

Wired digital thermostat - programmable
Model: HTRP230V(50)

Ver. 1
Date of issue: 22.VI.2020
Power supply: 230V

User manual

PRODUCER:
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Introduction
The HTRP230V(50) from SALUS Controls is a stylish and accurate 5/2 or 24h programmable electronic thermostat with a large, easy to read Liquid Crystal Display (LCD). It is surface-mounted temperature controller dedicated for surface heating / cooling, characterized by high thermal inertia. It is connected to the wired wiring centre KLO8NSB. Thermostat has the function of creating your own schedules. It can control group (SLAVE) thermostats - via wiring centre it sends them an NSB (nighttime temperature reduction) signal and switches them to economic temperature. The time schedule is common to all thermostats (according to weekly (MASTER) thermostat), but temperatures are set individually on each thermostat. Thanks to the built-in algorithms, it offers much better temperature control accuracy than traditional mechanical thermostats. The thermostat is characterized by silent operation. The controller is characterised by silent operation.

Product compliance
The product complies with the following EU directives: 2014/30/EU, 2014/35/EU, 2011/65/EU. Full information is available at www.saluslegal.com

Please note!
This document is a quick guide to the installation and operation of the product and indicates its main features and functions. Detailed informations are in the full manual, which is available at www.salus-controls.eu and which must be used for proper installation and operation of the product.

Safety informations:
Use in accordance with national and EU regulations. Use the device as intended and keep it dry. Product for indoor use only. Please read the entire manual before starting the installation and using the product.

Installation:
Installation must be carried out by a qualified person, with appropriate electrical authorisations, in accordance with national and EU standards and regulations. The manufacturer shall not be liable for failure to comply with the manual.

NOTE:
There may be additional protection requirements for the entire installation. The installer shall be responsible for compliance with such requirements.

Package content

Front housing of the thermostat

Back housing of the thermostat

User manual

Mounting screws

Proper thermostat location

The ideal position to thermostat mounting is about 1,5m under floor level far from heating or cooling sources. In addition, the thermostat should not be installed behind curtains or other obstacles or in places with high humidity, as this will prevent accurate measurements of room temperature. The thermostat must not be exposed to sunlight. Do not place the thermostat on an outer wall.

Connection description

Warning: The thermostat is compatible with the following Salus wiring centre models: KLO6 230V, KLO8NSB 230V, KLO4NSB 230V or directly to the actuator.

NSB input in the SLAVE thermostat

Thermostat

Wiring centre

Symbols explanation

Terminal	Description
L, N	Power supply (230V AC)
NSB	Night setback (input temperature reduction (230V AC)output)
SL	230 V AC output signal
S1, N	Additional temperature sensor eg. FS300
CO	Switching jumper between heating and cooling (input 230V AC)

Warning: The following designations are used interchangeably for products:
 → = SL
 ⊖ = NSB

Montage

Make sure that the thermostat is not connected to the 230V AC. Then open the front housing using a screwdriver as shown above.

Connect the thermostat properly. Please refer to the "Connection description" section. Mount the thermostat using the designed screw holes.

Slide the front of the controller over thermostat on the back of the controller cover. The thermostat is configured. Use or buttons to set the temperature setpoint.

Button functions

↑	Increase or decrease setpoint temperature
↓	
←	Mode selection
→	
✓	Short press to confirm selection Press and hold – enter / exit the menu

LCD icon description

- Day of the week
- Hour
- Program number
- Active work mode
- Economic mode
- Economy mode
- AUTO mode
- PARTY mode
- Holiday mode
- Frost protection mode
- Temperature unit
- Heating mode
- Manual mode / temp. override
- Cooling mode
- Additional temp. sensor
- Current / set temp.

Time and date setting

Set time and date during the first thermostat's power up.

- Press > to select the time settings menu (hr).
- Press ✓ to confirm.
- Press < or > to select a 12 or 24-hour format, then confirm with ✓.
- Set the time using ↓ or ↑ and then confirm the selection with ✓.
- Set the minutes using ↓ or ↑, and then confirm your choice with ✓.
- Set the date (month, day, year) using ↓ or ↑ buttons. Confirm by ✓ button.

i Date and time can be set at any moment during thermostat using. Press any button to highlight the screen, then press and hold ✓ for 3 seconds, then follow steps from 3 to 9.

Manual mode – temperature setpoints

3 temperature levels are available. In manual mode, only one temperature level is maintained for the entire day. Icon in the frame indicates which mode is currently active. A different temperature can be set for each level.

- Comfort temperature mode

- Economic temperature mode

- Frost protection mode Usually used during the period of absence or during the holidays (only available in HEATING mode).

The thermostat also has 2 additional modes:

- The PARTY mode sets the comfort temperature for a user-defined time (maximum 9 hours 50 minutes).

- The HOLIDAY mode sets the frost protection mode for a user-defined time (maximum 99 days).

Press any button to highlight the screen, then follow the steps below:

Select work mode using < or > buttons.

Temperature setpoint

Press any button to highlight the screen, then follow the steps below:

Current temperature. Temperature setpoint in the selected work mode.

Set the temperature setpoint using \wedge or \vee buttons. Confirm by \checkmark button.

AUTO mode – NSB function

The \ominus NSB (Night Setback) function enables automatic reduction of the temperature setpoint on the HTRS230(30) SLAVE thermostat, via the HTRP230(50) programmable MASTER thermostat connected to the wiring centre (or other external clock). The temperature change takes place between the comfort temperature mode and economic temperature mode.

To activate AUTO mode, select the icon. Together with the icon, the thermostat shows the active temperature mode on the display: or .

Press any button to highlight the screen, then follow the steps below:

Select AUTO mode using < or > buttons.

Note: For the proper NSB function work, an appropriate cable connection is required. The connection description is on the previous page.

Schedule programming

Press any button to highlight the screen, then follow the steps below:

Press and hold \checkmark button for 3 seconds. Confirm selection by \checkmark button.

Use \wedge button to select days period:
 1 2 3 4 5 6 7 - whole week
 1 2 3 4 5 - working days
 6 7 - weekends
 1 - each day separately
 Confirm selection by \checkmark button.

Set the hour for the first time interval in the schedule using \wedge or \vee buttons. Confirm selection by \checkmark button.

Set the minutes for the first time interval in the schedule using \wedge or \vee buttons. Confirm selection by \checkmark button.

Select work mode using < or > buttons. Confirm by \checkmark button.

Repeat steps 4 to 6 to set the time and temperature for further points of the schedule. No time (---) on the display means that thermostat will skip the time interval. 6 points are available for the schedule.

Heating / Cooling mode

Manual change: Modes are indicated by symbols. Press and hold \checkmark button to enter the menu, then use \wedge button to select the Heating / Cooling mode change setting. Confirm changes using \checkmark button. Now use \vee or \wedge buttons to set the heating or cooling mode. Confirm by \checkmark button.

Automatic change (via CO terminal): The heating/cooling mode can be changed automatically via the CO terminal in the thermostat. If 230 V AC power supply is connected to the CO terminal – then thermostat automatically switches to cooling mode. If you want to use this function, then you have to change the value of the D18 parameter to "1".

Cooling blocking: When D19 thermostat parameter is set to "1", then cooling is blocked for a single room. When the cooling function is blocked, no message is displayed.

Installer mode

Press any button to highlight the screen, then follow the steps below:

Press and hold \wedge and \vee buttons simultaneously for 3 seconds. Select the 49 code using \vee or \wedge buttons.

You are now in the installer menu.

Confirm selection by \checkmark button. Select the parameter you wish to change by < or > buttons and enter using \checkmark button. Use \vee and \wedge to set the value of the parameter, and then confirm it with \checkmark .

Note: To restore default settings – set the P47 code during 2 step and then confirm your choice using \vee or \checkmark buttons.

Installer parameters

dx	Function	Parameter Values	Description	Default Values
d01	Heating Control	0	According to the PWM algorithm	0
		1	Hysteresis 0.5°C ($\pm 0.25^\circ\text{C}$)	
		2	Hysteresis 1.0°C ($\pm 0.5^\circ\text{C}$)	
D02	Displayed temperature correction	-3.0°C to + 3.0°C	If the thermostat indicates an incorrect temperature, then it can be corrected $\pm 3.0^\circ\text{C}$	0°C
D03	External sensor connection (S1/S2)	0	External sensor not connected	0
		1	External sensor connected	
d04	External sensor used as Air sensor or Floor sensor	0	The D03 parameter must be set to "1" – then, if the D04 parameter is set to "0", the thermostat only measures the temperature at the external sensor	0
		1	The D03 parameter must be set to "1" – then, if the D04 parameter is set to "1", the sensor is used as floor overheating protection.	
D05	Cooling Control	1	Hysteresis 0.5°C ($\pm 0.25^\circ\text{C}$)	2
		2	Hysteresis 1.0°C ($\pm 0.5^\circ\text{C}$)	
D07	Valve Protection	0	Disabled	1
		1	Enabled	
D08	Frost Setpoint	5°C – 17°C	The frost protection temperature is maintained for example during active holiday mode.	5°C
D09	12/24 Hour Format	0	12 hours	1
		1	24 hours	
D10	Time zone (reserved for internet wireless)	from -13 to +13 hours	It gives you the possibility to fit the thermostat time zone to yours (every 1 hour step).	0
D11	Daylight Saving Time (DST)	0	Off	1
		1	On	
D12	Maximum setpoint for heating	5°C–35°C	To set the parameter, the controller must be in the heating mode	35°C
		5°C–40°C	To set the parameter, the controller must be in the cooling mode	40°C
D13	Minimum setpoint for heating	5°C–17°C	To set the parameter, the controller must be in the heating mode	5°C
		5°C–17°C	To set the parameter, the controller must be in the cooling mode	5°C
D14	Floor sensor protection limit (heating high limit-HL)	11°C – 45°C	In order to protect floor against overheating – heating will be turned off when floor sensing temp is higher than protection limit	27°C
D15	Floor sensor protection limit (heating low limit-LL)	6°C – 40°C	In order to protect floor against overcooling – heating will be turned on when floor sensing temp is lower than protection limit	10°C
D16	Floor sensor protection limit (cooling)	6°C – 45°C	In order to protect floor against overcooling – heating will be turned on when floor sensing temp is lower than protection limit	6°C
D17	Preset program selection	1-5	Select one of these 5 default programs. Once selected, default program will overwrite present program. Selected default program can be edited by the user in the User Setting Mode.	1
D18	Heat/Cool Mode Selection	0 or 1	0: Manual with buttons use 1: Automatic by the CO terminal	0
D19	Cooling Blocking function heating / cooling	0 or 1	0: Cooling disabled 1: Cooling allowed	0
D20	Actuators loading selection for different temperature compensation	1 to 5	Numbers 1 to 5 are the numbers of actuators connected to the thermostat.	1