

# TP-155 Wireless programmable indoor thermostat

The TP-155 is a wireless programmable indoor thermostat with a weekly heating schedule. It can regulate the economical or comfort temperature inside residential buildings. It offers a few programmable modes. Every mode regulates pre-set temperatures (Comfort, Economy, Holiday, and Party). The thermostat is able to measure the thermal inertia inside the premises and adjust the weekly schedule for the requested temperature to be reached at the pre-set time.

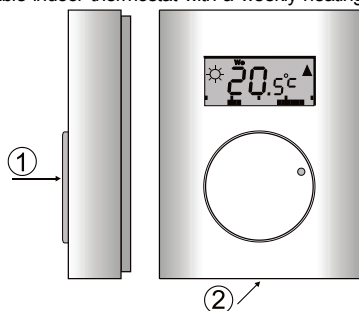


Figure 1: 1- knob (encoder) combined with button; 2- tab

## Thermostat installation

The product can only be used in an indoor environment. Install the thermostat 1.5 m above the floor in a place where there is good natural air circulation. Don't install the thermostat where the measuring can be influenced by drafts, sunlight, heaters or any other effects. Avoid mounting the thermostat on metal objects or metal bases which block radio communication.

1. By pressing the tab (by screwdriver for instance) release the front part of the thermostat.
2. Install the rear part of the thermostat at the chosen place (tab down).
3. Insert the batteries, the polarity is marked on the plastic.
4. Put back the front thermostat part and close it.

## Enrolling the thermostat

Install and connect the receiving unit to the heating appliance. If the receiver has been bought independently, you have to enroll the thermostat to it first. Open the enrollment mode on the receiver (see its manual) and insert the batteries into the thermostat or press and hold the knob for 5s. In both cases the thermostat will send an enrollment signal. The text **LRn** appears on the LCD display when the enrolling procedure (with AC-116 only) has been done successfully.

### Symbols on the LCD:

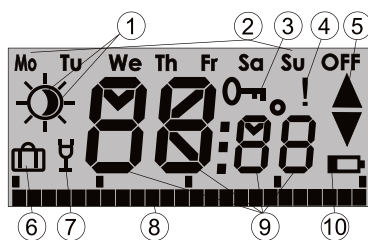


Figure 2: 1 – Symbols for comfort ☀ and economical 🌙 temperatures; 2 – The days of the week; 3 – Locking the thermostat; 4 – Alarm temperature – limits / loss of communication; 5 – Heating ON / OFF; 6 – Holiday; 7 – Party; 8 – Heating times; 9 – Symbols for showing temperature time and texts; 10 – Low battery

## Settings and programming

Do the complete settings using the knob – encoder. By pressing the knob 2 sec enter the programming mode.

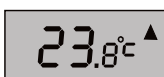
General rules for programming:

1. Flashing of any icon on the LCD allows changing the option(s) or choosing a next item.
2. Perform choosing or changing by turning the knob (turning the knob is possible from left to right and vice versa).
3. Confirm the selection or change by briefly pressing the knob.
4. When the value of an item has been changed, then after this briefly press the knob and the changes are saved. Then the thermostat goes to the next item in the programming menu.
5. After the setting / change of the chosen items, select the parameter „OK“, in the menu. By short pressing the system returns back to the previous menu (up to the main menu).
6. If there is no manipulation of the knob for 30 sec, it returns you back to the previous menu automatically.

The basic menu has 7 groups of settings.

MA <sub>n</sub>	Manual mode
LO <sub>c</sub>	Locking the thermostat
OF <sub>F</sub>	Switching off the thermostat
SE <sub>t1</sub>	Temperature, date and time settings
SE <sub>t2</sub>	Weekly schedule setting
SE <sub>t3</sub>	Service menu
OK	Saving the parameters and leaving the service menu

### 1. MA<sub>n</sub> – manual mode



The temperature is set manually regardless of the weekly schedule and is kept. Enter the menu and press the knob on the item **Man**, the option ON (switched on) appears. By turning the knob select the requested state and confirm by

pressing. The temperatures **tLo** and **tHi** determine the regulation range pre-programmed in the service menu SE t3, in which you can select the temperature by turning the knob. Choose the requested temperature. If the chosen temperature is lower than the required temperature, the thermostat shows the symbol (▲) on its LCD display. By entering the menu **Man** and confirming the option **OFF**, manual mode is terminated.

### 2. LO<sub>c</sub> – Locking the thermostat



To protect the thermostat against unwanted manipulation you can lock the thermostat. Enter the menu and press the knob on the item **LOc**, the options **ON/OFF** appear. By turning the knob select the requested state and confirm by pressing.

Choosing **ON** enables the function **Lock**, and blocks thermostat control. To unlock the thermostat choose the option **OFF**. Locking the thermostat is indicated on the LCD by the **LO<sub>c</sub>** symbol.

### 3. OF<sub>F</sub> – Switching off the thermostat



The thermostat can be switched off by the option **OFF**. Enter the menu and press the knob on the item **OFF**, the options **ON/OFF** appear. By turning the knob select the requested state and confirm by pressing. Choosing **ON**

enables the function **OFF**, and switches off the thermostat. This is indicated on the LCD by the text **OFF**. Although the thermostat has been switched off, it still measures and detects the antifreeze temperature (see SE t3, Stby). To unlock the thermostat enter the menu and choose the option **OFF**. When the knob is pressed the thermostat will be unlocked.

### 4. SE<sub>t1</sub> - Temperature, date and time settings



In the Set1 menu the comfort temperature (☀), the economy temperature (🌙), the temperature for Holiday mode (🏠), and the data and time can be preset. Enter the menu **Set1**, and on the LCD the symbol of the economy temperature starts

flashing. By turning the knob select the requested item (☀, 🌙 or 🏠), by pressing the knob the symbols for temperature start flashing and again by turning the knob set the required temperature and by repeatedly pressing the knob confirm this setting. The last item serves for setting the current time. It indicates using flashing symbols of the days of the week. By pressing you enter the current time setting. It starts with the year. Pressing gets it flashing, and by turning the knob set the year, by pressing again it saves the setting and then you continue the same way in setting the current month, day, hour and minute. Then by pressing the knob after the minute setting the values are saved and the thermostat is back in the menu **Set1**. Select the item **OK** to leave this menu.



### 5. SE<sub>t2</sub> – Weekly schedule setting

The heating program for switching the comfort and the economy temperatures can be set for every single day independently (Mo - Monday, Tu - Tuesday, We - Wednesday, Th - Thursday, Fr - Friday, Sa - Saturday, Su - Sunday) or it can be split into working days and the weekend. There is one more option - the same settings for all days with no difference.



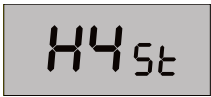
Enter the menu **Set2**, and by turning the knob select the combination of days which is required. Confirm by briefly pressing the knob. It enters the programming of heating time periods when the thermostat switches between the day temperature and the night temperature.



Programming always starts at 00 hrs. By turning the knob clockwise, you can move through the time line. Press the knob at the point from which you want to start with the heating to the comfort temperature. The 🌙 symbol changes to the ☀. Now by turning the knob clockwise the points appear which represent the hours for which heating is performed to the economy temperature. By turning the knob anti-clockwise the points are erased. Pressing the knob more switches the economy temperature to the comfort temperature. By repeating this procedure the comfort and economy temperatures can be set for a selected day (or for a group of a few days). After the programming of the whole day has been finished, the thermostat shows you **OK**. When the knob is pressed, all settings are saved.

### 6. SE<sub>t3</sub> – Service menu

The service parameters can be pre-programmed here. In normal mode it is not necessary to change those parameters. The Service menu includes 9 items. Open by scrolling the knob to the requested item and by pressing the knob to enter the programming mode. Select the value again by scrolling the knob. Confirm it by pressing the knob and it returns you back to the service menu.



**HYst** is an item, where you can program the range of the switching thresholds around the requested temperature (hysteresis). The range can be set with a 0.1°C step from 0.1°C to 1°C. (Default setting ±0.2°C)

**Example:** With a set accuracy of ±0.5°C a temperature of 24°C will be kept this way, at 23.5°C it starts heating and at 24.5°C it stops heating. In real conditions regulation could have a much bigger temperature scatter because of the thermal inertia in the heated premises.

**Warning:** An over-narrow pre-programmed hysteresis range could perform on/off switching of the heating very often.



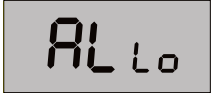
The item **Stby** sets the temperature which will be kept in the case of switching off the thermostat (item **OFF**). The **Stby** temperature is always at least 3°C higher than **ALLo**. The value of the **Stby** temperature does not have to be set higher than the **tLo** temperature.



The **tLo** item is the lower limit to which the economical temperate can be set.



The **tHi** item is the upper limit to which the comfort temperature can be set.



**AL Lo** is the lower critical temperature. When the temperature drops under the pre-set value, the thermostat sends an alarm report to the receiver and this state is indicated by a permanently lit (!) symbol. The **ALLo** temperature is always at least 3°C lower than **tLo**.



**AL Hi** is the upper critical temperature. When the temperature increases above the pre-set value, the thermostat sends an alarm report to the receiver and this state is indicated by a permanently lit (!) symbol. The **ALHi** temperature is always at least 3°C higher than **tHi**.



By this item you can turn the adaptive pre-heating **On** or **Off** according to the heating system inertia. When enabled, the thermostat starts measuring the time after which it has reached the requested comfort temperature and according to this time it starts future pre-heating.



For a reset to factory default settings the **RES** item is used. After you enter the menu and press the knob on the **RES** item **ON/OFF** appears. By scrolling the knob select **ON**, and press the knob. Then a **RESET** will be done. When the reset is finished, a 20°C temperature is pre-set.

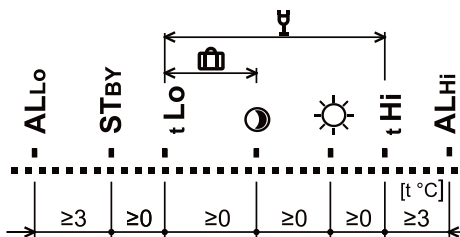


By pressing the knob when the thermostat shows you **OK** you leave the service menu and return to the basic thermostat menu.

Range of temperatures settings.

Settings item	Range	Factory settings	Description
<b>HYst</b>	0.1°C to 1°C	0.2°C	Hysteresis
<b>tLo</b>	+6°C to +40°C*	6°C	Lower limit of  temperature
<b>tHi</b>	+6°C to +40°C*	40°C	Upper limit of  temperature
<b>AL Lo</b>	-9°C to +20°C	3°C	Low temperature alarm report
<b>AL Hi</b>	+30°C to +70°C	60°C	High temperature alarm report
<b>Auto</b>	On/OFF	On	Adaptive mode
	+6°C to +40°C	18°C	Economical temperature
	+6°C to +40°C	21°C	Comfort temperature

\* The ranges of **tLo** and **tHi** can't overlap each other.



### Party mode

The thermostat can allow a special Party mode. In this mode the thermostat keeps the temperature for a pre-defined time. You can only enter the party mode from the weekly program (not from the manual mode). When that defined time expires the thermostat goes back to the weekly program.



By turning the knob the symbol appears. Then by pressing the knob enter the Party mode settings. The

first value is time (hrs) after which the thermostat returns to the weekly program. Choose this value by turning the knob and by pressing to confirm it. Then select the temperature which the thermostat will keep by turning the knob, confirm by pressing. The Party mode is indicated by the symbol of a glass on the thermostat LCD display. The temperature can be pre-set in the **tLo – tHi** range.

If you want to leave the party mode earlier than the pre-defined time, by turning the knob select the weekly program and confirm by pressing.

### Holiday mode

Because of saving costs when nobody is in the building, it is not necessary to keep the pre-defined temperature in the service menu (a holiday typically) the thermostat can be switched to the Holiday mode. The thermostat keeps the temperature pre-set in the **Set1** menu. You can enter the holiday mode only from the weekly program (not from the manual mode).



You can enter the Holiday mode only from the weekly program (not from the manual mode) by turning the knob until the suit case symbol appears. By pressing enter the settings. The LCD display shows a flashing value of days for which the economical temperature has to be kept. By turning the knob, pre-set the number of requested days and then press the knob to confirm it. The time countdown starts from the moment of setting. Subtraction is done every day at midnight. When Holiday mode expires the thermostat returns to the weekly program. Note: The day when the settings were done is also subtracted.

### Showing the pre-set temperature

The thermostat always shows the current room temperature in the normal mode. Briefly pressing the knob will show the temperature which has been set for this time. The pre-set temperature flashes 3s then it shows the current temperature again.

### Replacing the batteries

When the thermostat starts to indicate the Low Batt symbol or stops working completely, replace the batteries for new ones. A Low battery report is sent to the receiver.

**Note:** We strongly recommend only using alkaline batteries, type AA 1.5V.

### Use with the AC-116 receiver

When the thermostat has been enrolled to a 2-way receiver (AC-116) it can indicate by a blinking exclamation symbol (!) on the LCD of the thermostat that communication has been lost.

You can block the channel to which the thermostat is enrolled with a different device (magnetic contacts in windows for instance). Blinking of the symbol on the thermostat LCD indicates that the thermostat is blocked.

Using the AC-116 receiver you can block the control of the thermostats at 3 levels.

- 1 – temperature adjustment (when the **LOc** menu is entered it can be unlocked)
  - 2 – entering the menu (the temperature can be changed but access to the menu is blocked)
  - 3 – Locked completely (control from the thermostat is completely blocked)
- When control is blocked from the AC-116 receiving unit, it is indicated on the thermostat LCD display by the key symbol .

The weekly schedule is saved wirelessly to the receiver. Even on the AC-116 receiving unit equipped with an AC-100LCD touch screen module it is possible to set the weekly schedule for every single channel and save it wirelessly to the thermostat. So from one place things can be managed and programmed, for more than one thermostat.

### Technical specifications

Power:	2x AA 1.5 V alkaline batteries
Lifetime of batteries:	typically 1 year
Regulation range:	+6°C to +40 °C
Temperature regulation sensitivity:	adjustable: ± 0.1- 1 °C
Alarm when temperature drops below ALLo:	-9 to +20°C
Alarm when temperature exceeds ALHi:	+30°C to +70°C
Communication band:	868.1 MHz, JA-100 protocol
RF range:	up to 100 m (open area)
Operational temperature:	-10°C to + 70°C (no condensation)
Dimensions:	66 x 90 x 22 mm
Complies with	ETSI EN 300220, EN50130-4, EN55022, and EN 60950-1
	ERC REC 70-03

Can be operated according to



JABLONTRON ALARMS a.s. hereby declares that the TP-155 module is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC and 2011/65/EU. The original of the conformity assessment can be found at [www.jablotron.com](http://www.jablotron.com) - Technical Support section



**Note:** Although this product does not contain any harmful materials we suggest you return the product to the dealer or directly to the producer after use. For more detailed information visit [www.jablotron.com](http://www.jablotron.com).