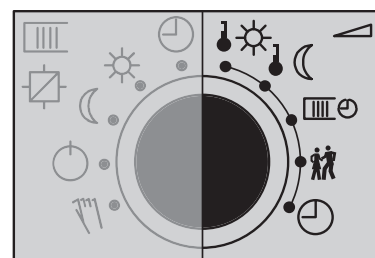
A heat meter – provided it supplies high-resolution measuring accuracy – can be used to limit flow and/or heat capacity. Different flow rate and capacity limits can be set for the operating states "Heating control only", "Heating control and domestic hot water heating" and "Domestic hot water heating only".

### Operating modes



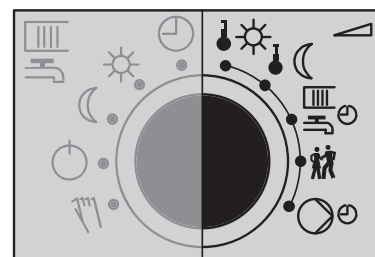
- 🕒 Time-controlled operation
- ☀️ Day mode (rated operation)
- 🌙 Night mode (reduced operation)
- ⊘ No control operation, frost protection only
- ✋ Manual operation:  
Correction value adjusted in percent and pump activated/deactivated by pressing and turning the rotary pushbutton

### Parameters



- ☀️🌡️ Day set point
- 🌙🌡️ Night set point
- 📅🕒 Times-of-use for heating
- 👥 Party mode: setting of special times-of-use in steps of 15 minutes. Timer starts working immediately after it is set.
- 🕒 Controller clock:  
Setting of time, date and year

### Domestic hot water circuit



- ☀️🌡️ Domestic hot water temperature
- 🌙🌡️ Sustained temperature for DHW temperature
- 📅🕒 Times-of-use for domestic hot water
- 👥 Party mode: setting of one special time-of-use (one-time operation) in steps of 15 minutes. Timer starts working immediately after it is set.
- 🕒🕒 Times-of-use for domestic hot water circulation pump

Fig. 2 · Switch positions and their meaning

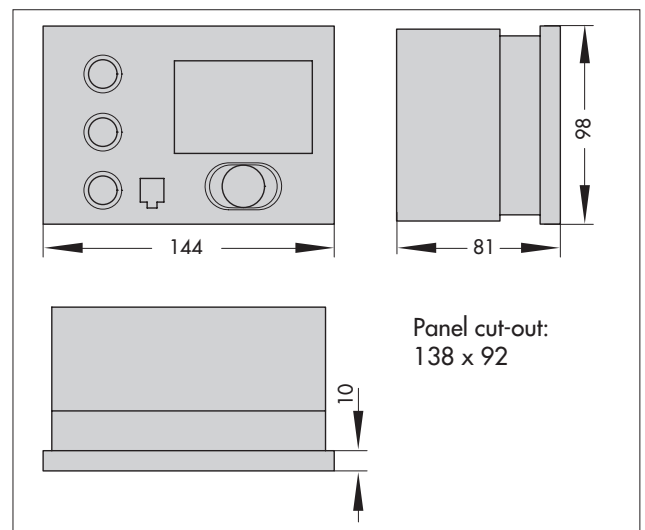
## Technical data

|                         |            |  |
|-------------------------|------------|--|
| <b>Inputs</b>           |            | 17 configurable inputs for Pt 1000/Pt 100, PTC/Pt 100, NTC/Pt 100, Ni 1000/Pt 100 or Pt 500/Pt 100 temperature sensors and binary inputs,<br>Input 17 alternatively for flow rate signal of calorimeter or signal required by subsequent control circuits,<br>4(0) to 20 mA with 50 $\Omega$ parallel resistor or 0 to 10 V<br>(demand: 0 to 10 V correspond to 20 to 120 °C flow temperature) |
| <b>Outputs</b>          |            | 3 x three-step signal: load max. 250 V AC, 2 A<br>Alternatively on/off signal: load max. 250 V AC, 2 A<br>Alternatively continuous-action output: 0 to 10 V, load > 5 k $\Omega$<br>5 x pump output:<br>load max. 250 V AC, 2 A; all outputs are relay outputs with varistor suppression<br>2 x semiconductor relay: load max. 24 V AC/DC, 50 mA   |
| <b>Interfaces</b>       | Device bus | RS-485 interface for max. 32 bus devices<br>(2-wire system, polarity independent, connection to terminals 29/30 as required or together with the two-wire system bus via 1400-8800 cable converter)  |
|                         | System bus | RS-232 Modbus interface for modem or point-to-point connection to a PC<br>(Modbus RTU protocol, data format 8N1, RJ 45 connector at the side)  |
|                         | Meter bus  | Optional: – RS-485 Modbus interface for four-wire bus using a 1400-7308 cable converter<br>– RS-485 Modbus interface for two-wire bus using a 1400-8800 cable converter  |
|                         |            | Optional: – Meter bus plug-in module, protocol according to EN 1434-3<br>(also suitable for retrofitting)  |
| Operating voltage       |            | 165 to 250 V, 48 to 62 Hz, max. 6 VA   |
| Ambient temperature     |            | 0 to 40 °C (operation), –10 °C to 60 °C (storage and transport)  |
| Degree of protection    |            | IP 40 according to IEC 529   |
| Class of protection     |            | II according to VDE 0106   |
| Degree of contamination |            | 2 according to VDE 0110  |
| Overvoltage category    |            | II according to VDE 0110   |
| Humidity rating         |            | F according to VDE 40040   |
| Noise immunity          |            | According to EN 61000-6-1  |
| Noise emission          |            | According to EN 61000-6-3  |
| Weight                  |            | Approx. 0.5 kg   |

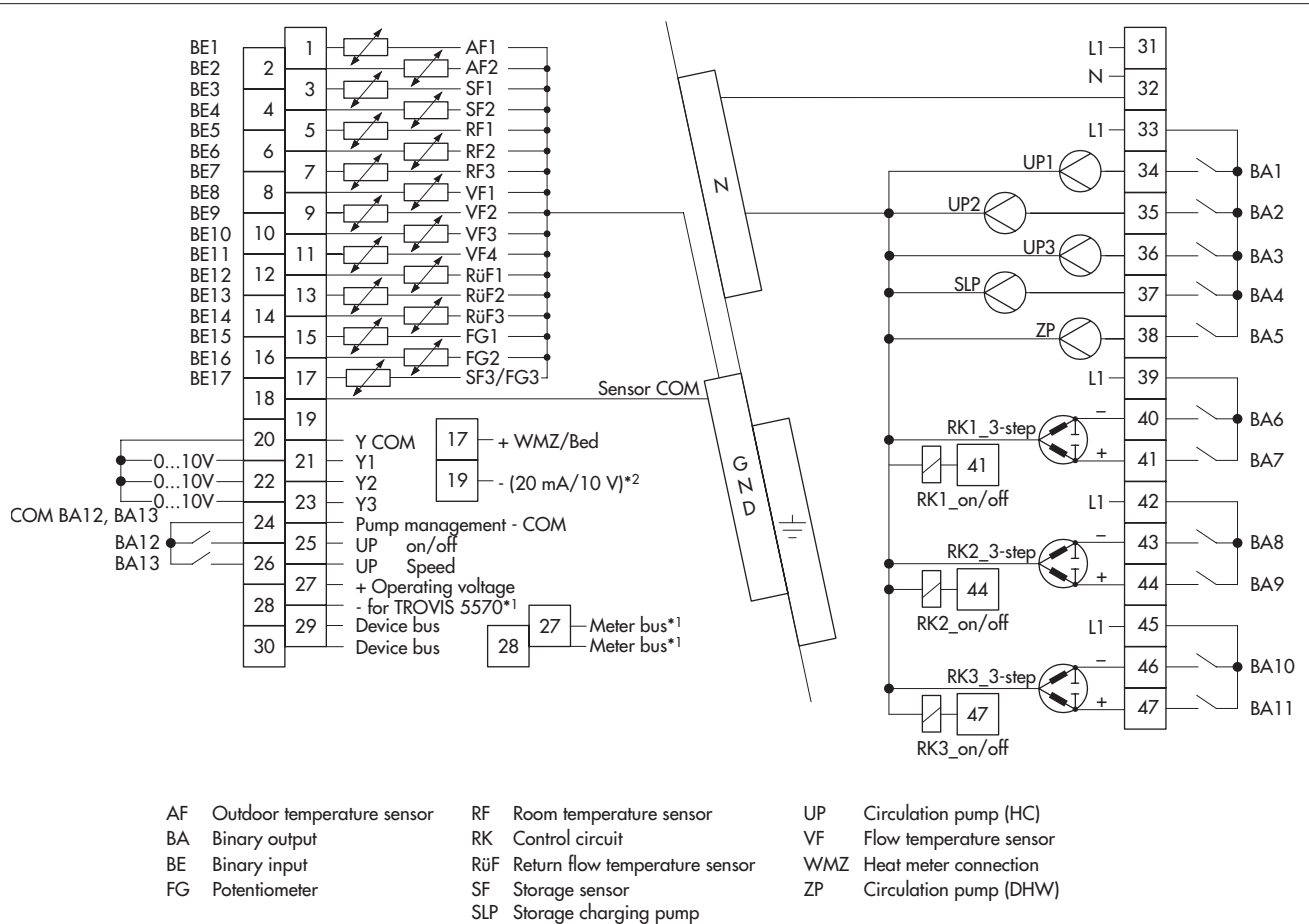
## Electrical connection and installation

The controller consists of the housing containing the electronics and a separate terminal board for electrical connection. Two wires of max. 1.5 mm<sup>2</sup> may be connected to each terminal. The sensor connection lines must be installed separately from the lines carrying the operating voltage. For wall mounting, screw the terminal board to the wall. After wiring the controller, place the controller housing onto the terminal board and fasten it with two screws. Two fastening elements for panel mounting are included.

## Dimensions in mm



## Terminal assignment



### Attention!

Never connect terminals 18 (ground sensor), 19 (ground 0 to 10 V/0 to 20 mA) and 20 (ground control outputs 0 to 10 V)!

\*1) If the controller is equipped with a meter bus plug-in module, the TROVIS 5570 Remote Room Controller cannot be supplied by the controller!

\*2) A 50 Ω resistor is required between terminals 17 and 19 for applying a 20 mA signal.

Fig. 3 · Terminal assignment of the TROVIS 5579 Heating and District Heating Controller

### Ordering text

TROVIS 5579 Heating and District Heating Controller with RS-232 system bus interface for modem or point-to-point connection to a PC

### Options:

Cable converter 1400-8800 for RS-485 two-wire system bus  
 Cable converter 1400-7308 for RS-485 four-wire system bus  
 Meter bus plug-in module 1400-8975

### Accessories:

- Room panels
  - Type 5244 · PTC sensor with room panel
  - Type 5257-5 · Pt 1000 sensor with room panel
  - TROVIS 5570 · room panel with display
- Memory module 1400-9379
- Data logging module 1400-9378
- USB converter 3 together with data log viewer software 1400-9377
- TROVIS-VIEW Configuration and Operator Interface 6661-1013 for TROVIS 5579

Specifications subject to change without notice.

