

SMARTEH HEATING AND COOLING AUTOMATION SYSTEM



SYSTEM DESCRIPTION

The SMARTeH Heating and Cooling Automation System (SHC) is based on pre-configured SHC cabinets for controlling heating and cooling stations in residential, public, commercial, and industrial buildings.

SHC cabinets enable fast installation, easy configuration, and adaptation to various hydraulic systems without extensive modifications. The system can be controlled locally via an intuitive colour touchscreen display or remotely, enabling efficient and reliable system operation.

Advanced functions enable optimization of energy consumption, adaptation of system operation according to energy prices, and improved energy efficiency. The system is suitable for both new buildings and upgrading existing heating and cooling systems.



Photo: RE-MONT-ING reference project installation

MODULAR SYSTEM

SHC-001

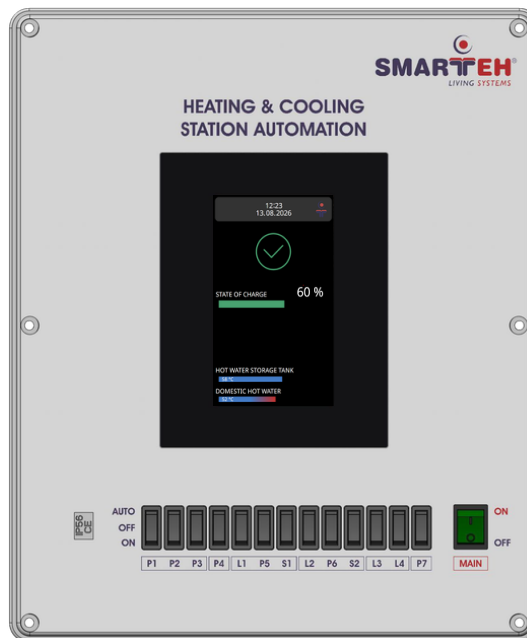
Mini Cabinet



- Supports up to 2 heat sources
- Supports up to 2 mixing circuits
- 4.3" colour touchscreen display
- 6 temperature sensors included
- Remote access

SHC-002

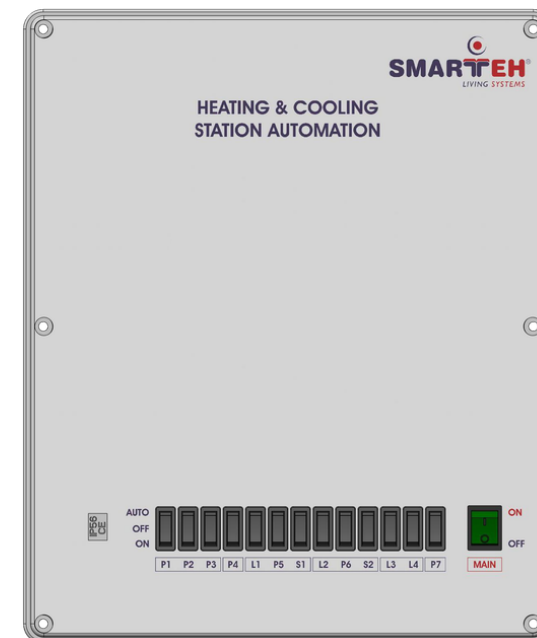
Main Cabinet



- Supports up to 2 heat
- Supports up to 3 mixing circuits
- 7" colour touchscreen display
- 8 temperature sensors included
- Remote access
- Enables connection of up to three extension cabinets

SHC-E02

Extension Cabinet



- Supports up to 2 additional heat sources
- Supports up to 3 additional mixing circuits
- 7 temperature sensors included

KEY BENEFITS OF THE SHC SYSTEM

- **Complete pre-configured solution**

SHC cabinets contain all key components required for the automation of heating and cooling stations, without the need for additional programming.

- **Modular scalability**

The main SHC cabinet can be further expanded with additional SHC-E02 extension cabinets, enabling control of up to 12 mixing circuits.

- **Flexible configuration**

The settings menu allows the system to be adapted to the specific requirements of the building and the wiring configuration to be set up according to the actual project. Additional custom functions can also be easily implemented by configuring the operating logic of the available relay outputs.

- **Optimized system operation**

Automated boiler room management improves energy efficiency, reduces energy consumption, and lowers operating costs.

- **Remote access**

Easy monitoring of system operation, as well as remote control and adjustment of settings from other devices. The system can also be connected to higher-level supervisory control systems.



Photo: Interior of the SHC-002 cabinet

SHC CABINET SELECTION ASSISTANT

SHC Cabinet	Mixing circuit	Heat source	Hot storage tank	Domestic hot water heater	Switching module	Hydraulic switch
SHC-001	up to 2	up to 2	up to 2	1	1	/
SHC-002	up to 3	up to 2	up to 2	1	1	1
1 x SHC-002 1 x SHC-E02	up to 6	up to 4	up to 2	up to 2	1	1
1 x SHC-002 2 x SHC-E02	up to 9	up to 6	up to 2	up to 3	1	1
1 x SHC-002 3 x SHC-E02	up to 12	up to 6	up to 2	up to 3	1	1

Image: Overview of system modularity

For assistance with selecting the right solution, please contact us:



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ADDITIONAL FEATURES

- Support for different energy sources

Heat pumps, gas, pellet, oil and solid fuel boilers, solar, electric heaters

- Control of different pump types

Supported pump control includes binary (ON/OFF), PWM, or analog signal control (0-10V or 4-20mA)

- Modular scalability

Up to 12 mixing circuits and 6 heat sources

- Energy consumption optimization

Desired temperature settings, circuit and source schedules, energy-saving modes

- Physical switches for key functions

- Remote monitoring and control via SmartehCloud

- Freely programmable inputs and outputs (I/O) for building-specific customization

SHC-001: 2× relay; SHC-002/SHC-E02: 2× relay + 2× Triac

- Built-in protection functions for system protection and reliable operation

Number of supported mixing circuits in the configuration



Image: Configurations of supported circuits for SHC cabinets

SYSTEM CONTROL

- Complete system overview in one place

Overview of mixing circuit and heat source operation, including temperature settings and current temperatures

- Individual schedules, operating modes and temperature settings

Up to 4 different schedules for each circuit, as well as different operating modes: Night, Day, Travel and Party mode

- Easy overview of the configured wiring diagram

Wiring diagram with clearly marked connection terminals for connecting system components

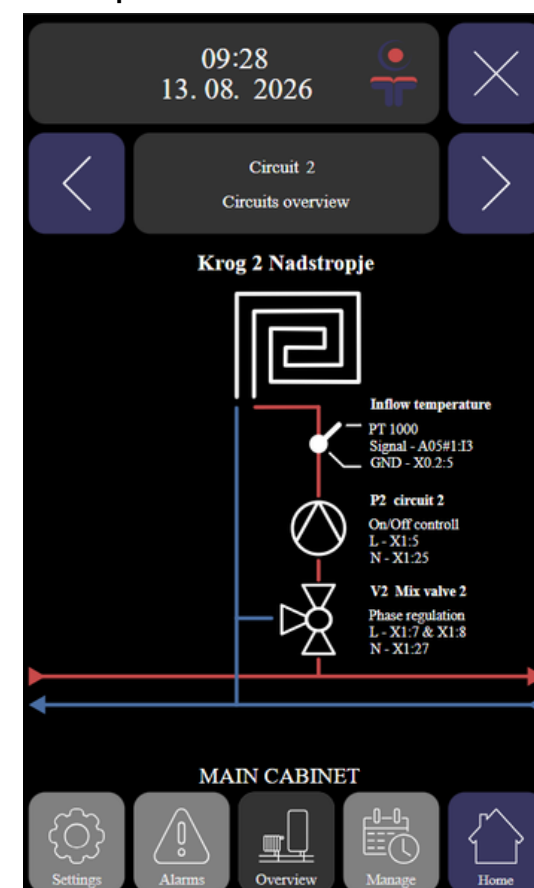
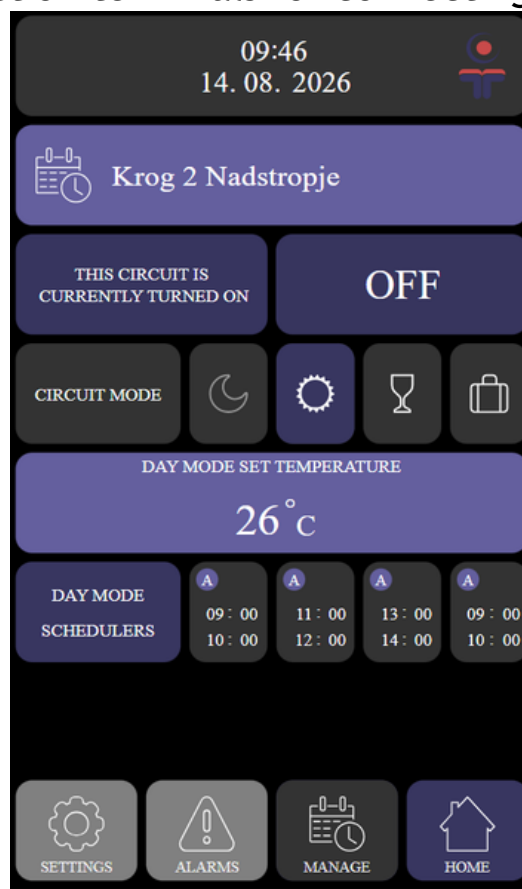
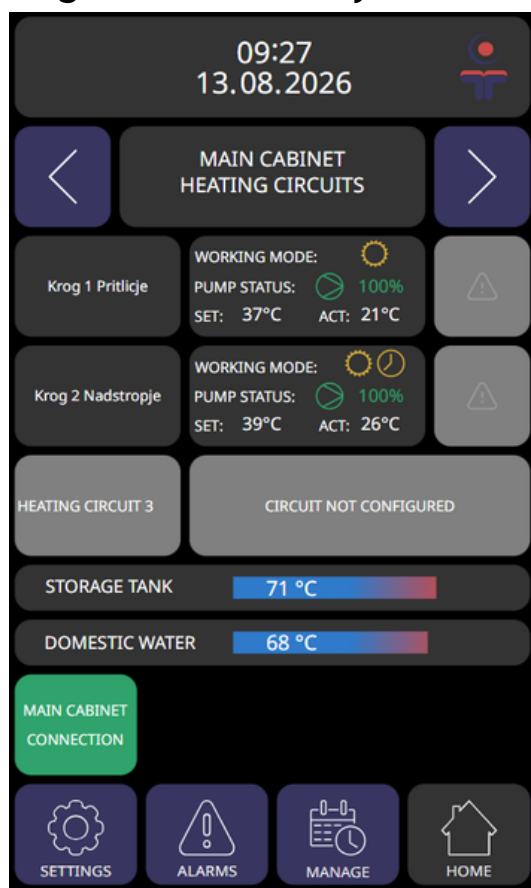


Image: SHC application (main screen, circuit config, wiring sdiagram)

CONNECTIVITY

SmarteCloud is a platform for remote monitoring, control, and updating of SHC systems. Through a web browser, it provides secure access to SHC cabinets, system monitoring, settings adjustment, and fast remote diagnostics.

The platform is free of charge for all SHC systems. Installers can easily add new users to individual SHC systems and assign them access for remote monitoring or control.

Each SHC cabinet has a unique Cloud ID for secure identification and connection to the platform, while modern security mechanisms ensure reliable and secure communication.

The SHC system supports a wide range of standard communication protocols, including Modbus RTU, Modbus TCP/IP, BACnet IP (B-ASC), Wi-Fi, and MQTT for cloud connectivity. The extensive protocol support of the SHC Heating and Cooling Automation System enables flexible integration with other systems and central supervisory control systems (BMS).

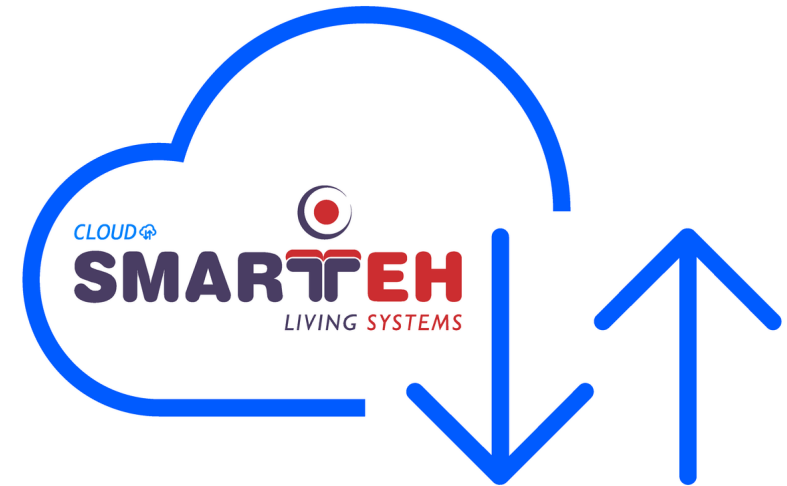


Image: SHC System Connectivity

REMOTE DISPLAY OPTIONS

- **SHC Zone Touchscreen (LPC-3.GOT.111)**

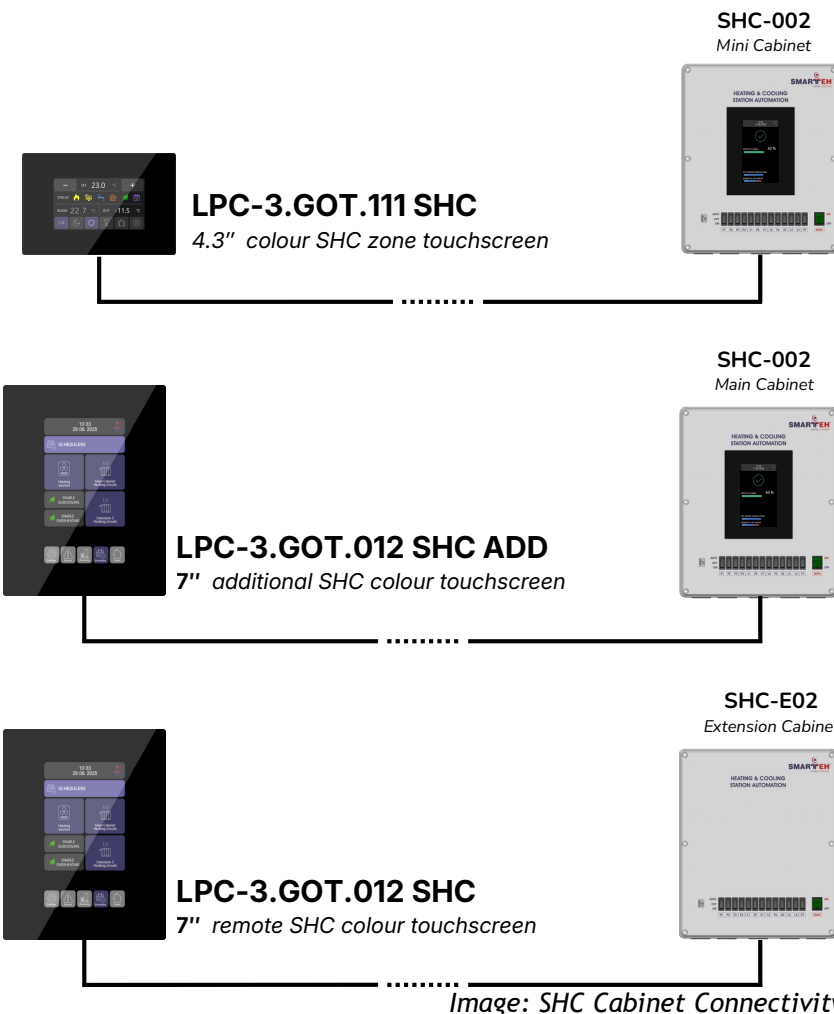
The LPC-3.GOT.111 is a 4.3" colour touchscreen for local control of an individual mixing circuit. The integrated temperature and humidity sensors enable precise room control, while the user can directly set the desired temperature, operating schedules, and modes such as Night, Day, Travel and Party.

- **SHC Additional Touchscreen (LPC-3.GOT.012 ADD)**

The LPC-3.GOT.012 ADD is an additional 7" color touchscreen that displays the same user interface as the touchscreen on the SHC-002 cabinet. It provides a complete overview and control of the SHC system from another location within the building.

- **SHC Touchscreen Outside the SHC Cabinet (LPC-3.GOT.012 SHC)**

If required, the LPC-3.GOT.012 touchscreen can be relocated from the SHC-002 cabinet to another location. Alternatively, an SHC-E02 cabinet and a separate LPC-3.GOT.012 touchscreen can be selected during the system design phase.



SUPPLIED TEMPERATURE SENSORS

SHC Cabinet	PT1000-1CH Surface-mounted PT1000 temp. sensor with housing, copper	PT1000-1I Immersion PT1000 temperature sensor, stainless steel	PT1000-1C Immersion PT1000 temperature sensor, copper	PT1000-2 Surface-mounted room PT1000 temp. sensor, IP30 or digital inputs	PT1000-2E Surface-mounted outdoor PT1000 temperature sensor, IP30
SHC-001	1	2	2	/	1
SHC-002	2	2	2	1	1
SHC-E02	4	2	1	/	/

Image: Supplied temperature sensors in each package

ADDITIONAL EQUIPMENT OFFER

LPC-3.GOT.012 SHC



7-inch colour SHC touch display

LPC-3.GOT.012 SHC ADD



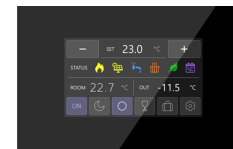
7-inch colour additional SHC touch display

LPC-3.GOT.112 SHC



4.3-inch colour SHC touch display

LPC-3.GOT.111 SHC



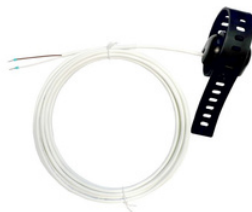
4.3-inch colour SHC zone touch display

APS-04 24V 60W



Power supply for additional SHC touch display

PT1000-1CH



Surface-mounted PT1000 temp. sensor husing, copper

PT1000-1I



Immersion PT1000 temp. sensor, stainless steel

PT1000-1C



Immersion PT1000 temperature sensor, copper

PT1000-2



Surface-mounted room PT1000 temperature sensor

PT1000-2E



Surface-mounted outdoor PT1000 temperature sensor

Image: Additional SHC equipment

BLUETOOTH MESH WIRELESS SOLUTION

SmarteH Bluetooth Mesh is a standalone wireless system for room temperature regulation and room automation. It can be connected to the SHC system via standard communication protocols, enabling individual temperature regulation of individual rooms or zones.

The solution enables easy upgrading of existing heating and cooling systems without additional wiring, thereby improving indoor comfort, increasing energy efficiency, and reducing renovation costs.

The system consists of:

- LPC-2.MM2 - programmable logic controller (PLC)
or LPC-3.GOT.012 touch display with a built-in application for managing Bluetooth Mesh devices
- LBT-1.GW1 - Bluetooth Mesh / Modbus RTU communication interface
- LBT-1.BA1 - wireless smart thermostatic radiator valve (TRV) for radiators and underfloor heating
- LBT-1.B02 - wireless multisensor for temperature, relative humidity, illuminance, and presence detection
- LBT-1.B01 - wireless magnetic sensor for doors and windows



Image: Smarteh Bluetooth Mesh solution

ABOUT SMARTEH

Setting new standards in building automation.

SmarteH is based in Slovenia and has been operating since 2000. We develop and manufacture control and regulation systems for HVAC, building automation, and industrial processes – serving customers worldwide.

We bring high-tech solutions from industry into the world of building automation, creating innovative, flexible, and cost-effective solutions.

Our advantages:

**IN-HOUSE DEVELOPMENT AND
PRODUCTION**

**MORE THAN 25 YEARS OF
EXPERIENCE**

INNOVATIVE SOLUTIONS

STABLE COMPANY GROWTH

PROFESSIONAL TECHNICAL SUPPORT

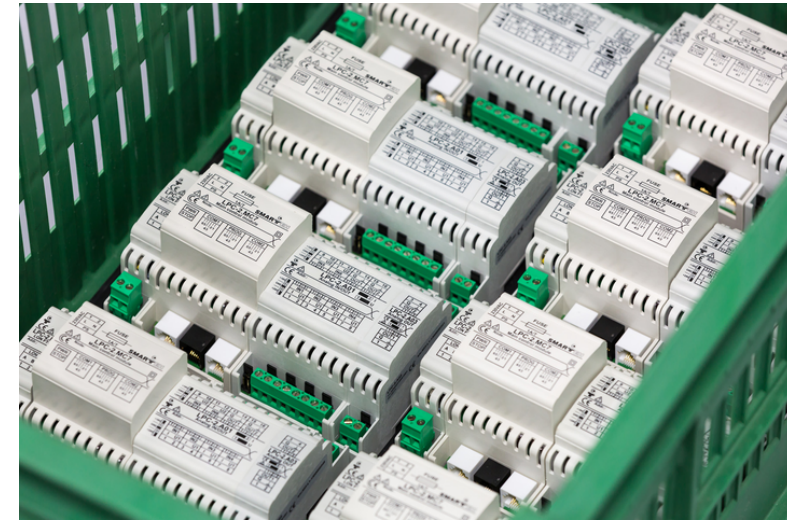
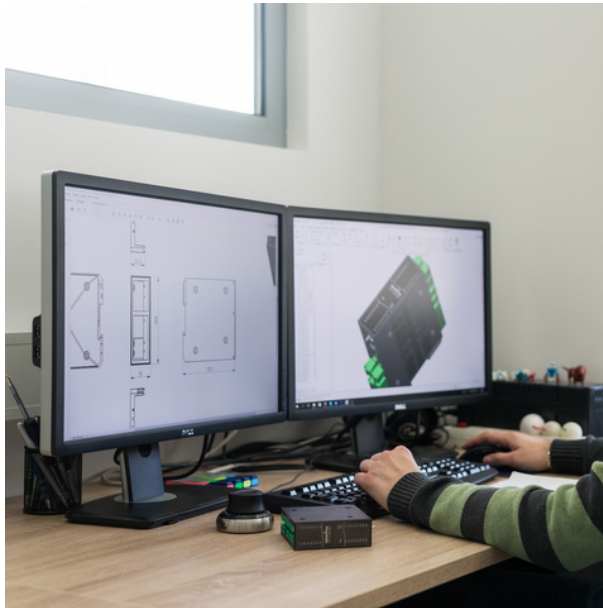


Photo: Smarteh production



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