DATA SHEET

T 5573 EN

TROVIS 5573 Heating and District Heating Controller

CE EAC

Application
Control of up to two control circuits

Version TROVIS 5573-0 with icon readings on the display

Version TROVIS 5573-1 with plain-text readings on the graphics display

Fig. 1: *TROVIS 5573 Heating and District Heating Controller*
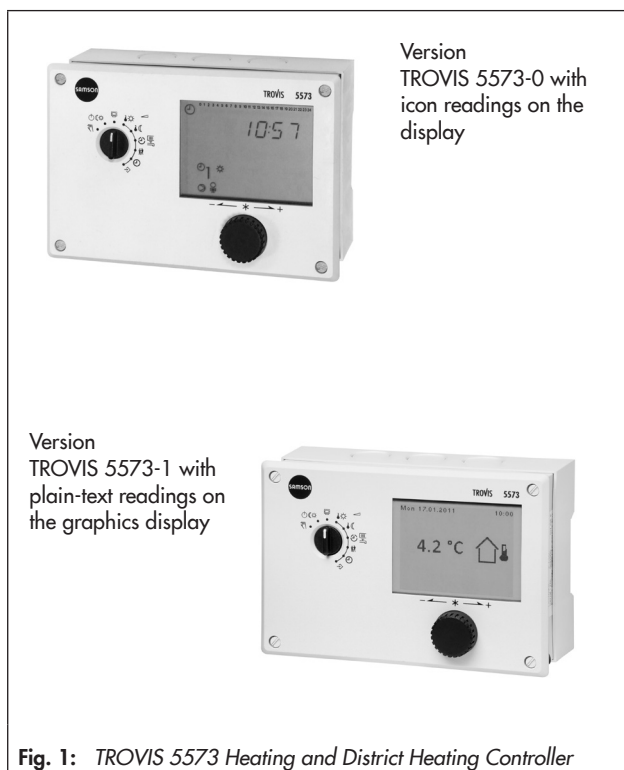
– Control of a primary heat exchanger or boiler with one mixing heating circuit and one non-mixing heating circuit (both outdoor-temperature-compensated) and control of DHW heating in the secondary circuit

– Outdoor-temperature-compensated buffer storage tank control with solid fuel boiler and solar circuit control

– Control of one outdoor-temperature-compensated heating circuit and a DHW heating with two valves in the primary circuit

– Control of two outdoor-temperature-compensated heating circuits with two valves in the primary circuit

Special features
- Rotary switch for direct access to the operating modes and key parameters of the control circuits
- Intuitive data retrieval and input by pressing and turning the pushbutton
- 365-day time switch with up to four time schedules and automatic summer time/winter time changeover; up to three times-of-use per day (input in steps of 15 minutes)
- Room panels connected to individual heating circuits to override operating mode and rated room temperature
- Demand-driven control by set point demand by subsequent controllers over a 0 to 10 V signal: the primary circuit controls the maximum flow temperature demanded plus adjustable boost.
- Heating characteristics optionally based on the gradient or based on four points; variable return flow temperature limitation
- Adaptation: automatic adaptation of the heating characteristic (room temperature sensor required)
- Optimization: calculation of the best possible activation and deactivation times for the heating (room temperature sensor required)
- Drying of jointless floors function with adjustable parameter settings
- Updatable flash memory in controller (operating system)
- Configuration and parameterization using a memory module
- Data logging function:
  - Operating data can be saved to a data logging module
  - Data can be displayed in the data log viewer on a computer
  - TROVIS 5573-1: analysis on the graphics display of the data saved in the operating data memory

Versions

- **TROVIS 5573-000x**: heating and district heating controller with icon readings on the display
- **TROVIS 5573-100x:** heating and district heating controller with plain-text readings on the graphics display
- **TROVIS 5573-110x**: heating and district heating controller with graphics display and M-bus interface for three M-bus units

Optional interfaces for communication:

RS-232 to computer communication module
RS-485 communication module

Design and principle of operation

The TROVIS 5573 Heating and District Heating Controller is adapted to the specific system 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 system's basic configuration may be selected over function blocks.

The switch positions ⇌ and entry of the key number allow access to the corresponding levels. For trained staff, the configuration levels used to set function blocks are indicated by "CO" and the parameter levels are indicated by "PA". For example, a clear distinction is made between two heating circuit levels and the domestic hot water level. Data is retrieved and entered at the controller using a rotary pushbutton. This process is facilitated by icons (TROVIS 5573-000x) or by icons and plain text (TROVIS 5573-100x and 5573-110x) displayed on the LCD. The rotary switch is used to set the operating mode and the parameters required for each circuit (see Fig. 3).

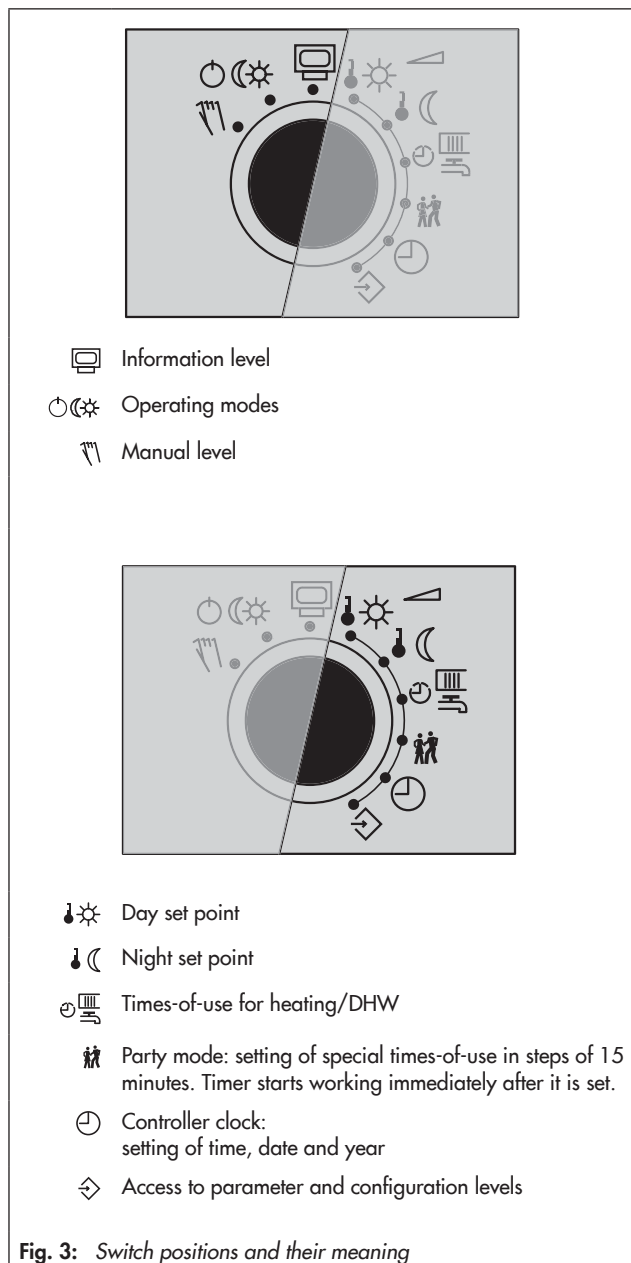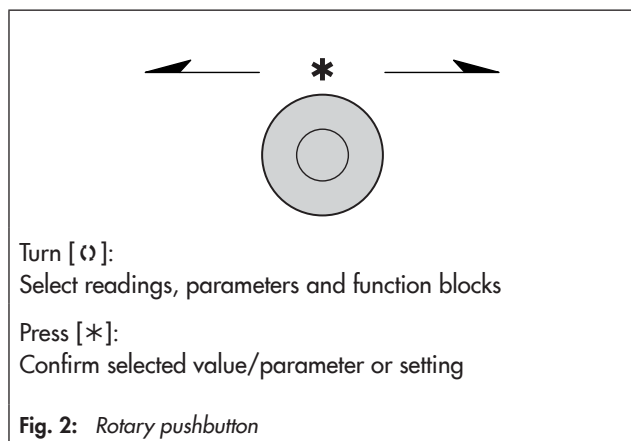## Meter bus interface (TROVIS 5573-110x only)

A maximum of three meters conforming to EN 1434-3 can be connected for data transfer. In addition, heat meter WMZ1 for control circuit RK1 and heat meter WMZ2 for control circuit RK2 are available for flow rate and/or capacity limitation. Various limits can be adjusted for the different operating modes "Heating control only", "Heating control with DHW heating" and "DHW heating only" in control circuit RK1. Outdoor-temperature-compensated flow rate or capacity limitation can also be implemented.

Mounting

For wall mounting, the base of the housing is screwed to the wall. After wiring the controller, place the controller housing onto the base and fasten it with two screws.
Two adjustable fixing clamps attached to the controller are used for panel mounting.

Operation

The controller is operated using the operating controls on the front. The rotary pushbutton is used to select readings, parameters and function blocks. The rotary switch is used to set the operating mode and the key parameters for each control circuit.

Turn [↻]:
Select readings, parameters and function blocks

Press [✳]:
Confirm selected value/parameter or setting

Fig. 2: *Rotary pushbutton*

🖵   Information level

↻☾☼   Operating modes

🖐   Manual level

🌡☼   Day set point

🌡☾   Night set point

⏱🌡   Times-of-use for heating/DHW

🕺   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

⇌   Access to parameter and configuration levels

Fig. 3: *Switch positions and their meaning*

Electrical connection

The controller consists of the housing containing the electronics and a separate terminal board for electrical connection. Two wires with a cross-section of max. 1.5 mm² can be connected to each terminal. The sensor connection lines must be installed separately from the lines carrying the power supply.
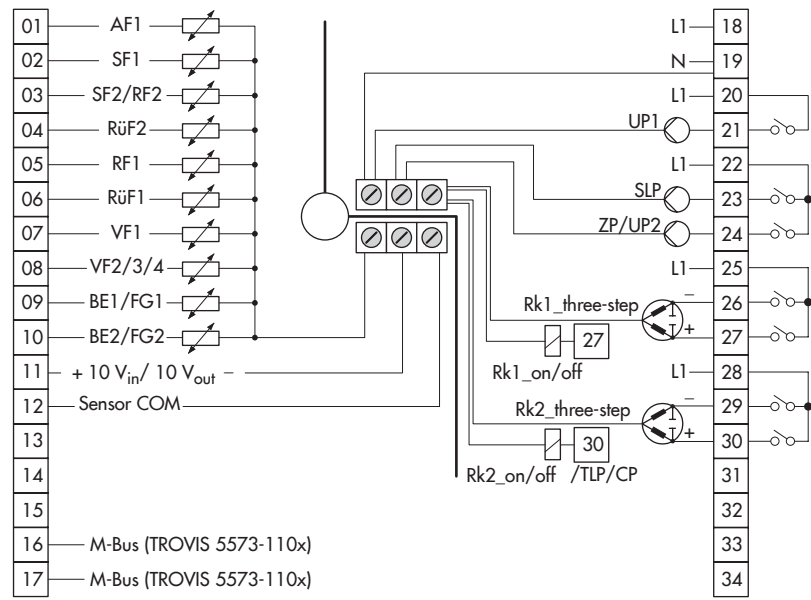
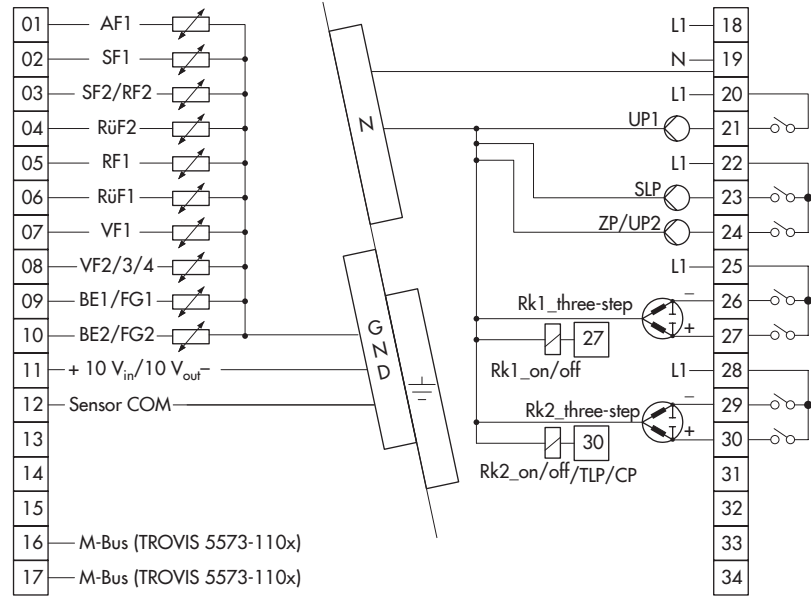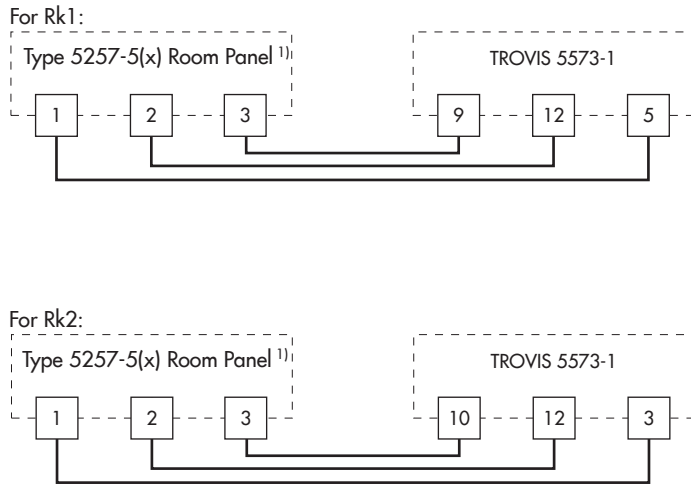**Fig. 4:** *Wiring of TROVIS 5573 Controller with standard base*

Fig. 5: *Wiring of TROVIS 5573 Controller with high base*

Legend:

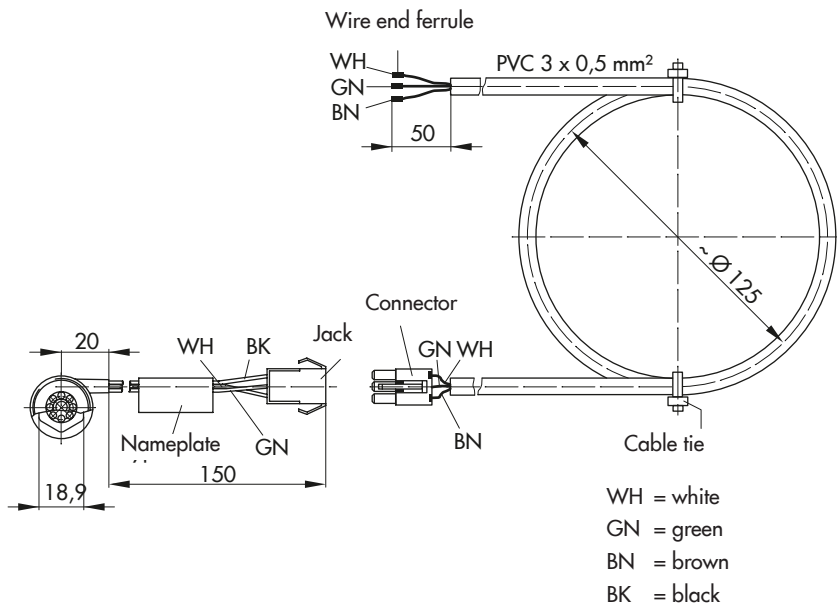|					
AF	Outdoor sensor	SF	Storage tank sensor	SLP	Storage tank charging pump
BE	Binary input	VF	Flow sensor		
FG	Potentiometer	CP	Solar circuit pump	TLP	Heat exchanger charging pump
RF	Room sensor	RK	Control circuit		
RüF	Return flow sensor	UP	Circulation pump (heating)	ZP	Circulation pump (DHW)

For Rk1:

Type 5257-5(x) Room Panel [1] TROVIS 5573-1

1 2 3   9 12 5

For Rk2:

Type 5257-5(x) Room Panel [1] TROVIS 5573-1

1 2 3   10 12 3

[1] Type 5244 no longer available

Fig. 6: *Wiring of a room panel for Rk1 or Rk2*

Water flow sensor   TROVIS 5573-1

WH   GN   BK   12   10   11

BN

GN

WH
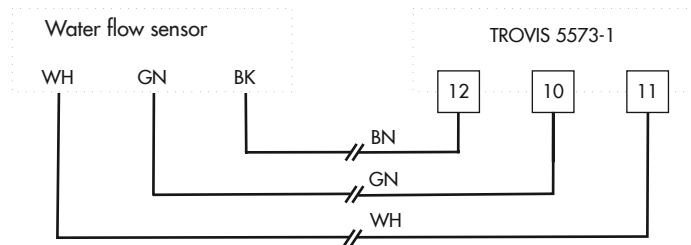
WSS		Extension cable	TROVIS 5573-1
GND	BK	BN	12
Signal	GN	GN	10
5 V	WH	WH	11

Wire end ferrule

WH
GN   PVC 3 x 0,5 mm²
BN

50

~ Ø 125

20   WH   BK   Jack

Connector   GN WH

Nameplate   GN

BN

Cable tie

18,9

150

WH = white
GN = green
BN = brown
BK = black

Fig. 7: *Connection of a water flow sensor (see "Accessories" on page 7)*

Table 1: *Permissible wire cross-section for terminals*

Cable	Wire cross-section
Single-wire	0.33 to 2 mm²
Multi-wire	0.33 to 2 mm²

Length of insulation to be stripped off wire ends: 6 mm

Technical data

|		
Inputs	8x inputs for Pt 1000, PTC or Ni 1000 temperature sensors and two binary inputs, terminal 11 as 0 to 10 V input (e.g. for external demand or outdoor temperature signal)	
Outputs [1]	2x three-step signal: rating max. 250 V AC, 2 A Alternatively 2x on/off signal: rating max. 250 V AC, 2 A 3x pump output: rating max. 250 V AC, 2 A; all outputs are relay outputs with varistor suppression Terminal 11 as 0 to 10 V output (e.g. for continuous closed loop control, outdoor temperature, signal for external demand or pump speed control), load >5 kΩ	
Interfaces (TROVIS 5573-110x only)	M-bus interface (mini master) for up to three M-bus units, protocol according to EN 13757 (formerly EN 1434-3)	
Optional interfaces	1x Modbus RS-485 interface for two-wire bus using RS-485 communication module (Modbus RTU protocol, data format 8N1, RJ45 connector socket at the side)	
Supply voltage	85 to 250 V, 48 to 62 Hz	
Power consumption		
TROVIS 5573-0	Max. 4.7 VA, typical: 2.3 VA	
TROVIS 5573-1	Max. 6 VA, typical: 2.5 VA	
Permissible ambient temperature range		
Operation	0 to 55 °C	
Storage and transport	−10 to +60 °C	
Degree of protection	IP40 according to EN 60529	
Class of protection	II according to EN 61140	
Degree of contamination	2 according to EN 61010-1	
Overvoltage category	II according to EN 60664	
Noise immunity	According to EN 61000-6-1	
Noise emission	According to EN 61000-6-3	
Conformity	$C\epsilon \cdot$ EAC	
Weight	Approx. 0.5 kg	

[1] For systems with one control circuit, a maximum of four pumps are available

Dimensions

Panel cut-out: 138 x 92
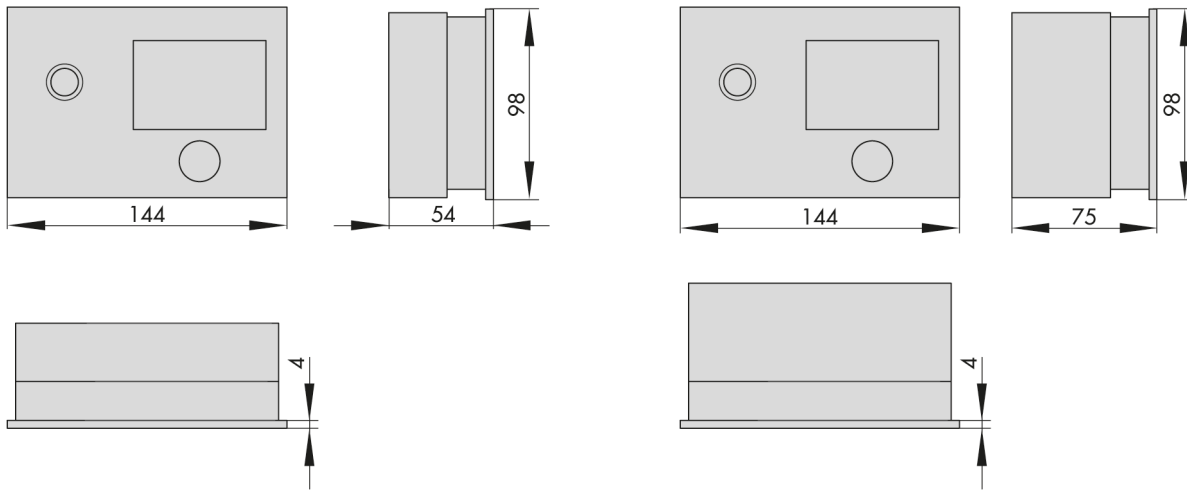
Controller with standard base   Controller with high base

Fig. 8: *Dimensions in mm*

Accessories

Memory module	Order no. 1400-9379
Mini module	Order no. 1400-7436
Data logging module	Order no. 1400-9378
USB converter 3 together with data log viewer software	Order no. 1400-9377
TROVIS-VIEW software (free of charge)	▶ www.samsongroup.com > DOWNLOADS > Software & Drivers > TRO-VIS-VIEW
RS-485 communication module	Order no. 8812-2002
Surge arrester SA 5000	Order no. 1400-9868
SAM HOME Gateway	Type 5660
SAM MOBILE Gateway	Type 5655
SAM DISTRICT ENERGY	▶ www.samsongroup.com > Products > Digital solutions > SAM DISTRICT ENER-GY ▶ EB 6901
Water flow sensor with extension cable [1]	Order no. 1400-9246
Sensors and room panels	▶ T 5200 (Information Sheet: Temperature Sensors and Thermostats)

[1]   Only for TROVIS 5573-1

Ordering text

TROVIS 5573 Heating and District Heating Controller

–   With icon readings on the display/
    with plain-text readings on the graphics display/
    with graphics display and M-bus interface

–   With standard base or high base

Associated mounting and operating instructions

–   For TROVIS 5573
    (icon readings on the display):   ▶ EB 5573

–   For TROVIS 5573-1
    (plain-text readings on the graphics   ▶ EB 5573-1
    display)

–   For TROVIS-VIEW: ▶ EB 6661

Specifications subject to change without notice   **T 5573 EN**