Installation, programming and use manual.

Hi, Comfort T300-Hy

Hi, Comfort T300-Hy is compliant with:

- Electromagnetic Compatibility Directive 2014/30/EU
- Low Voltage Directive 2014/35/EU
- RED 2014/53/UE

These instructions are an integral part of the booklet for the appliances on which the accessory is installed. Please see this booklet for all general warnings and important safety information.

The T300-Hy must be installed and programmed by professionally qualified personnel.

At the end of its life, the product must not be disposed of as urban solid waste. Please take it to a waste recycling centre.

NOTE:

If the documentation is lost, a copy can be downloaded by scanning the QR code or visiting www.hi-comfort.com.

Sections for both the installer and the user

HI, COMFORT T300-HY CONTROL CLASS DECLARATION, ACCORDING TO THE ERP DIRECTIVE

With reference to Delegated Regulation (EU) No. 811/2013, the data in the table can be used to complete the product data sheets and energy labelling of space heaters, combination heaters, packages of space heater, temperature control devices and solar devices.

Manufacturer/Brand	Model
RIELLO SpA / Hi, Comfort T300-Hy	Hi, Comfort T300-Hy

Possible Hi, Comfort T300-Hy configurations, the relative configuration classes and the energy contribution to the system.

Boiler characteristics	Hi, Comfort T300-Hy configuration	Class and contribution
Boiler with fixed delivery temperature (ON/OFF control)	Hi, Comfort T300-Hy ON/OFF connection	I = 1%
Boiler with variable delivery temperature (controlled by communication bus)	Connection via communication bus to the Hi, Comfort T300-Hy. Delivery temperature to the boiler calculated on the basis of one room temperature only.	V = 3%
Boiler with variable delivery temperature (controlled by communication bus)	Connection via communication bus to the Hi, Comfort T300-Hy. Delivery temperature to the boiler calculated on the basis of the room temperature and the external temperature (given by the external probe or via the web).	VI = 4%
Boiler with variable delivery temperature (controlled by communication bus)	Connection via communication bus to the Hi, Comfort T300-Hy. Delivery temperature to the boiler calculated on the basis of at least 3 distinct room temperatures. At least 3 Hi, Comfort T300-Hys (sensors) connected to at least 3 zone valves (actuators) are required.	VIII = 5%

Definition of classes

Class I - On/off room thermostat: a room thermostat that controls the on/off operation of a heater. Performance parameters, including switching differential and room temperature control accuracy are determined by the thermostat's mechanical construction.

Class V - Modulating room thermostat, for use with modulating heaters: an electronic room thermostat that varies the flow temperature of the water leaving the heater dependent upon measured room temperature deviation from room thermostat set point. Control is achieved by modulating the output of the heater.

Class VI - Weather compensator and room sensor, for use with modulating heaters: a heater flow temperature control that varies the flow temperature of water leaving the heater dependent upon prevailing outside temperature and selected weather compensation curve. A room temperature sensor monitors room temperature and adjusts the compensation curve parallel displacement to improve room comfort. Control is achieved by modulating the output of the heater.

Class VIII - Multi-sensor room temperature control, for use with modulating heaters: an electronic control, equipped with 3 or more room sensors, that varies the flow temperature of the water leaving the heater dependent upon the aggregated measured room temperature deviation from room sensor set points. Control is achieved by modulating the output of the heater.

1. CONNECTION DIAGRAMS

WARNINGS

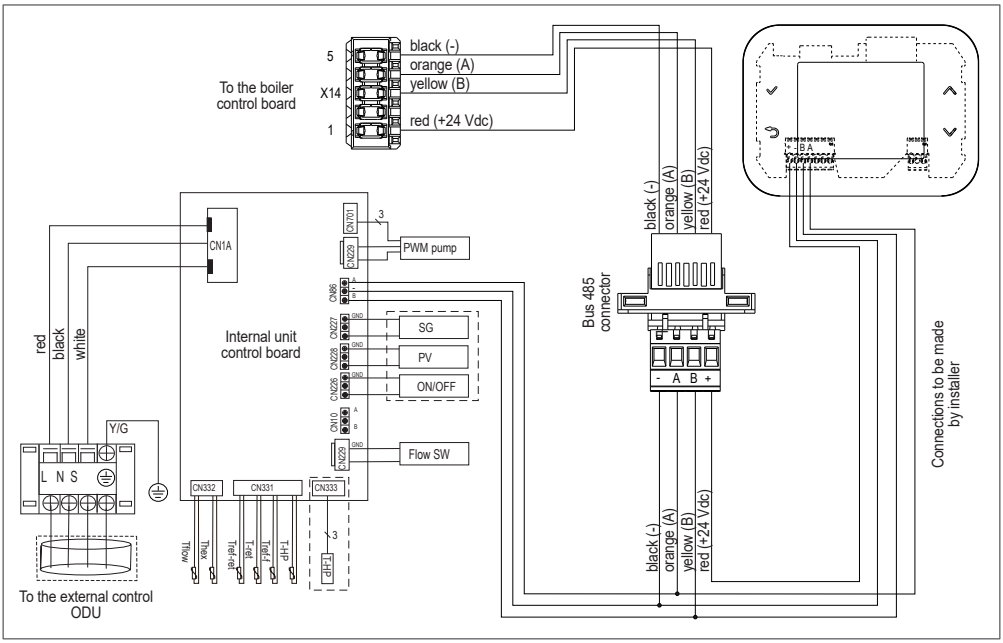
⚠ The recommended length for the connection between T300-Hy, the boiler/heat pump and hydraulic module is ≤ 30 m (use shielded cable).

⚠ We recommend using conductors with a wire cross-section between 0,5 and 1,0 mm^2.

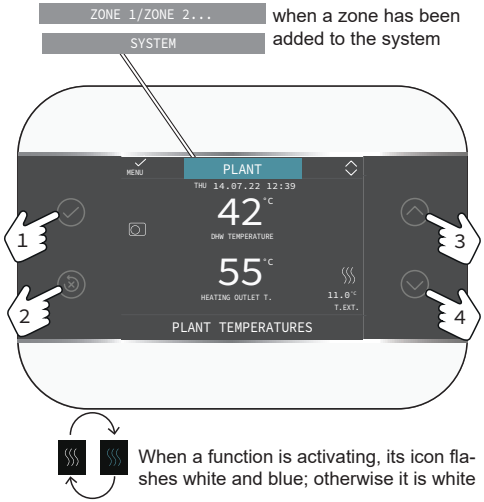
⚠ To connect the BUS 485, we recommend using shielded cable in case the signal runs near other electrical conductors or conductors at mains voltage (230V).

⚠ The control panel connection cable should have no splices; if splices are needed, they should be tinned and properly protected.

⚠ Any ducting of the connection cable must be separate from live cables (230 V.a.c.).



2. T300-HY DISPLAY AND FUNCTIONS



The T300-Hy touch interface, icon display and dropdown menus make the product easy to use. Use the 4 buttons described below to navigate, edit and confirm or cancel your choices.		
1		Confirm
2		Cancel selection / Return to previous screen / Return to main screen (press > 2 sec.) / Reset alarms
3		To navigate in the submenus, change values and change pages ZONE - SYSTEM
4		

ZONE	Shown when one or more zones have been added in addition to the main zone.
	Operating status OFF. Any request to switch on is ignored except for the anti-freeze function.
	HEATING AND HOT WATER operating mode (HEATING function active). The icon flashes if a heating request is in progress from a zone.
	COOLING function active. The icon flashes if a cooling request is in progress from a zone.
	In a hybrid system, it indicates that the boiler DHW is enabled. The icon flashes when a DHW request is in progress. • Only with a combi boiler: the letter P above the DHW icon indicates that the boiler pre-heating function is enabled; the P flashes when a pre-heating request is in progress.
	When the “heating hourly programme” function is enabled, this icon indicates that the relative zone is heated according to the set hourly programme (AUTO mode). If we are outside the heating activation time slots, the icon is crossed out.
	When the “heating time programme” function is enabled, this icon indicates that the relative zone is NOT being heated according to the set time programme but is instead always active (MANUAL mode).
	These icons indicate that the relative zone is NOT being heated according to the set time programme. Heating is in MANUAL mode until the next time slot change.
OFF	This icon indicates that the main zone, when the “heating time programming” function is not enabled, has been set to OFF (inactive).
	This icon indicates that heat pump management is enabled. When the heat pump is in operation, the icon flashes.

	This icon indicates that the system detects the presence of flame (boiler enabled).
	Fault detected

The configuration MENU is organised in a multi-level tree structure.

- The USER level is always available to allow for quick use of the functions.
- The TECHNICAL level is password-protected as it contains parameters inaccessible to the end user.

3. GENERAL INFORMATION

The T300-Hy is the system's user interface and can also be used to control the temperature in the room where it is installed. See the specific section on usage as an ambient controller.

1) Operation as a machine interface

In this use mode, the user interface allows the operation of the system components to be managed.
In this case, the heating and cooling requests are managed using an external ambient thermostat or a room sensor (accessories to be purchased separately) as indicated in the SYSTEM DIAGRAMS with the addition of the dedicated accessory for zone control.

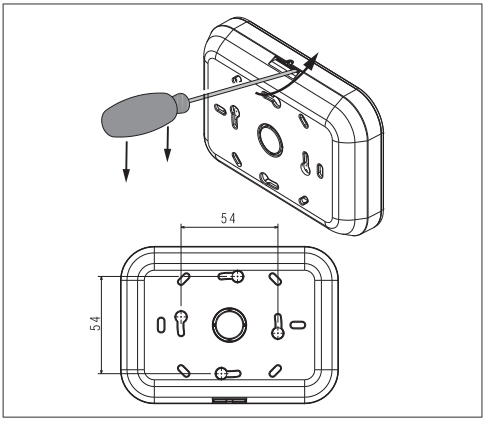
2) Operation as MACHINE INTERFACE + room temperature control

In this use mode, in addition to the system interface functions, the T300-Hy is also able to control the temperature of the room in which it is installed. Refer to the SYSTEM DIAGRAMS.
As such, refer to the specific paragraphs based on the function performed by the user interface.

After powering on, the room sensor requires a stabilisation time of about 20 minutes. During this time, the ambient temperature displayed on the T300-Hy may not be correct.

WARNINGS

- The user interface must be installed in the room that is most accessible to you for controlling the ambient temperature.
- For easy reading, the user interface must be installed 1,5 above floor level as required by regulations.
- The user interface is powered by low voltage.
- The user interface must be kept away from heat sources or drafts: these can compromise the accuracy of the readings from the room thermostat built into the panel.



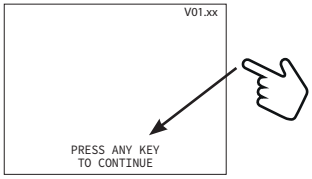
- Do not open the panel for any reason: it does not require any maintenance.
- Do not exert pressure on the liquid crystal display, as this could damage the glass and cause display issues.
- Use a dry cloth only to clean the display: any infiltration could damage the liquid crystal.

4. INITIAL SETTINGS

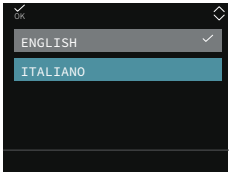
The first power-up must be performed by authorised personnel from an authorised service centre.

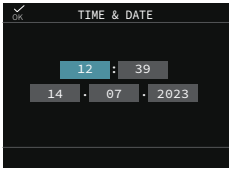
Before use, ensure that all parts of the system are connected and powered.

The display will show the start page:

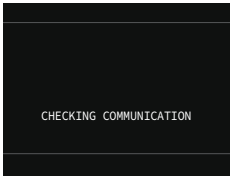


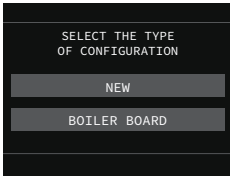
and will then ask for the LANGUAGE - TIME & DATE and the system type to be set.
The default language set on the system is ENGLISH. Select your desired language.





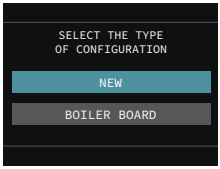
After selecting the MANAGE DISPLAY option, wait a few seconds for the T300-Hy to run the communication test.



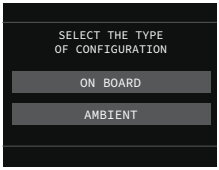


If the communication test is successful, the T300-Hy prepares for the system type configuration.

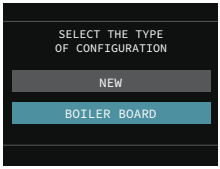
By selecting “NEW”



the display will show the screen:



By selecting “BOILER BOARD”, the system retrieves the previously configured data.



The display will show the main screen:

During first ignition,

select “NEW”.

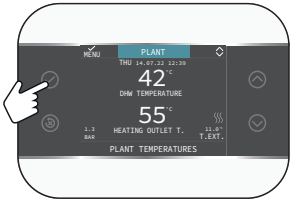
5. NAVIGATING INSIDE THE T300-HY

Summary of button functionality		
1		Confirm
2		Cancel selection / Return to previous screen / Return to main screen (press > 2 sec.) / Reset alarms.
3		To navigate in the submenus, change values and change pages ZONE - SYSTEM
4		

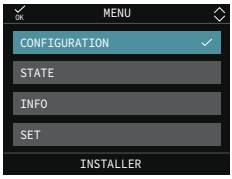
5.1 Setting the password

To access the password setting screen (installer and service) from the main screen:

- press  and access MENU;

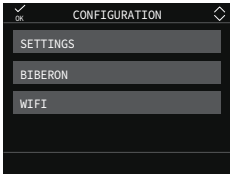


- Select



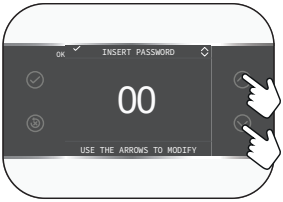
CONFIGURATION

└── SETTINGS

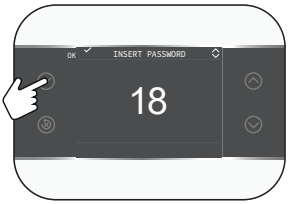


Press and hold buttons ⟲ and ⌄ simultaneously to enter the password menu (about 5 secs).

Use the ⌃ and ⌄ buttons to set the desired password (INSTALLER - 18 or SERVICE).



Press ⌄ to confirm.



⚠ The password-protected parameters are intended solely for qualified technicians. The manufacturer is not responsible for damage caused by improper access/modification of such parameters by the end user.

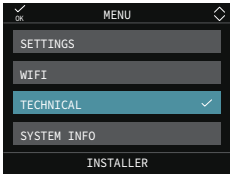
5.2 Accessing a TECHNICAL parameter

⚠ 000

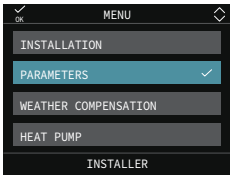
- Select

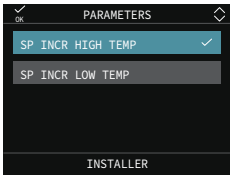
  MENU
  └ TECHNICAL

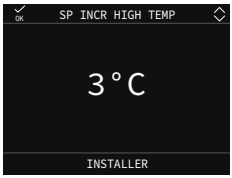
using the buttons as indicated in the summary table



Choose a menu item.
Example PARAMETERS

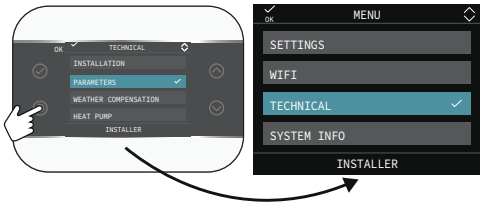






5.3 Returning to previous screen - cancelling a selection

It is possible to return to the previous screen or cancel a selection by pressing ⊗:



5.4 Returning to main screen

It is possible to return to the main screen at any time by holding down ⊗ for at least 2 sec.

NOTE:

⚠ The parameters in the TECHNICAL menu are accessible after setting the password. Refer to the T300-Hy technician menu, “Access level” column to find out the type of password to be set: INSTALLER 18 or SERVICE.

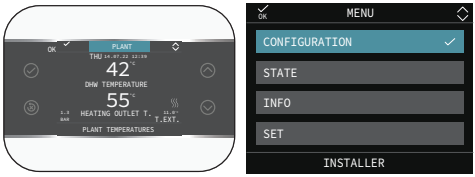
In the paragraphs below, the need to set the password is highlighted by the pictogram.

which indicates the need to follow the procedure described in paragraph "5.1 Setting the password" pag. 10.

5.5 T300-Hy connectivity

T300-Hy with the integrated gateway connects to the home router to access the Internet and use the Hi, Comfort app.
Type in www.hi-comfort.com or scan the QR code

to access the app page and download the Hi, Comfort app from APP STORE and GOOGLE PLAY.
On the main screen, press ✓ to access MENU:



and then

CONFIGURATION
- SETTINGS
- WIFI

The following parameters are available:

WIFI SERIAL	shows the Wi-Fi ID
WIFI INFO	indicates the Wi-Fi signal percentage
WIFI NOME	(when connected) indicates the name of the connected network
WIFI AP MODE	answer the question "Are you activating AP Mod?" to generate a local Wi-Fi network to pass the home Wi-Fi credentials to.
CERTIFICATES RESET	allows the user to reinitialize the cloud connection in case communication is not possible
CHECK FOR UPDATES	check for firmware updates that can be automatically installed remotely

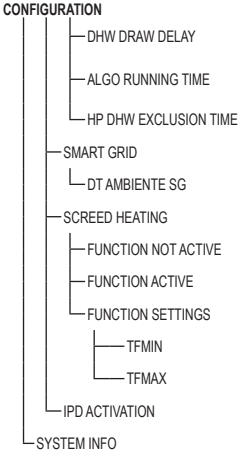
6. T300-HY

⚠ The default parameter settings refer to a configuration performed on the T300-Hy side.

CONFIGURATION	Factory-set default value	Minimum value	Maximum value	Access level
TECHNICAL				INSTALLER
INSTALLATION				INSTALLER
ZONES MANAGER				INSTALLER
MODIFY ZONE				INSTALLER
MAIN				INSTALLER
REQUEST TYPE	THERMOSTAT	THERMOSTAT - MANAGE DISPLAY - DEPEND DISPLAY - RF		INSTALLER
ZONE TYPE	HIGH TEMP (HT)	HIGH TEMP (HT) LOW TEMP (LT)		INSTALLER
MIN CH SET	24°C	24°C	MAX CH SET	INSTALLER
MAX CH SET	45°C (LT) 80,5°C (HT)	MIN CH SET	45°C (LT) 80,5°C (HT)	INSTALLER
CHANGE NAME				INSTALLER
FREEZE PROT TEMP	7°C	-10°C	50°C	SERVICE
FREEZE PROT OFFSET	5°C	1°C	20°C	SERVICE
FREEZE PROT T EXT	0°C	0°C	100°C	SERVICE
RF	PAIRING (coupling) / LEAVE (decoupling)			INSTALLER: only if REQUEST TYPE = RF
CH HYST ON	0,5°C	0,1°C	2°C	INSTALLER: if REQUEST TYPE = MANAGE DISPLAY or DEPEND DISPLAY, or RF
CH HYST OFF	0,5°C	0,1°C	2°C	INSTALLER: if REQUEST TYPE = MANAGE DISPLAY or DEPEND DISPLAY, or RF
COOL HYST ON	0,5°C	0,1°C	2°C	INSTALLER: if REQUEST TYPE = MANAGE DISPLAY or DEPEND DISPLAY, or RF
COOL HYST OFF	0,5°C	0,1°C	2°C	INSTALLER: if REQUEST TYPE = MANAGE DISPLAY or DEPEND DISPLAY, or RF
POR	1	0	1	INSTALLER: only if REQUEST TYPE = THERMOSTAT
SENSOR CALIBRATION	0.0°C	- 6.0°C	6.0°C	INSTALLER
SYSTEM RESET				INSTALLER
PARAMETERS				INSTALLER
ANTI-CYCLE FUNCTION	3 min	0 min	20 min	INSTALLER
HYST ON HIGH TEMP	5°C	2°C	10°C	SERVICE: if ZONE TYPE HT
HYST OFF HIGH TEMP	5°C	2°C	10°C	SERVICE: if ZONE TYPE HT
HYST ON LOW TEMP	3°C	2°C	10°C	SERVICE: if ZONE TYPE LT
HYST OFF LOW TEMP	3°C	2°C	10°C	SERVICE: if ZONE TYPE LT
SP INCR HIGH TEMP	0°C	0°C	10°C	SERVICE: if ZONE TYPE HT
SP INCR LOW TEMP	0°C	0°C	6°C	SERVICE: if ZONE TYPE LT
DECR COOLING SP	0°C	0°C	10°C	SERVICE: if COOLING active
PUMP DUTY CYCLE	85	41	100	INSTALLER
RESET CH TIMERS	FUNCTION NOT ACTIVE	FUNCTION NOT ACTIVE	FUNCTION ACTIVE	INSTALLER
DHW THERMOSTAT	RELATED	RELATED	ABSOLUTE	INSTALLER (only if AKJ instantaneous)
CH DELAY POST-DHW	0	0	1	SERVICE
CH DELAY TIME	6 sec	1 sec	255 sec	SERVICE: if CH DELAY POST-DHW = 1
WATER TRANSDUCER	1	0	1	SERVICE
AUTO WATER FILL ENABLE	0	0	1	SERVICE: only if WATER TRANSDUCER = 1
BEGIN SYSTEM FILLING	0,6	0,4	1	SERVICE: only if AUTO WATER FILL ENABLE = 1
PREHEATING	0	0	3	INSTALLER
MAX SETPOINT DHW	60°C	MIN SETPOINT DHW	60°C	INSTALLER: only if provided by the boiler board
MIN SETPOINT DHW	37,5°C	37,5°C	MAX SETPOINT DHW	INSTALLER: only if provided by the boiler board

CONFIGURATION	Factory-set default value	Minimum value	Maximum value	Access level
DO_AUX1	0	0	2	INSTALLER: only if boards with OTBus
DHW DELAY TIME	0 sec	0 sec	60 sec	SERVICE: 0 = function disabled
ID14	0	0	1	INSTALLER
TYPECOS	0	0	2	SERVICE: only if provided by the boiler board
EXPIRE	52	0	255	SERVICE: only if provided by the boiler board
HIGH EFFICIENCY ENABLE	0	0	1	SERVICE: only if provided by the boiler board
SMART_FAN	0	0	1	INSTALLER
SWING REDUCTION	0	0	1	INSTALLER
WEATHER COMPENSATION				INSTALLER
CLIMATIC CURVES				INSTALLER
MAIN				
FIXED SET POINT	80.5°C (HT) 45°C (LT)	MIN CH SET	MAX CH SET	INSTALLER: when WEATHER COMPENSATION is not enabled
NIGHT COMP	FUNCTION NOT ACTIVE	FUNCTION NOT ACTIVE	FUNCTION ACTIVE	INSTALLER: when WEATHER COMPENSATION enabled and REQUEST TYPE = THERMOSTAT
CURVE SLOPE	2.0	1.0	3.0	INSTALLER: when WEATHER COMPENSATION enabled, REQUEST TYPE THERMOSTAT and ZONE TYPE HT
	0.4	0.2	0.8	INSTALLER: when WEATHER COMPENSATION enabled, REQUEST TYPE THERMOSTAT and ZONE TYPE LT
	2.0	1.0	5.0	INSTALLER: if REQUEST TYPE MANAGE DISPLAY or RF
AMBIENT INFLUENCE	10	0	20	INSTALLER: if REQUEST TYPE MANAGE DISPLAY or RF
OFFSET	20°C	20°C	40°C	INSTALLER: if REQUEST TYPE MANAGE DISPLAY or RF
COOLING	18°C	5°C	22°C	INSTALLER: if cooling curves disabled
COOLING CURVES	1	1	2	INSTALLER: if cooling curves enabled
BUILDING TYPE	5min	5min	20min	INSTALLER: when WEATHER COMPENSATION enabled
OUTDOOR REACTIVITY	20	0	255	INSTALLER: when WEATHER COMPENSATION enabled
ENABLE HEATING CURVES/DISABLE HEATING CURVES				INSTALLER
ENABLE COOLING CURVES/DISABLE COOLING CURVES				INSTALLER
RANGE RATED	MAX CH	MIN	MAX CH	INSTALLER
CALIBRATION				INSTALLER
MIN	see the technical data table in the boiler manual			INSTALLER
MAX	see the technical data table in the boiler manual			INSTALLER
RLA	see the technical data table in the boiler manual			INSTALLER
MAX CH	see the technical data table in the boiler manual			INSTALLER
COMBUSTION ANALYSIS				INSTALLER
ACTIVATE FUNCTION/ DEACTIVATE FUNCTION				INSTALLER
MAX SPEED	MAX			INSTALLER
RANGE RATED SPEED	RANGE RATED			INSTALLER
MIN SPEED	MIN			INSTALLER
CHANGE FAN SPEED	CURRENT SPEED	MIN SPEED	MAX SPEED	INSTALLER
AIR PURGING CYCLE	FUNCTION ENABLED	FUNCTION ENABLED	FUNCTION DISABLED	SERVICE
FUNCTION DISABLED				SERVICE
FUNCTION ENABLED				SERVICE
STOP FUNCTION				INSTALLER: only if AIR PURGING CYCLE in progress
EXHAUST PROBE RESET				INSTALLER

CONFIGURATION	Factory-set default value	Minimum value	Maximum value	Access level
HEAT PUMP				INSTALLER
ENABLE COOLING/DISABLE COOLING	FUNCTION NOT ACTIVE	FUNCTION ACTIVE	FUNCTION NOT ACTIVE	INSTALLER
WARNING VALIDATION	60sec	1sec	300sec	SERVICE
CONTROL DT SET	10	5	30	INSTALLER
T START	15	1	60	INSTALLER
T RET MAX TARGET	50	1	60	INSTALLER
CH HYST ON	5	1	10	INSTALLER
CH HYST OFF	5	1	10	INSTALLER
CC HYST ON	5	1	10	INSTALLER
CC HYST OFF	5	1	10	INSTALLER
IDU POSTCIRCULATION TIME	30	0	180	INSTALLER
FLOW SENSOR DEVICE TYPE	0	0	1	INSTALLER
CONTROL STRATEGY	0	0	2	INSTALLER
CIRC ANTIBLOCK TIME	30sec	0sec	300sec	INSTALLER
T STABILIZATION	60sec	5sec	60sec	INSTALLER
PWM MAX REG	25%	25%	70%	INSTALLER
TEST MODE				SERVICE
START/STOP	0	0	1	SERVICE
COMPRESSOR FREQ	0 Hz	0 (5*) Hz *minimum with function enabled	110 Hz	SERVICE: visible only if START/STOP=1
FAN SPEED	0 rpm	0 (10*) rpm *minimum with function enabled	1000 rpm	SERVICE: visible only if START/STOP=1
EXP VALVE OPENING	0 step	0 (30*) step *minimum with function enabled	500 step	SERVICE: visible only if START/STOP=1
TARGET EXHAUST TEMP	0°C	0°C (10°C*) *minimum with function enabled	120°C	SERVICE: visible only if START/STOP=1
DEFROST ENTRY TIME	0sec	0 (30sec*) *minimum with function enabled	180sec	SERVICE: visible only if START/STOP=1
DEFROST ENTRY TEMP	-25°C	-25°C	50°C	SERVICE: visible only if START/STOP=1
DEFROST EXIT TEMP	-25°C	-25°C	50°C	SERVICE: visible only if START/STOP=1
CHARGE REFRIGERANT	0	0	1	SERVICE: visible only if START/STOP=1
MANUAL DEFROST	0	1	1	SERVICE: visible only if START/STOP=1
PWM ADJUST	0%	0% (10%*) *minimum with function enabled	70%	SERVICE: visible only if START/STOP=1
ENABLE ERROR HISTORY (in the first 2 hours of power-on)				SERVICE
ERROR HISTORY (if 2 operating hours have elapsed)				INSTALLER
HYBRID STRATEGY				INSTALLER
HEATING STRATEGY				INSTALLER
COST OPTIMIZATION	Default			
LOWEST CO_2 EMISSIONS				
SERVICE MODE BOILER				
SERVICE MODE HP				
HEATPUMP PRIORITY				
DHW STRATEGY				INSTALLER
INDEPENDENT FUNCTIONING	Default			
TURN OFF HEAT PUMP				



Factory-set default value	Minimum value	Maximum value	Access level
30sec	0sec	120sec	INSTALLER: visible only if DHW STRATEGY = INDEPENDENT FUNCTIONING
5min	5min	30min	SERVICE: visible only if HEATING STRATEGY = COST OPTIMIZATION or LOWEST CO_2 EMISSIONS
120sec	5sec	600sec	INSTALLER: visible only if DHW STRATEGY = TURN OFF HEAT PUMP
FUNCTION ACTIVE	FUNCTION NOT ACTIVE	FUNCTION ACTIVE	INSTALLER
0,0	0,0	3,0	INSTALLER: visible only if SMART GRID active
DEACTIVATE FUNCTION	DEACTIVATE FUNCTION	ACTIVATE FUNCTION	INSTALLER: OFF state and system in LT
			INSTALLER
			INSTALLER
			SERVICE
20°C	15°C	30°C	SERVICE
35°C	30°C	55°C	SERVICE
"Instantaneous Power Detection" for measuring the instantaneous heat output value of the boiler			SERVICE: if managed by the boiler board
			SERVICE: if managed by the boiler board

7. INSTALLATION TECHNICIAN MENU

7.1 ZONES MANAGER

Select

CONFIGURATION
→ TECHNICAL
→ INSTALLATION
→ ZONES MANAGER
→ MODIFY ZONE

This menu is used to programme main zone parameters.
The main zone is already loaded on the system by default, therefore, it is necessary to proceed with the configuration of the heating zones by setting the following parameters:

REQUEST TYPE
To specify the type of heat request, you can choose one of the following options:
- THERMOSTAT: the heat request is generated with an ON/OFF thermostat.
- MANAGE DISPLAY: the heat request is generated by the MANAGE DISPLAY; in this case the T300 assumes the dual function of MACHINE INTERFACE and regulator AMBIENT - see paragraph "12. T300-Hy as AMBIENT CONTROLLER" pag. 31.
- RF: the heat request is generated by the T200. The heat request is generated by the T200 connected to the zone valves.

ZONE TYPE
To specify the type of zone to heat, you can choose one of the following options:
- HIGH TEMP (factory setting)
- LOW TEMPERATURE.

MIN CH SET
This parameter specifies the minimum admissible HEATING setpoint (range 24°C - 80,5°C, default 24°C for high temperature systems ● range 24°C - 45°C, default 24°C for low temperature systems).
NOTE: MIN CH SET < MAX CH SET.

MAX CH SET
This parameter specifies the maximum admissible HEATING setpoint (range 24°C - 80,5°C, default 80,5°C for high temperature systems ● range 20°C - 45°C, default 45°C for low temperature systems).
Nota: MAX CH SET > MIN CH SET

CHANGE NAME
To assign a specific name to the heating zone.

FREEZE PROT TEMP
Zone delivery temperature below which, if TEXT < FREEZE PROT T EXT, the zone anti-freeze function activates.

FREEZE PROT OFFSET
Offset value to be considered on the anti-freeze temperature to deactivate the zone anti-freeze function.

FREEZE PROT T EXT
Outdoor temperature below which, if ZONE DELIVERY < FREEZE PROT TEMP, the zone anti-freeze function activates.

RF
When ACTUATION TYPE = RF, lthe heat request is generated by a temperature sensor connected via radio frequency to the T300 (device Hi, Comfort T200).
Use the RF command to complete the association between the two devices:
- PAIRING (coupling) to request the coupling of the T300 to the radio device
- LEAVE (decoupling) to remove the coupling of the T300 to the radio device.

Complete the PAIRING/LEAVE operations on the T200 device (refer to the relevant instruction manual).

CH HYST ON
Ignition hysteresis setting for heating request.

CH HYST OFF
Shutdown hysteresis setting for heating request.

COOL HYST ON
Ignition hysteresis setting for cooling request.

COOL HYST OFF
Shutdown hysteresis setting for cooling request.

POR
To enable heating time programming for the zone in question.

- **Time programming not enabled = 0**
  When the room thermostat is on call, the heat request is always met without time limitation.
- **Time programming enabled = 1**
  When the room thermostat is on call, the heat request is enabled according to the set time programming.

  Note: ensure in this case that the operating mode of the zone is set to AUTO.

7.2 SENSOR CALIBRATION

When the T300-Hy is also used as an AMBIENT CONTROLLER, it may make sense to calibrate its ambient temperature sensor.

Select

CONFIGURATION
└ TECHNICAL
└ INSTALLATION
└ ZONES MANAGER
└ SENSOR CALIBRATION

set the desired ambient temperature correction offset.

7.3 SYSTEM RESET

The system configuration operations must be carried out by professionally qualified personnel from the technical support service.

Factory settings can be restored when necessary by resetting the system:

Select

CONFIGURATION
└ TECHNICAL
└ INSTALLATION
└ ZONES MANAGER
└ SYSTEM RESET

NOTE:
After resetting, the system must be configured again. The T300-Hy will display a series of screens to allow you to set up

- TIME & DATE
- LANGUAGE.

7.4 PARAMETERS

CONFIGURATION
└ TECHNICAL
└ PARAMETERS

The following parameters are available:

- **ANTI-CYCLE FUNCTION**
  In heating mode, this parameter is used to set the minimum waiting time for the gas boiler to restart after being turned off due to reaching temperature.
- **HYST ON HIGH TEMP**
  Temperature to be subtracted from the boiler delivery setpoint to obtain the trigger temperature of the “heating thermostat ON” in high temperature systems.
- **HYST OFF HIGH TEMP**
  Temperature to be added to the boiler delivery setpoint to obtain the trigger temperature of the “heating thermostat OFF” in high temperature systems.
- **HYST ON LOW TEMP**
  Temperature to be subtracted from the boiler delivery setpoint to obtain the trigger temperature of the “heating thermostat ON” in low temperature systems.

- **HYST OFF LOW TEMP**
  Temperature to be added to the boiler delivery setpoint to obtain the trigger temperature of the “heating thermostat OFF” in low temperature systems.
- **SP INCR HIGH TEMP (if TYPE ZONE HT)**
  Offset to be applied to the boiler delivery setpoint when a heat request for heating comes from high temperature systems.
- **SP INCR LOW TEMP (if TYPE ZONE LT)**
  Offset to be applied to the boiler delivery setpoint when a heat request for heating comes from low temperature systems.
- **DECR COOLING SP (if COOLING is active)**
  Allows for the introduction of a programmable negative offset on the zone cooling setpoint calculated before it is sent to the heat pump.
- **PUMP DUTY CYCLE**
  This parameter allows you to set the boiler pump management mode.
- **RESET CH TIMERS**
  Activating this function resets the REDUCED MAXIMUM HEATING OUTPUT and FORCED HEATING OFF timers on the gas boiler (see the boiler manual for further information).
- **DHW THERMOSTAT**
  This parameter allows you to set the type of DHW THERMOSTAT. The default value for this parameter is RELATED, i.e. in DHW mode the boiler turns off at SetPoint +5°C and turns back on at SetPoint +4°C.
  To choose the ABSOLUTE value, where the boiler in DHW will always turn off at 65°C and turn back on at 63°C, use “+” and “-” confirming the choice to reset the timers.
- **CH DELAY POST-DHW**
  Through this value it is possible to enable/disable the DHW post-circulation function with heating start inhibition.
- **CH DELAY TIME**
  When CH DELAY POST-DHW = 1 the duration of DHW post-circulation can be set.
- **WATER TRANSDUCER**
  Allows you to set the type of water pressure transducer:
  0 = water pressure switch
  1 = pressure transducer
- **AUTO WATER FILL ENABLE**
  This parameter must be set according to the boiler configuration and is used to enable the “semi-automatic filling” function when a pressure transducer and a filling solenoid valve are installed in the boiler.
- **BEGIN SYSTEM FILLING**
  Only if AUTO WATER FILL ENABLE = 1
- **PREHEATING**
  Setting the parameter to = 1 activates the boiler’s DHW pre-heating function. This function allows the water contained in the domestic hot water exchanger to be kept warm in order to reduce waiting times during use. When the pre-heating function is enabled, the P symbol is lit steady above the DHW icon. During the ignition of the burner following a pre-heating request, the P symbol starts flashing.
  To deactivate the pre-heating function, set parameter PREHEATING = 0 again, the P symbol will turn off.
  The function is not active with BOILER IN OFF MODE.
  Setting the parameter to = 2 activates the TOUCH & GO function. If you do not wish to keep the PREHEATING function always active and need hot water ready immediately, it is possible to pre-heat the DHW just a few moments before use. This function opens and closes the cock to activate instant pre-heating, which prepares the hot water only for that use.
  Setting the parameter to = 3 activates the SMART pre-heating function.
  When the function is active, post-circulation for the end of the heating request occurs with the three-way valve set to DHW until one of the following conditions is met:
  - DT (CH SENSOR - return) < 2°C
  - Post-circulation duration > 20 sec
- **MAX SETPOINT DHW**
  Through this value, it is possible to set the maximum DHW setpoint.
- **MIN SETPOINT DHW**
  Through this value, it is possible to set the minimum DHW setpoint.

- **DO_AUX1**
  Through this value, it is possible to configure the functions associated with the digital output used to manage the supplementary pump/zone valve.
- **DHW DELAY TIME**
  Through this value, it is possible to set a delay on the activation of the burner in case of DHW request.
- **ID14**
  Through this value it is possible to enable cascade management when a OT+ programmable thermostat is connected.
- **TYPECOS**
  This parameter allows the boiler to be periodically checked according to an operating period preset in parameter EXPIRE.
  TYPECOS = 0 function not active
  TYPECOS = 1 SFS (Stop for service) active
  TYPECOS = 2 CFS (Call for service) active
  To reset the counter to the default value after a CFS/SFS signal, the installer must set TYPECOS = 0, confirm, and then set TYPECOS back to the desired value and confirm.
  This way the counter reloads the EXPIRE value.
  When SFS/CFS is processed (after the weeks set in parameter EXPIRE), the days since the function expired are displayed in the INFO menu > EXCHANGE SERVICE.
- **EXPIRE**
  EXPIRE indicates the number of weeks (0 - 52 weeks) remaining until the CFS/SFS signal.
  The EXPIRE counter does not decrease as the weeks pass; it always shows the set value.
- **HIGH EFFICIENCY**
  The boiler is equipped with an automatic function that activates when first powering on or after 60 days of non-use (electrically powered boiler). In this mode, the boiler limits the heat output and the maximum temperature for DHW to 55°C for 60 minutes. The activation of the chimney sweeper temporarily disables this function.
  When the function is running, which is intended to fill the condensate drain trap with condensation water generated while the boiler is operating at minimum power, the scrolling message "HIGH EFFICIENCY MODE" is displayed.
- **SPECIAL FUNCTION DHW**
  This menu enables the following functions to be activated
- **DHW DELAY**
  Through this value, it is possible to set a delay on the activation of the burner in case of DHW request.
- **SMART_FAN:**
  This parameter allows you to activate the “smart fan” function, which maintains the minimum power-on speed of the fan (MIN) in case the burner switches off due to overheating in DHW mode (with a request still present).
- **SWING REDUCTION**
  This parameter allows you to activate the “SWING REDUCTION” function, which enables the boiler to set its own ABSOLUTE and maintain minimum fan speed in case the burner switches off due to overheating in DHW mode (with a request still present).
- **DISABLE ALL and ENABLE ALL**
  For enabling or disabling all the above comfort functions. In this case it is not possible to select the DHW comfort parameters individually.

7.5 Setting heating thermoregulation

Select

CONFIGURATION
└TECHNICAL
└WEATHER COMPENSATION

Thermoregulation in HEATING can operate at a fixed point even with an external sensor connected.
The temperature value detected by the external sensor is displayed on the main screen at the bottom right.
When thermoregulation is enabled, the algorithm for the automatic calculation of the delivery setpoint depends on the type of heat request.
In any case, the thermoregulation algorithm will not directly use the measured outdoor temperature value, but rather a calculated outdoor temperature value that takes the building insulation into account: in well-insulated buildings, variations in outdoor temperature have less influence on the ambient temperature compared to those that are less insulated.
Through the T300-Hy, it is possible to set the desired climatic curve and adjust the related parameters:

CONFIGURATION
└TECHNICAL
└WEATHER COMPENSATION
└CLIMATIC CURVES

CLIMATIC CURVES

FIXED SET POINT

Heating zone delivery setpoint when thermoregulation not enabled.

NIGHT COMP

Parameter for enabling continuous heating request with night compensation when thermoregulation is enabled and ambient temperature control is not enabled (i.e. when REQUEST TYPE = THERMOSTAT).

CURVE SLOPE

Curve slope value used in the thermoregulation algorithm to calculate the heating delivery setpoint when the external sensor is connected.

AMBIENT INFLUENCE

Influence of the difference between “desired ambient temperature” and “measured ambient temperature” in the thermoregulation algorithm when the external sensor is connected and ambient temperature control is enabled (i.e. when REQUEST TYPE = TEMPERATURE SENSOR - T300-Hy or T200).

OFFSET

Value to be added to the heating delivery setpoint calculated by the thermoregulation algorithm when ambient temperature control is enabled (i.e. when REQUEST TYPE = TEMPERATURE SENSOR - T300-Hy or T200).

CONFIGURATION
└TECHNICAL
└WEATHER COMPENSATION
└BUILDING TYPE

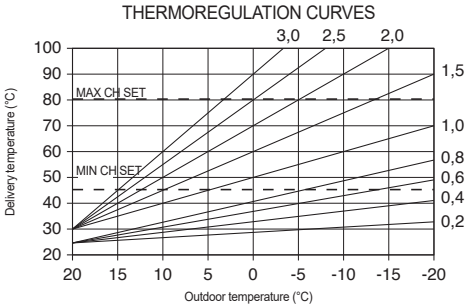
BUILDING TYPE

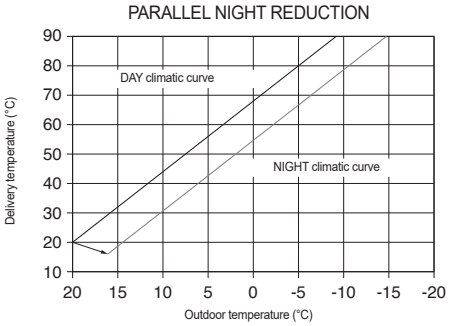
Is indicative of the frequency with which the outdoor temperature value calculated for thermoregulation is updated.
A low value is used for poorly insulated buildings.

CONFIGURATION
└TECHNICAL
└WEATHER COMPENSATION
└OUTDOOR REACTIVITY

OUTDOOR REACTIVITY

Is indicative of the speed at which variations in the measured outdoor temperature influence the calculated outdoor temperature for thermoregulation.
Low values indicate high speeds.





7.5.1 Request from room thermostat

In this case, the delivery setpoint depends on the outdoor temperature value to achieve a reference temperature in the room of 20°C.
There are 2 parameters that contribute to the calculation of the delivery setpoint:

- Slope of the compensation curve (KT);
- Offset on the reference ambient temperature.

CHOOSING THE COMPENSATION CURVE

The heating compensation curve ensures a theoretical temperature of 20°C in the room at outdoor temperatures ranging from +20°C to –20°C. The choice of curve depends on the minimum project outdoor temperature (and thus the geographical location) and the project delivery temperature (and thus the type of system) and must be carefully calculated by the installer, using the following formula:

$$KT = \frac{\text{Project delivery T.} - \text{Tshift}}{20 - \text{Min. project outdoor T}}$$

Tshift = 30°C standard systems
Tshift = 25°C underfloor systems
If the calculation results in an intermediate value between two curves, it is advisable to choose the compensation curve closest to the obtained value.
Example: if the value obtained from the calculation is 1.3, it lies between curve 1 and curve 1.5. In this case, choose the closest curve, i.e. 1.5.
The KT values that can be set are as follows:

- standard system: 1,0÷3,0
- underfloor system 0,2÷0,8.

OFFSET ON THE REFERENCE AMBIENT TEMPERATURE

The user can still indirectly alter the HEATING setpoint value by entering an offset on the reference temperature value within the range -5 ÷ +5 (offset 0 = 20°C).

NIGHT COMP

If a timer is connected to the ROOM THERMOSTAT input, the NIGHT COMP function can be enabled from the path indicated above.
In this case, when the CONTACT is CLOSED, the heat request is made by the delivery sensor, based on the outdoor temperature, to achieve a nominal temperature in the room at DAY level (20°C).

CONFIGURATION
└TECHNICAL
└WEATHER COMPENSATION
└CLIMATIC CURVES
└MAIN

THE OPENING OF THE CONTACT does not determine HEAT OFF, but instead reduces (parallel translation) the climatic curve on the NIGHT level (16°C).
Here too, the user can indirectly alter the HEATING setpoint value by entering an offset on the reference DAY (20°C) or NIGHT (16°C) temperature value within the range [-5 ÷ +5].

7.5.2 Request from T300-Hy or TEMPERATURE SENSOR

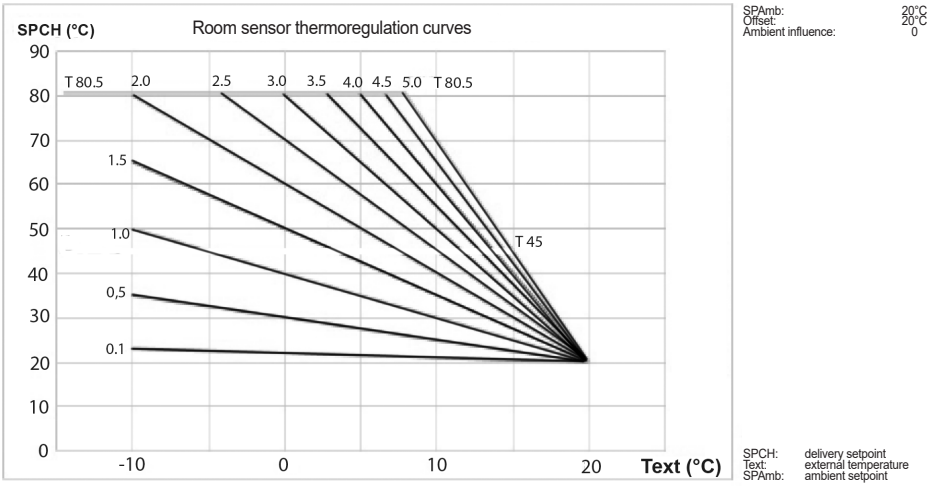
In this case, the delivery setpoint depends on the outdoor temperature and the ambient temperature.
There are 3 parameters that contribute to the calculation of the delivery setpoint:

- CURVE SLOPE;
- AMBIENT INFLUENCE;
- OFFSET (FIXED POINT OFFSET);

as set out in the following formula

$$SP_{Delivery} = \left\{ \left[\left[(SP_{Amb} - T_{Amb}) \cdot Infl_{Amb} \right] + T_{Amb} \right\} - T_{Ext} \right\} \cdot Elbow + Offset$$

Legend	Description
$SP_{Delivery}$	Delivery setpoint
SP_{Amb}	Ambient setpoint
T_{Amb}	Ambient temperature
$Infl_{Amb}$	Ambient influence (KORR)
T_{ext}	Outdoor temperature
Elbow	Climatic curve
Offset	Offset



The above parameters are visible in the technical menu --> weather compensation --> climatic curves and heating only if an external sensor is connected.

CURVE SLOPE

The T300-Hy calculates the delivery temperature based on the climatic curve set in parameter “CURVE CHOICE”.
As the set value increases, the slope of the climatic curve increases, consequently the delivery temperature rises.
The function uses the outdoor temperature as its input parameter (x-axis).

AMBIENT INFLUENCE (KORR)

Weather compensation with ambient influence is used to correct the value calculated by the climatic curve, taking into account the temperature difference between the ambient setpoint and the room sensor.
By increasing the parameter towards maximum, the influence of the setpoint deviation on the control is increased.

OFFSET

Value to be added to the heating delivery setpoint calculated by the thermoregulation algorithm.

7.6 Setting delivery temperature for zones in cooling (if heat pump is activated in cooling)

Thermoregulation in COOLING can operate at a fixed point even with an external sensor connected.
To activate/deactivate the thermoregulation curves in cooling

and then

CONFIGURATION
└ TECHNICAL
└ INSTALLATION
└ WEATHER COMPENSATION
└ ENABLE COOLING CURVES / DISABLE COOLING CURVES

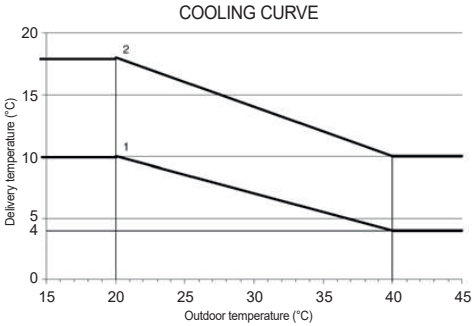
- If the thermoregulation curves in cooling are deactivated, the system operates at a fixed point.
- If the thermoregulation curves in cooling are activated, the delivery setpoint in cooling is automatically calculated according to an algorithm that takes account of the set climatic curve and the measured outdoor temperature. Bear in mind that, as for heating, the thermoregulation algorithm for cooling will not directly use the measured outdoor temperature value, but rather a calculated outdoor temperature value that takes the building insulation into account.

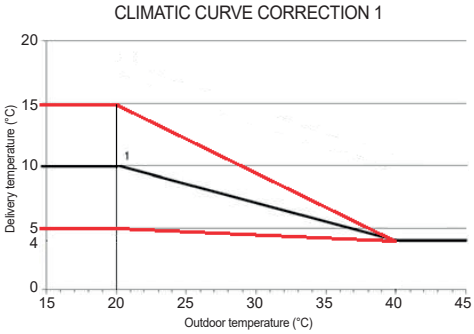
NOTE:

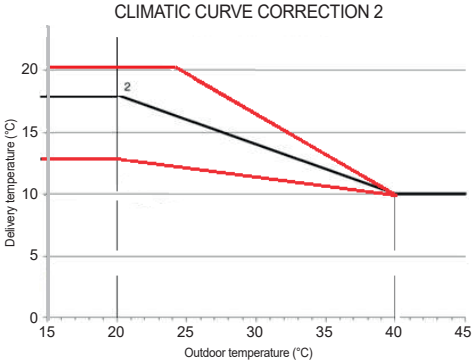
The value of the calculated outdoor temperature used by the thermoregulation algorithm can be viewed in the INFO menu under FILTERED OUTDOOR TEMP.

OFFSET ON THE CALCULATED DELIVERY TEMPERATURE

The user can still directly alter the calculated COOLING setpoint value by changing the slope of the curve (climatic curve correction graphs 1-2), entering an offset within range -5 ÷ +5, which is added to the maximum cooling setpoint envisaged by the curve.







7.7 RANGE RATED

000

Select

CONFIGURATION
└TECHNICAL
└RANGE RATED

To set the number of boiler fan revolutions from T300-Hy. The T300-Hy also runs a consistency check on the value of these parameters, ensuring that they are set within their respective acceptable ranges.

7.8 COMBUSTION ANALYSIS

000

Select

CONFIGURATION
└TECHNICAL
└COMBUSTION ANALYSIS

The chimney sweep function can be activated with the boiler in OFF.
On activating the function, T300-Hy sends a request to the boiler to operate in chimney sweeper mode, in this case sending the desired fan rpm setpoint rather than the temperature setpoint.

7.9 AIR PURGING CYCLE

Select

CONFIGURATION
└TECHNICAL
└AIR PURGING CYCLE

The AIR PURGING CYCLE function only activates at power on or after resetting a water alarm and is entirely managed by the boiler board. Through the relevant menu on T300-Hy, the function can be stopped early or excluded so that it does not run even when the conditions for its activation are met.

7.10 EXHAUST PROBE RESET

Select

CONFIGURATION
└TECHNICAL
└EXHAUST PROBE RESET

The EXHAUST PROBE RESET function allows you to reset the relevant counter, used by the boiler board to store the number of heat exchanger operating hours in condensing mode.

7.11 HEAT PUMP

Select

CONFIGURATION
└TECHNICAL
└HEAT PUMP

ENABLE COOLING/DISABLE COOLING
This parameter allows you to activate/deactivate the cooling operation of the heat pump.

WARNING VALIDATION
This parameter is used to set the validation time for heat pump alarm status before it is signalled by the T300-Hy.

CONTROL DT SET
Valid only if CONTROL STRATEGY = 0, target temperature difference between flow to the system and return.

T START
Time during which the circulator runs at maximum speed at the beginning of a new heating request.

T RET MAX TARGET
With CONTROL STRATEGY = 1, target return temperature.

CH HYST ON
Heating activation hysteresis.

CH HYST OFF
Heating deactivation hysteresis.

COOL HYST ON
Cooling activation hysteresis.

COOL HYST OFF
Cooling deactivation hysteresis.

IDU POSTCIRCULATION TIME
Time during which the circulator runs at maximum speed after a heating or cooling request.

FLOW SENSOR DEVICE TYPE
0 = flowswitch
1 = flowmeter.

CONTROL STRATEGY
0 = temperature delta (parameter CONTROL DT SET)
1 = maximum return temperature (parameter T RET MAX TARGET)
2 = maximum pump speed.

CIRC ANTIBLOCK TIME
Circulator activation time when no operation is detected within 24 hours.

T STABILIZATION
Inhibition time for circulator modulation after no water flow is detected.

TEST MODE
Parameters reserved for test mode.

CONFIGURATION
└TECHNICAL
└HEAT PUMP
└TEST MODE

START/STOP
0 = test mode OFF
1 = test mode ON.

COMPRESSOR FREQ
Target compressor operating frequency.

FAN SPEED
Target speed of the outdoor unit fan.

EXP VALVE OPENING
Target expansion valve opening step.

TARGET EXHAUST TEMP
Target exhaust temperature.

DEFROST ENTRY TIME
Minimum time interval after which the system checks for defrosting need.

DEFROST ENTRY TEMP
Activation temperature for defrost function.

DEFROST EXIT TEMP
Exit temperature from defrost function.

CHARGE REFRIGERANT
If enabled, the heat pump enters refrigerant charging mode.

MANUAL DEFROST
Manual defrost cycle activation.

DEFROST TEST TYPE
Type of defrost test.

PWM ADJUST
Manually set PWM signal value to the circulator.

7.12 ERROR HISTORY

CONFIGURATION
└TECHNICAL
└ERROR HISTORY

The ERROR HISTORY function only enables automatically after the system has been powered for at least 2 consecutive hours, during this period any alarms that trigger are not stored in the “ERROR HISTORY”.
Alarms can be displayed in chronological order, from the most recent to the oldest, up to a maximum of 50 alarms.
For each alarm, a sequential number, anomaly code, and the date and time when the alarm occurred will be displayed.
Note: once enabled, the ERROR HISTORY function can no longer be disabled; there is also no procedure for resetting the alarms history.
If an alarm is triggered several consecutive times, it is only stored once.

7.13 HYBRID STRATEGY

Select

CONFIGURATION
└TECHNICAL
└HYBRID STRATEGY

Hybrid system operating strategies.

HEATING STRATEGY
Selection of the strategy for heating mode operation.

COST OPTIMIZATION
In this strategy, the optimal water setpoint is sent to the heat pump based on electricity and gas tariff values, considering operating conditions and outdoor temperature.

LOWEST CO_2 EMISSIONS
In this strategy, the optimal water setpoint is sent to the heat pump based on emission values, considering operating conditions and outdoor temperature.

SERVICE MODE BOILER
Operation mode of the boiler only.

SERVICE MODE HP
Operation mode of the heat pump only.

HEATPUMP PRIORITY
Both generators operate simultaneously at the same system setpoint.

DHW STRATEGY
Selection of the strategy for DHW production mode when there is a simultaneous request for heating or cooling.

INDEPENDENT FUNCTIONING
The heat pump setpoint is maximized to the system setpoint after the DHW DRAW DELAY time.

TURN OFF HEAT PUMP
The heat pump is turned off after the HP DHW EXCLUSION TIME.

DHW DRAW DELAY
Time after which the heat pump setpoint is maximized during the INDEPENDENT FUNCTIONING strategy.

ALGO RUNNING TIME
Frequency at which the optimal heat pump setpoint is calculated in the COST OPTIMIZATION and LOWEST CO_2 EMISSIONS strategies.

HP DHW EXCLUSION TIME
Time after which the heat pump is turned off during the TURN OFF HEAT PUMP strategy.

7.14 PHOTOVOLTAIC CONTACT

The hydraulic kit board includes a clean, voltage-free contact labeled PV, used to signal the photovoltaic production status. When this contact is closed, the hybrid system prioritizes heat generation via the heat pump to increase self-consumption of renewable electrical energy.

7.15 SMART GRID

CONFIGURATION
└TECHNICAL
└SMART GRID

If the Smart Grid mode is enabled, the SG and PV contacts on the hydraulic kit board are used respectively as SG1 and SG2 contacts in the Smart Grid protocol.

SG1 (SG)	SG2 (PV)	STATUS
OPEN	OPEN	Normale operation
CLOSED	OPEN/ CLOSED	Heat pump OFF
OPEN	OPEN	The hybrid system prioritizes heat generation via the heat pump

If the T300-Hy is set to operate as a thermostat, the room setpoint is increased (heating mode) or decreased (cooling mode) by the value DT AMBIENTE SG.

7.16 SCREED HEATING

CONFIGURATION
└TECHNICAL
└SCREED HEATING

For low temperature zones only, the system has a “SCREED HEATING” function that can be activated as follows:

NOTE:

SCREED HEATING is not available if the boiler is in a state other than OFF.
The “screed heater” function has a duration of 168 hours (7 days) during which, in the zones configured as low temperature, a heating request is simulated with an initial zone delivery setpoint of 20°C, subsequently increased according to the adjacent table.
By accessing the INFO menu from the T300-Hy main screen, you can view the SCREED HEATING HOURS relative to the number of hours elapsed since the function was last activated.
Once activated, the function takes maximum priority; if the machine is turned off by removing the power supply, when it is switched back on the function resumes from where it was interrupted.
The function can be stopped before its completion by putting the machine in a state other than OFF or by selecting DEACTIVATE FUNCTION from the relevant menu.

NOTE:

The temperature and increment values can only be set to different values by a qualified technician, and only if strictly necessary. The manufacturer declines all responsibility in the event of incorrect parameter settings.

7.17 IPD ACTIVATION

CONFIGURATION
└TECHNICAL
└IPD ACTIVATION

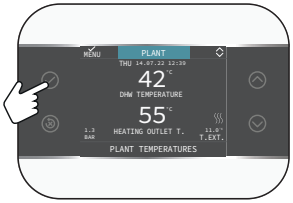
If managed by the control board, when in OFF state parameter IPD ACTIVATION allows the activation of “Instantaneous Power Detection” for measuring the boiler’s instantaneous heat output.
The function is fully managed by the boiler control board and, when running, the T300-Hy displays the calculated instantaneous heat output in kW/h on the main screen and the scrolling message at the bottom “IPD FUNCTION IN PROGRESS”.
The parameter for activating the function is not available when OT+ is connected.

7.18 SYSTEM INFO

The SYSTEM INFO menu gives information on the hydraulic configuration, type and firmware revision of the boards in the system.

8. INFO

The INFO button on the T300-Hy display allows you to view a list of information relating to system operation.
On the main screen press ✓ and access MENU



and then access

└ MENU

└ INFO

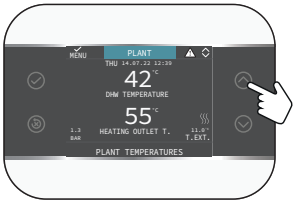
to view a list of information relating to system operation.

⚠ Some Info may not be available depending on system configuration.

- CH SENSOR
- RETURN SENSOR
- DHW SENSOR
- HW TANK HIGH
- HW TANK LOW
- EXHAUST SENSOR
- OUTDOOR TEMP PROBE
- FILTERED OUTDOOR TEMP
- FLOWMETER / DHW SETPOINT
- MAIN ZONE OUTLET
- FAN SPEED
- EXHAUST SENSOR HOURS
- SET MAIN ZONE
- WATER PRESSURE
- HP LEAVING WATER TEMP
- PLATE HEAT EXCHANGER TEMP
- IDU RETURN WATER TEMP
- REFRIGERANT TEMP
- REFRIGERANT RETURN TEMP
- FLOW TEMP TO PLANT
- EXTERNAL PROBE
- PHOTOVOLTAIC CONTACT
- IDU PUMP STATUS
- PWM %
- FLOW SWITCH STATUS
- FLOW METER SENSOR VALUE
- FLOW ESTIMATION
- COMPRESSOR FREQ
- ODU/IDU ALARM
- ODU STATUS - OPERATIVE
- IDU STATUS
- SMART GRID STATUS
- HP POWER CONSUMPTION
- EXCHANGE SERVICE
- NEXT ANTILEGIO
- ENERGY CONSUMPTION
- DHW HOURS
- CH HOURS
- DHW MODULATION
- CH MODULATION
- CH SUPPLY SENSOR AVG
- DHW SUPPLY SENSOR AVG
- CH RETURN SENSOR AVG
- DHW RETURN SENSOR AVG
- GAS VALVE ON CYCLE
- HIGH EFFICIENCY

9. FAULTS

In the event of an anomaly, the T300-Hy display shows a screen featuring the symbol ⚠.



Press the ⌃ button until the ⚠ symbol is highlighted to access the anomaly description screen.

NOTE:

- See the heat pump installation manual for the list of heat pump faults.
- The T300-Hy only displays the alphanumeric codes relating to the alarm, the description of which can be found in the heat pump's installation manual and/or directly on the Service interface (access restricted to qualified technicians).

List of heat pump faults

ERROR CODE	DESCRIPTION OF ALARM TYPE
.....	SEE SPECIFIC ALARMS ON HEAT PUMP
--	COMMUNICATION LOST HEAT PUMP
--	COMMUNICATION LOST BE17

NOTE:

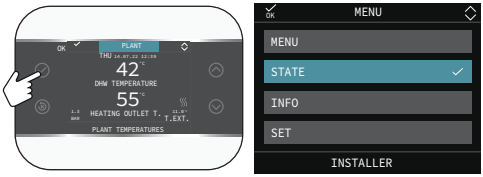
- Refer to the heat pump manual for the meaning of the anomalies related to it.
  If the anomaly is related to the heat pump, please note that most alarms concerning the heat pump reset automatically, while others require manual intervention from the technical support service (refer to the installation, use and maintenance manual of the heat pump for more details on this aspect). If communication with the heat pump is lost, check the integrity of the three connection wires between the heat pump and the boiler.
- Refer to the boiler manual for the meaning of the anomalies related to it.

10. UNLOCK FUNCTION

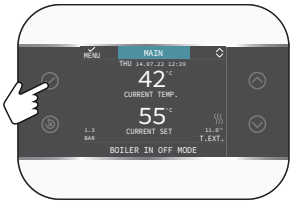
To reactivate operation after an anomaly has occurred, press the ⟲ button.
If the error is not resettable or if the unlock attempts do not reactivate the operation, contact the authorised service centre.
Up to a maximum of 5 consecutive unlocking attempts are possible from T300-Hy, after which boiler operation can be restored by switching the electric power supply off and back on again.

11. SWITCH-OFF

If you are away (e.g. for the weekend or a short trip), set the system status to HEAT OFF by selecting



└STATE
└BOILER/SYSTEM
└OFF



The ⏻ symbol is displayed on the screen.
With the electric power supply remaining active, the system is protected by the systems:

- Heating anti-freeze: The function starts if the temperature detected by the delivery sensor goes below 6°C. In this phase a heat request is generated until the delivery water temperature rises to a value equal to the FREEZE PROT OFFSET.
- Antifreeze for the domestic hot water tank connected to solar and/or HP

Shutdown for long periods

If the system is not to be used for a long period, the following operations are carried out:

- Set the system status to HEAT OFF by selecting STATE, SYSTEM, OFF in the main menu.
- Set the system's power switch to “HEAT OFF”.
- Shut off the water cocks of the heating and DHW system.

In this case, the antifreeze and anti-block systems are disabled. Drain the heating and DHW system if there is a risk of frost.

12. T300-HY AS AMBIENT CONTROLLER

AMBIENT CONTROLLER = MACHINE INTERFACE + ambient temperature control and time programming

In addition to the machine interface functions described above, the T300-Hy controls the ambient temperature and time programming.

When the T300-Hy is used as an AMBIENT CONTROLLER, in addition to the main MACHINE INTERFACE screen described previously, an AMBIENT CONTROLLER display for the controlled zone is also activated.

To set the T300-Hy as an ambient controller

and refer to what is indicated in the paragraph "7.1 ZONES MANAGER" pag. 17 and select MANAGE DISPLAY.
Depending on the set operating status, the T300-Hy will generate a heating request if the detected ambient temperature is lower than the desired ambient temperature (HEATING AND HOT WATER) or a cooling request if enabled and if the detected ambient temperature is higher than the desired ambient temperature (HOT WATER ONLY).

See paragraph "2.12a Using T300-Hy as ambient controller" pag. 39 for instructions.

13. REPLACING MANAGE DISPLAY

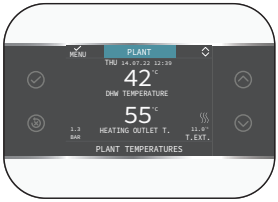
The system configuration operations must be carried out by professionally qualified personnel from the technical support service.

After the T300-Hy is replaced, when switching on it displays an initial screen with the firmware version.
Press the ✓ button to start the system configuration wizard.

Configuring from BOILER BOARD allows you to retrieve all previously set programmes except for those related to the WATER TANK HP and HEAT PUMP; these setpoints must be set again.

1A USER LEVEL ACCESS

The USER level is always available to allow for quick use of the functions



Use the buttons to navigate within the menus	
✓	Confirm
⊗	CANCEL selection / Return to previous screen / Return to main screen (press > 2 sec.) RESET alarms
	To navigate in the submenus, change values and change pages ZONE - SYSTEM

1.1a PLANT

This item indicates to which zone the data shown on the initial screen refer and to which zone the settings accessible with other functions refer.

The presence of one or two zones in addition to PLANT depends on the installation configuration. For this reason, one or more zones mentioned below may not be included in your configuration or may be identified differently.

To change zone, use the ∧ and ∨ buttons, the other zones can be selected in the following sequence:

- MAIN ZONE (if managed from T300-Hy or room sensor).

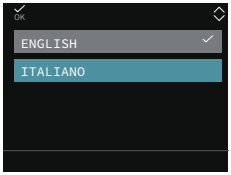
The information given in the INFO menu is independent of the active zone.
Selecting MAIN no DHW parameter can be set.

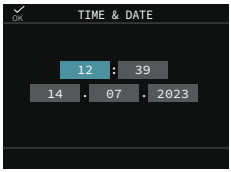
2A COMMISSIONING

⚠ The installation of the device and any other assistance and maintenance work must be carried out by a qualified technician in accordance with current regulations.

Before programming, ensure that all parts of the system are connected and powered.

You may be asked to set

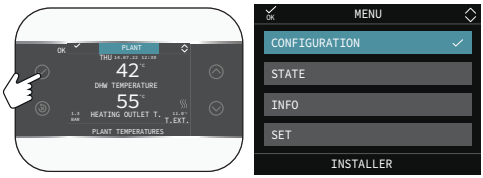




NOTE:

The default language is English. Select your desired language using the arrows and confirm with ✓.

To set the values, press ✓ to access MENU



and then

└CONFIGURATION

└SETTINGS

2.1a TIME & DATE

For setting the desired HOURS, MINUTES, DAY, MONTH.

NOTE:

The device automatically changes between GMT and summer time and vice versa

2.2a DAYLIGHT SAVINGS TIME

Select FUNCTION ACTIVE to enable the automatic change between GMT and summer time and vice versa.

2.3a LANGUAGE

To select the desired language. The default language is English.

2.4a BACKLIGHT

If no button is pressed on the display for a certain period, it will enter screen saver mode. The display shutdown time can be set in parameter BACKLIGHT.

2.5a WIFI

See paragraph "5.5 T300-Hy connectivity" pag. 12.

2.6a FUNCTION BIBERON

Child safe mode locks the DHW setpoint, preventing if from being inadvertently changed. To activate Child safe mode, select

└CONFIGURATION

└BIBERON

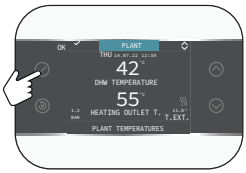
set to 1.

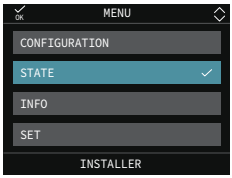
- SETTINGS
  - TIME & DATE
  - DAYLIGHT SAVINGS TIME
  - LANGUAGE
  - BACKLIGHT
- BIBERON
- WIFI
  - WIFI SERIAL
  - WIFI INFO
  - WIFI NOME
  - WIFI AP MODE
  - CERTIFICATES RESET
  - CHECK FOR UPDATES

Factory-set default value	Minimum value	Maximum value	Notes
FUNCTION ACTIVE	FUNCTION NOT ACTIVE	FUNCTION ACTIVE	
	ENGLISH/ENGLISH/.....		
5 min	1 min	15 min	
0	0	1	USER only if instantaneous boiler and storage tank with sensor

2.7a Setting the operating mode

On the PLANT screen, press ✓ and access MENU



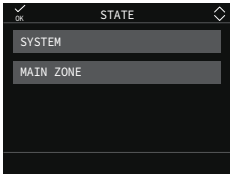


Select

└CONFIGURATION

└STATE

Set the SYSTEM and MAIN ZONE parameters according to usage.



NOTE:

MAIN ZONE is only visible in this menu if the zone is managed by a room thermostat.

SYSTEM

To select the operating mode

OFF	HEAT OFF
HOT WATER ONLY	Domestic hot water production and COOLING if ENABLE COOLING parameter is enabled. Heating is not active.
HEATING AND HOT WATER	Domestic hot water production and heating

MAIN ZONE

On selecting this function, you can set the status of the main zone by selecting one of the following options:

A) If time programming is not enabled

ZONE ON	Zone requests are met.
HEAT OFF	Zone requests are not met.

B) If time programming is enabled, the menu shows

AUTO	Zone requests are met according to TIME SCHEDULE
MANUAL	Zone requests are always met.
HEAT OFF	Zone requests are not met.

└STATE

├SYSTEM

└MAIN ZONE

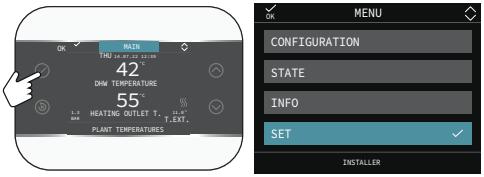
Factory-set default value	Minimum value	Maximum value	Access level
OFF	OFF / HOT WATER ONLY / HEATING AND HOT WATER		USER
AUTO ZONE ON	AUTO / MANUAL / HEAT OFF (if POR=0) ZONE ON / HEAT OFF (if POR=1)		USER

2.8a INFO

See paragraph "8. INFO" pag. 29.

2.9a Setting the setpoints

On the PLANT screen, press ✓ and access MENU

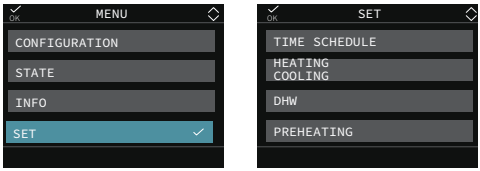


Select

└MENU

└SET

to modify the setpoint of TIME SCHEDULE, HEATING/COOLING (se attivato), DHW, PREHEATING, ENERGY FARES MANAGEMENT, EMISSION FACTORS and MODE SELECTION.



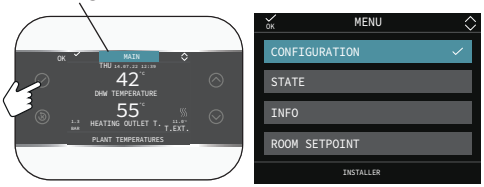
If thermoregulation is not active, and REQUEST TYPE MANAGE DISPLAY / RF, the heating or cooling delivery setpoint can be set as follows:

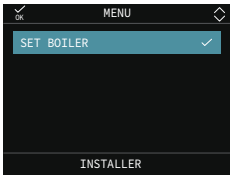
Select

└MENU

└SET FLOW

or ZONE .....



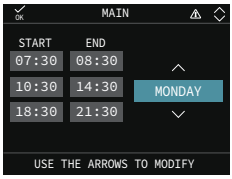


TIME PROGRAMMING

The parameter allows modification of the MAIN schedule (heating). It is possible to set a time schedule for both heating and cooling functions.

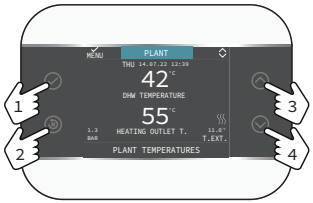
⚠ The heating schedule is available if the installer has set the parameter POR = 1.

Up to 4 slots can be set, with a start time and an end time, on each day of the week.



Two time programmes are available with the heat pump: one for Winter and one for Summer. Select the desired season (HOT WATER ONLY or HEATING AND HOT WATER) from MENU/STATE/SYSTEM.

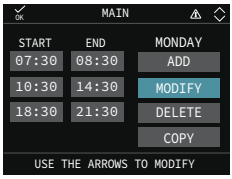
Using the main buttons:



✓	Confirm
⊘	Cancel. Return to main screen (press > 2 sec.)
∧	Scroll up
∨	Scroll down

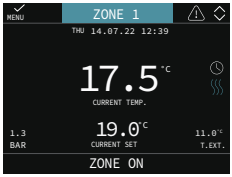
Navigate to the TIME SCHEDULE menu and set up the time slots. The following options are available

ADD	To add a new time slot to the selected day.
MODIFY	To change an existing time slot in the selected day.
DELETE	To delete an existing time slot in the selected day.
COPY	To replicate the time programming of the selected day to other days.

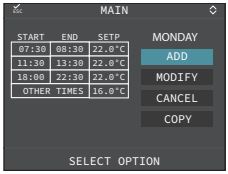


Example

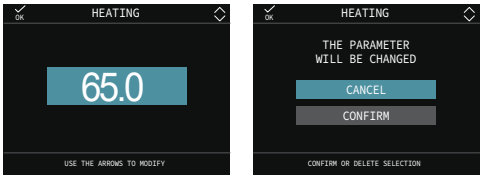
The main zone is set to a time programme and heating is on - active time slot.



It is also possible to set the T300-Hy as a room controller. In this mode, if POR = 1, in addition to setting the start and end times for each time slot (up to a maximum of 4 slots per day), it is also possible to configure a room temperature setpoint (SETP).

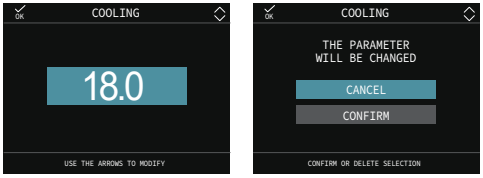


HEATING



If an external sensor is installed, the delivery temperature is automatically selected by the system based on the thermoregulation curve set in the dedicated parameter, which rapidly adjusts the ambient temperature as the outdoor temperature changes. If you wish to increase or decrease the temperature calculated automatically by the electronic board, change the HEATING setpoint to a value within the desired comfort range (-5 ÷ +5).

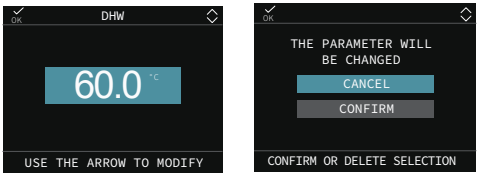
COOLING (if heat pump configured)



If cooling thermoregulation is active and an external sensor is present, the delivery temperature is automatically selected by the system based on the set curve, which rapidly adjusts the ambient temperature as the outdoor temperature changes.
If you wish to increase or decrease the temperature calculated automatically by the electronic board, change the COOLING setpoint to a value within the desired comfort range (-5 ÷ +5).

DHW

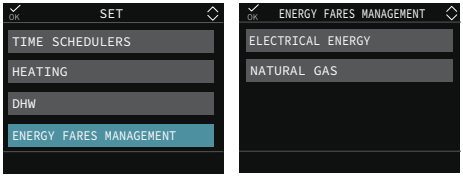
The parameter refers to the instantaneous domestic hot water temperature at the boiler outlet.



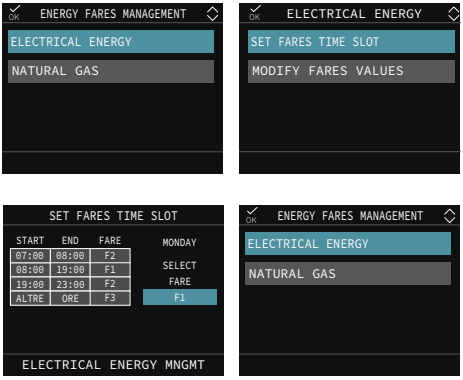
PREHEATING

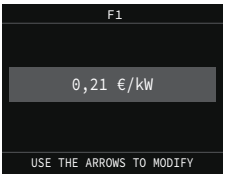
This function allows the water contained in the domestic hot water exchanger to be kept warm in order to reduce waiting times during use. When the pre-heating function is enabled, the P symbol is lit steady above the DHW icon. During the ignition of the burner following a pre-heating request, the P symbol starts flashing.
PREHEATING function is accessed by selecting SET on the T300-Hy main screen.
Setting the parameter to PREHEATING = 1 activates the boiler's DHW pre-heating function. To deactivate the function, set parameter PREHEATING = 0 again, the P symbol will turn off.
The function is not active with BOILER IN OFF MODE.

ENERGY FARES MANAGEMENT (only if HEATING STRATEGY = COST OPTIMIZATION)



To maximize system efficiency, it is possible to customize the energy cost based on your supply contract. You can assign up to 3 price bands for each type of supply (3 for electricity – 3 for natural gas).
The bands can be distributed across the 7 days of the week (MON – TUE – WED – THU – FRI – SAT – SUN).



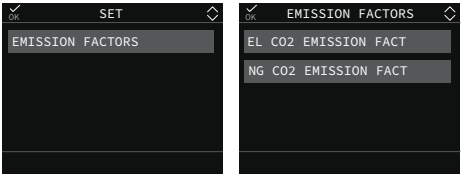


EMISSION FACTORS (only if HEATING STRATEGY = LOWEST CO_2 EMISSIONS)

This parameter allows modification of the CO_2 emission values for energy sources: gas and electricity.

- EFgas: CO_2 emission factor for gas [tonCO2/TJ];
- EFee: CO_2 emission factor for electricity [gCO_2/kWh].

The value of Tsp, HP (heat pump supply setpoint) is calculated to minimize total CO_2 emissions.



MODE SELECTION

This parameter allows the user to set the operating mode of the heat pump.

	Description
0 (default)	Normal
1	Silent mode
2	Super silent mode

	Factory-set default value	Minimum value	Maximum value	Access level
SET				
TIME SCHEDULE				USER: direct display in MAIN
HEATING	80.5 (HT) 45.0 (LT)	MIN CH SET	MAX CH SET	USER
SANITARIO	60.0°C	MIN SETPOINT DHW	MAX SETPOINT DHW	USER
COOLING	18.0°C	5.0°C	22.0°C	USER: if COOLING enabled
PREHEATING	0	0	3	USER
ENERGY FARES MANAGEMENT				USER (visible only if HEATING STRATEGY = 0)
ELECTRICAL ENERGY				USER (visible only if HEATING STRATEGY = 0)
SET FARES TIME SLOT				USER (visible only if HEATING STRATEGY = 0)
MODIFY FARES VALUES				USER (visible only if HEATING STRATEGY = 0)
F1	0,25 €/kWh	0,01 €/kWh	9,99 €/kWh	
F2	0,25 €/kWh	0,01 €/kWh	9,99 €/kWh	
F3	0,25 €/kWh	0,01 €/kWh	9,99 €/kWh	
NATURAL GAS				USER (visible only if HEATING STRATEGY = 0)
SET FARES TIME SLOT				USER (visible only if HEATING STRATEGY = 0)
MODIFY FARES VALUES				USER (visible only if HEATING STRATEGY = 0)
F1	0,80 €/smc	0,01 €/smc	9,99 €/smc	
F2	0,80 €/smc	0,01 €/smc	9,99 €/smc	
F3	0,80 €/smc	0,01 €/smc	9,99 €/smc	
EMISSION FACTORS				USER (visible only if HEATING STRATEGY = 1)
EL CO2 EMISSION FACT	239,9 g/kWh	0,1 g/kWh	999,9 g/kWh	USER (visible only if HEATING STRATEGY = 1)
NG CO2 EMISSION FACT	58,91 t/Tj	0,01 t/Tj	99,99 t/Tj	USER (visible only if HEATING STRATEGY = 1)
MODE SELECTION	0	0	2	USER

2.10a Faults

In the event of an anomaly, the T300-Hy display shows a screen featuring the symbol ⚠.

Press the ⌃ button until the ⚠ symbol is highlighted to access the anomaly description screen.

Unlock function

Some anomalies can be reset using the ⊗ button; others are permanent.

⚠ If the error is not resettable or if the unlock attempts do not reactivate the operation, contact the authorised service centre.

Up to a maximum of 5 consecutive unlocking attempts are possible from T300-Hy, after which operation can be restored by switching the electric power supply off and back on again.

2.11a Switch-off

If you are away (e.g. for the weekend or a short trip), set the system status to HEAT OFF by selecting STATE, SYSTEM in the main menu and then OFF. With the electric power supply remaining active, the system is protected by the anti-freeze systems.
If you are away for a long period, the following operations are recommended:

- Set the system status to HEAT OFF by selecting STATE, SYSTEM, OFF in the main menu.
- Set the system's power switch to “HEAT OFF”.
- Shut off the water cocks of the heating and DHW system.

In this case, the antifreeze and anti-block systems are disabled.

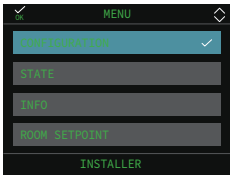
Have a qualified technician drain the heating and DHW system if there is a risk of frost.

2.12a Using T300-Hy as ambient controller

AMBIENT CONTROLLER = MACHINE INTERFACE + ambient temperature control and time programming

In addition to the machine interface functions described above, the T300-Hy controls the ambient temperature and time programming.
Depending on the operating status set by the installer, the T300-Hy will generate a HEATING request if the detected ambient temperature is lower than the desired ambient temperature (HEATING AND HOT WATER) or a COOLING request if enabled and if the detected ambient temperature is higher than the desired ambient temperature (HOT WATER ONLY).
In AMBIENT CONTROLLER mode, the main screen displays information related to the zone. Use the ⌃ and ⌄ buttons to move from one screen to another.

On the MAIN screen, press ✓ to access MENU; the following parameters can be set:
CONFIGURATION
STATE
INFO
ROOM SETPOINT



CONFIGURATION

In CONFIGURATION function, you can access SET BOILER configuration (only if the system is working with a fixed setpoint), SETTINGS and TIME SCHEDULE.

STATE

To set the status of functions DHW (DHW BOOST) and MAIN ZONE (AUTO, MANUAL, HEAT OFF)

- AUTO: ambient temperature control follows the set weekly time programme;
- MANUAL: zone control is always active (24h);
- HEAT OFF: a heating request is never activated for the zone, but a minimum ambient temperature of 8°C is guaranteed.

INFO

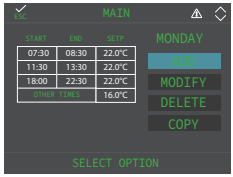
This page shows the values of the system inputs or other calculated quantities (such as the heating setpoint calculated based on the set climatic curves). The displayed values are refreshed every 5 seconds.

ROOM SETPOINT

ROOM SETPOINT control is activated by selecting COMFORT MODE. This mode allows you to set an ambient temperature value for a given time period, after which the mode returns to that previously set.

2.13a Time programming T300-Hy set as ambient controller

Time programming follows the same rules as those previously described in paragraph "2.9a Setting the setpoints" pag. 35, but in this mode, in addition to setting the start and end times for each time slot, it also includes the setting of an ambient temperature setpoint (SETP).
Up to 4 slots can be set, with a start time and an end time, on each day of the week.



NOTE

If the zone is controlled by a room sensor, the same settings as MANAGE DISPLAY can be set in the screen of the relevant zone..

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