SERVICE AND INSTALLATION MANUAL

STHERM by sinclair +

# SHP-GSM MODULE

sinclair

HEAT PUMPS

## *Installing the GSM Module into the Heat Pump*

The GSM module is an optional feature of the heat pump. It can be installed into the motherboard already in the production or it can be installed additionally by an authorized service organization. To install the GSM module, disconnect the heat pump from the mains power. Dismantle the plastic top cover, which contains the control panel, display, and dial knob. Disconnect the connecting ribbon cable and the green-yellow protective wire before removing the cover. After removing the top cover, unscrew the four screws to remove the metal sheet cover of the compartment for the electrical equipment of the heat pump. There is also the heat pump control board in this compartment. On the left side of the control board and located in parallel with the row of yellow indicating LEDs mounted next to the output relays, there is a split connector with 9+4 holes for SHP-GSM GSM module and a plastic spacer with a screw M3 x 6mm to secure this module. Insert the GSM module into this connector (the antenna connector of the GSM module must head towards the edge of the control board) and secure it. Then connect an external antenna to the GSM module. Place the 3dB 850/900/1800/1900MHz band external antenna with a 3m connection cable to a suitable place in the vertical position. Pull the antenna cable carefully through the suitable hole with rubber bushing in the side of the electrical equipment compartment and screw the antenna plug into the antenna connector of the GSM module. Connect the 3.6V/600mAh external backup battery, which is used to power the GSM module during the mains power failure, to the 2 pins PSH02 connector located on the bottom left side of the heat pump control board under the LAN module and the USB connector. Stick the battery to the left from the control board using the double-sided adhesive tape. Insert the prepared SIM card into the card holder on the top of the GSM module. To open the SIM card holder, you must first press the yellow button on the holder (next to the yellow LED). The holder will open slightly, and then you can open it by your fingers and insert the prepared SIM card from the selected GSM operator into the removed part. Slide back the part with inserted SIM card, and gently push it until it stops. Connecting the GSM module is completed. If you will not configure the GSM module using the service PC with USBCommunicator software, you can close the metal sheet cover of the electronics compartment, connect the ribbon cable and the protective wire of the control panel, and return the plastic cover of the heat pump indoor unit back in place. When using the service PC, connect the service PC to the USB connector located under the LAN module on the left side of the control board, and cover the electronics compartment with a metal sheet cover, but don't connect the plastic cover with the control panel. Connect the heat pump to the mains power supply. Configure the required parameters using PC with USBCommunicator software. Refer to the USBCommunicator software manual.

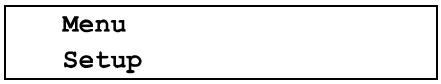
To manually configure the GSM module, you must first reconnect the control panel and remount the plastic top cover. Then connect the heat pump to the mains power supply and turn it on. Set the required parameters according to Chap. 7.4.2 of the Service manual (from the page 62).

For using the GSM module, the similar rules apply as for the common mobile phones. To control the heat pump, the GSM module receives SMS, and to inform the operator about the emergency state, a ringing is used (if sending SMS is not selected in addition). This means that no SIM card credit is spent and you just need to have only the minimal credit on the SIM card. Despite of that you must ensure the validity period of the credit in accordance with the terms and conditions of the specific GSM operator, or choose a tariff suited for this application (without expiration). In the place of use of the GSM module there must be sufficiently strong signal of the corresponding GSM network. This can be verified on the site by making a call from a mobile phone via the selected GSM network. If you can make a call from your mobile phone, the signal is sufficient for the GSM module, too. If the SIM card is not activated, you must activate it beforehand in the mobile phone according to the SIM card manual. It is necessary to disable a voice mail. Refer to the instructions of the selected GSM operator or call its hotline. Following the instructions for your mobile phone, you should disable the PIN code of the SIM card and delete all the contacts and SMS from the SIM card.

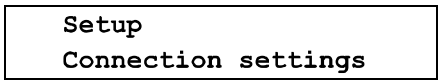
Manual configuration of the GSM module - see the Service manual, Chapter 7.4.2 on the page 62:

## *7.4.2. Settings the Connection of the Heat Pump to GSM Network*

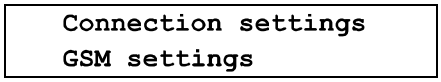
This menu allows you to set parameters for connecting the heat pump to the GSM network. When the status line is displayed, press the confirmation button to enter the main menu. Use the dial knob to select the **Setup** option on the bottom line.



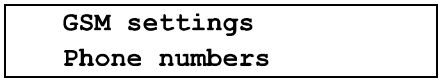

After opening this menu, **Setup** moves to the top line of the display. Use the dial knob to select the **Connection settings** option on the bottom line.




After opening this menu, **Connection settings** moves to the top line of the display. Use the dial knob to select the **GSM settings** option on the bottom line.




After opening this menu, **GSM settings** moves to the top line of the display and the bottom line of the display shows the menu to edit the Phone numbers.

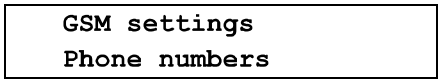



After opening the **GSM settings** menu, you can use the dial knob and the confirmation button to select and edit required parameters to connect the heat pump to GSM network.

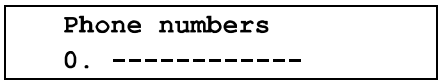
| | | |
|---|---|---|
| **Phone numbers** | - | Setting and editing phone numbers stored in the GSM module memory. |
| **GSM switch-off delay** | - | Setting the time delay between power failure and switching off the GSM module |
| **Return** | - | Exits connection settings |

## *Setting and Editing the Phone Numbers in the GSM Module*

GSM module memory can store up to 16 phone numbers at which the heat pump will send SMS message on the request or in the case of failure. From these so-called authorized numbers you can also switch the heat pump on/off, or request the information about its status. Phone numbers must be stored in international format without the + sign and **00** before the country dial. Each number must consist of 12 digits. Phone numbers are stored in memory at positions **0** through **F**. If a phone number with the country dial code have less than 12 digits, you must add zeros before the country dial code. When the status line is displayed, press the confirmation button to enter the main menu and use the procedure described in chapter 7.4.2. on page 62 to open the **GSM settings** menu. After opening this menu, its first option is displayed.



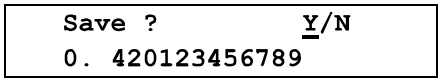

After opening this menu, **Phone numbers** moves to the top line of the display and if no phone number is stored in memory, the display shows:



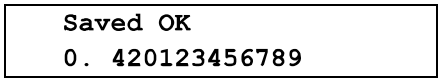

where on the first position from left is the position number to save the phone number, followed by 12-digit phone number in international format without the + sign and **00** before the country dial ode. If there are some phone numbers already stored in certain positions, you can use the dial knob to select the required position to store the phone number and confirm it. The first option of the menu appears.


You can use the dial knob to choose the required operation with the phone number in the selected position. You can create new number, edit or delete the existing number, or leave selected position using the **Return** option. After confirming the previous option, cursor is blinking on the first position of the phone number. You can use the dial knob to set the first digit of the phone number in the international format. Confirm the set digit by short press of the confirmation

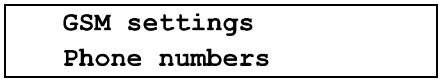
button. Use the similar way to set all digits of the phone number. Check the phone number and press the confirmation button for a longer time to save it.




The confirmation message briefly appears.




and then the display returns to **Phone numbers** settings.




After re-opening this menu, the stored number is displayed on the position 0. Use can use the dial knob to select another position to enter the new phone number or delete the existing one. You can store up to 16 phone number to GSM module memory.

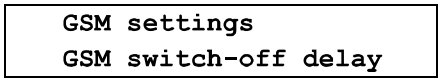
## *Setting the Delayed Switching Off the GSM module at Power Failure*

GSM module supply is backed up by a Li-Pol battery. In case of power failure, the GSM module is waiting for power restore, and until the set delay time is over, the GSM module sends SMS messages about power failure to the selected phone numbers and then disconnects from the backup battery. After the power is restored, GSM module is connected and logged to the network. When heat pump stops for another reason than the power outage, for example, repeated exceeding the limit parameters, SMS messages are sent to the selected phone numbers immediately after stopping the pump and GSM module remains connected to the network. When the status line is displayed, press the confirmation button to enter the main menu and use the procedure described in chapter 7.4.2. on page 62 to open the **GSM settings** menu. After opening this menu, use the dial knob to select the **GSM switch-off delay** option.


After opening this menu, the display shows


Use the dial knob to set the delay in the range from **0** to **250** minutes. Press the confirmation button to save the set value.


Press the confirmation button to save the settings. A confirmation message ***Saved OK*** briefly appears and then the display returns one level back.




Use the dial knob to select and set the other parameters for connection to the GSM network, or you can select and confirm the **Return** option repeatedly to exit the heat pump settings and return to the default state.

## Take-back of electrical waste
## Information for Users to Disposal of electrical and electronic equipment (private households)

Icon on the product or in the accompanying documentation means that used electric or electronic products must not be disposed together with domestic waste. For the correct disposal of the product hand it over to a place for take-back, where it is collected free of charge. By correct disposal of the product you can help to preserve valuable natural resources and help in preventing potential negative impacts to environment and human health, which could be consequence of incorrect disposal of waste. Ask for more details from local authorities, nearest collection point, in Waste Acts of respective country, in the Czech Republic in Act no. 185/2001 Coll., in the wording of later regulations. In case of incorrect disposal of this waste, a fine can be imposed according to national regulations.

## Manufacturer:

**Sinclair Corporation Ltd., 1-4 Argyll Street,**
**London W1F 7LD, UK**

**Supplier and technical support:**
**Nepa, spol.s.r.o.**
**Purkyňova 45**
**612 00 Brno**
**Czech Republic**
**www.nepa.cz**

**Toll-free info line:**
**+420 800 100 285**

CE