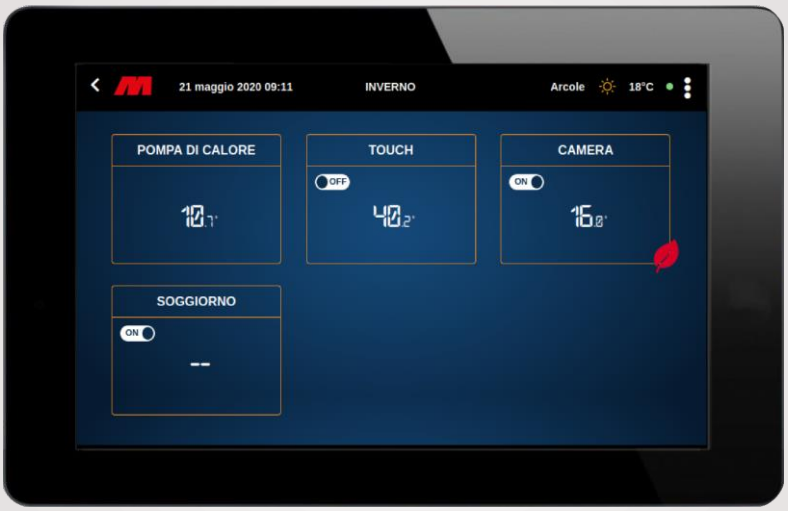
MAXA AIR CONDITIONING

V.415

Multifunction touch screen control unit

Controller manual



MULTIFUNCTION TOUCH SCREEN CONTROL UNIT

Rev	Data	Redacted	Checked	Approved	Description Updates
00	05-2020	M.S.	D.M.	A.B.	

Catalogo / Catalogue / Katalog / Catalogue	Serie / Series / Serie / Serie / Série
MUI01100120001.00	**MULTIFUNCTION TOUCH SCREEN CONTROL**

The electrical and electronic products and any waste should not be disposed of with normal household waste, but disposed of according to WEEE law in accordance with the directive 2012/19/EU, inquiring thereof at the place of residence or with the retailer in the case where the product is replaced with a similar one.

INDEX

MULTIFUNCTION TOUCH SCREEN CONTROL UNIT

NOTES

1.1 WARNINGS

Read carefully the instructions contained in the next document because they provide important information about the safety of the installation, use and maintenance.
Every operation must be executed carefully, in compliance with the current workplace safety standards. After removing the packaging, make sure about the integrity and the entirety of the content. It is forbidden to disperse or leave within the reach of children the packaging material, in as much it can be potentially source of danger.
It is forbidden to modify the security or regulation devices without authorization and indications of the product builder. Do not modify the appliance because dangerous situations could be created, and the builder will not be responsable for any damage caused. Do not allow the product to get wet and do not install the device in environments where condensation may form. The product should be used and stored in environments that meet the temperature and humidity limits specified in this manual, values outside the limits may damage the device.
Separate as possible the signal wires from power cables to avoid possible electromagnetic interference.
The execution of all works must be carried out by professional and qualified, competent in current norms of the nation where the installation is made.

Repair or maintenance work must be done by the Technical Assistance Service or by qualified personnel in accordance with this booklet. The company excludes all contractual and extra-contractual liability for damage caused to people, animals or things, from installation, adjustment and maintenance errors, from improper use or from a partial or superficial reading of the information contained in this manual. Any other use than that permitted is prohibited.

1.2 CONSERVATION OF THE MANUAL

The manual must be always kept for future reference. It must be stored in a safe place, away from dusts and moisture. It must be also available and accessible to all users who shall consult it any time they are in doubt on how to operate the equipment.
The company reserves the right to modify its products and related manuals without necessarily updating previous versions of the reference material. It also declines any responsibility for possible inaccuracies in the manual if due to printing or transcription errors.
The customer must keep any updated copy of the manual or parts of it delivered by the manufacturer as an attachment to this manual.
Any updates sent to the customer must be kept attached to this manual.

1.3 NORMATIVE REFERENCES

The units have been designed in accordance with the following directives and harmonised standards:

- EU Directives 2014/35/UE, 2014/30/EU, 2011/65/EU, 2012/19/EU
- EN standards 60730-1, EN 50581

1.4 COMMISSIONING

Referring to the directive 2012/19/UE of European parliament and the council of 4 July 2012 and the relating to national implementing regulations, we inform the costumer that:
- there is an obligation not to dispose of WEEE as municipal waste and to collect such waste separately.
- public or private collection systems provided for by local laws must be used for disposal. It is also possible to return the equipment to the distributor at the end of its life in case of purchase of a new one.

- This equipment may contain hazardous substances: improper use or disposal could have adverse effects on human health and the environment.

- The symbol (crossed-out wheeled bin) on the product or on the packaging and on the instruction, sheet indicates that the equipment was placed on the market after August 13, 2005 and must be collected separately.

- In the event of abusive disposal of electrical and electronic waste, penalties are established by the local regulations in force regarding disposal.

2 TECHNICAL DATA

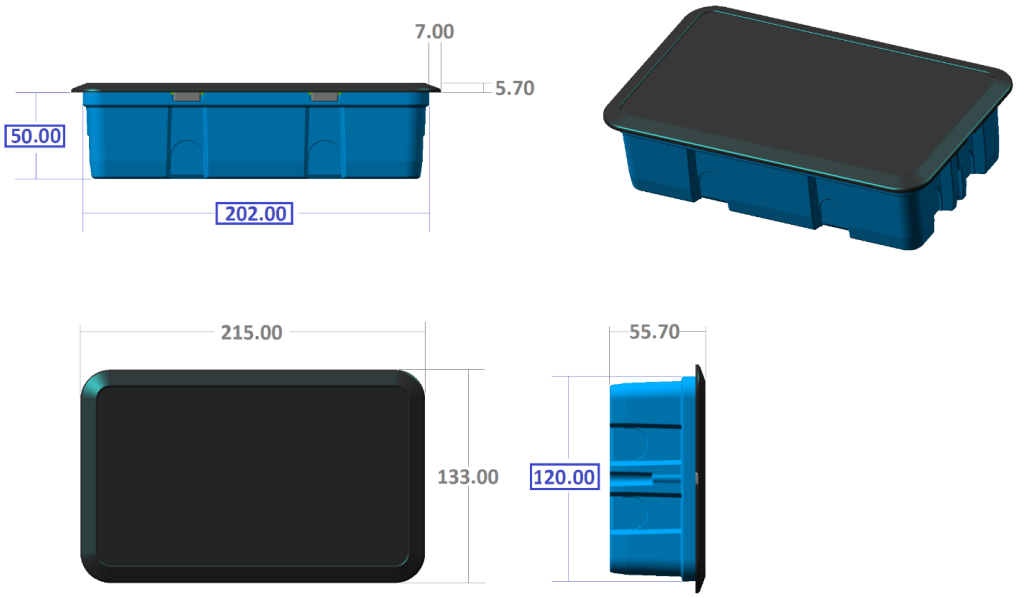
The 7-Touch is a compact system composed by ultra-thin touch panel, including temperature control unit and gateway for remote control from PC, the portal "my.maxa.it", and smartphone, through the app downloadable from online stores "My Maxa". It allows winter and summer climate regulation having control to the heat pump, the radiant system or the fan coil. The option to use more addressable sensors MTH enable to manage up to 20 climate zones. The user can set setpoint values and time schedules for each zone and networked units.

Features	Usual	Min.	Max.
Power supply storage	24Vdc	20Vdc	28Vdc
Absorbed power	630mA		
Usual operation environment temperature	25°C	-10°C	50°C
Ambient operating humidity (non-condensing)	45%	10%	90%
Storage room temperature	25°C	-20°C	50°C
Humidity storage room temperature (no condensate)	30%	10%	90%
Device class (*REG UE 2013-811)*	Class VIII		
Isolating class (protection from electric shock)	20		
Temperature control contribution to seasonal energy efficiency of room heating. (REG UE 2013-811)	5%		

2.1 ELECTROMACHINES FEATURES

Display	Multitouch screen capacitive
Resolution	800X480 px a 60 fps
Colour	RGB a 245 bit
Ethernet interface	802.11 b/g/n a 2.4 GHz
Wi-Fi interface	6 channels 2.4 GHz
Digital Inputs	4 channels (range 0 … 5V), 12bit
Serial input	RS485/Modbus Master
USB interface	2 host ports (Type-A)
Sensors interface	Temperature sensors 1WR
Real time Clock	Integrated battery, keep data and hour for 4h power alimentation

2.2 DIMENSIONS



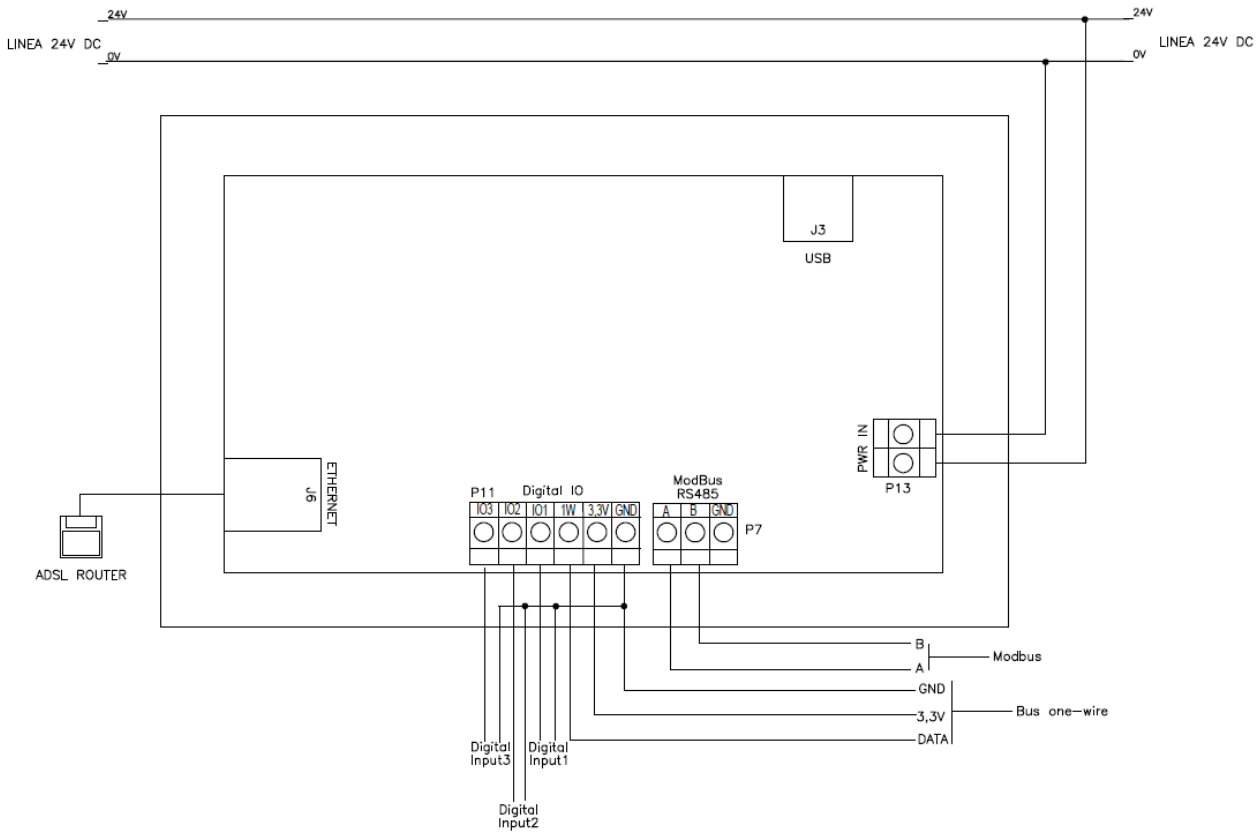
MULTIFUNCTION TOUCH SCREEN CONTROL UNIT

3 INSTALLATION

3.1 MOUNTING

The control unit is supplied with the proper flush mounting housing. This structure should be properly placed in the wall and is equipped with passage caps for the switchover of electrical and communication arrangements.
Make electrical connections before inserting the 7-Touch into the wire-wall housing.

3.2 CONNECTIONS

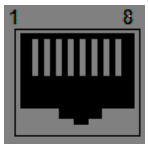


3.3 POWER SUPPLY ALIMENTATION

The power supply must be connected to the "PWR IN 24V" terminals. The supply voltage must be 24Vdc; respect the indicated polarity.

3.4 ETHERNET CONNECTION

The device has a connector RJ45 on the frontal side “Ethernet”, J6. Here it is connected an Ethernet CAT5 connected to a switch or a LAN router.



3.5 DIGITAL INPUT CONNECTION

The device has "Digital IO 2" (P11) terminals to connect the 1-Wire sensor bus.

P11	
1	Input 6
2	1-Wire bus
3	3.3V for 1-wire
4	GND

3.6 CONNECTIONS

My Maxa system provides the possibility to manage the control unit remotely, via the web portal and Smartphone app using the Cloud service. To allow the control unit to connect to its Cloud service, the following requirements must be met in the user's network:

- Connection to the LAN network via ethernet cable (alternatively, connection to the WiFi network)
- Connection of the LAN to the Internet (via ADSL router, fiber, mobile network)
- Automatic assignment of the IP address from a DHCP server on the LAN
- Outgoing enabled connection to the following Cloud server porters:
    - 443 and 8883 (for remote user control)
    - 655, 2000 and 8000 (for remote assistance)

Most home routers meet these requirements, with factory settings. In this case no special router configuration is required.

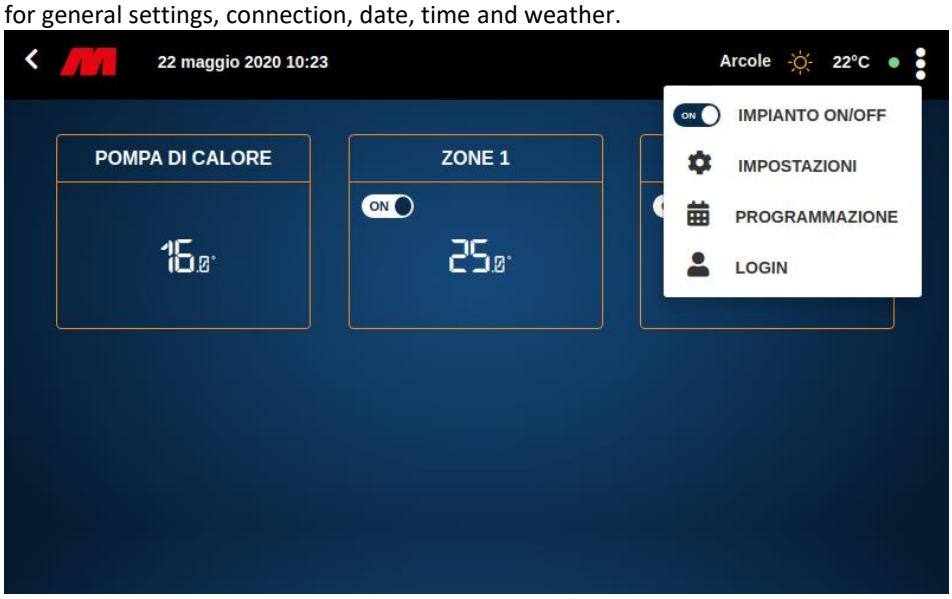
3.7 PLANT REGISTRATION

Once the system has been configured (Maxa setup, chap. MAXASETUP), a unique control unit code (UUID) will be displayed. This code allows you to register the control unit on the “my.maxa.it” portal, in order to send the data on the Internet and access it via the My Maxa app from your smartphone or any web browser.
To register the control unit on the portal, you must first register as a user, request an installer level changeover to **support@advantixspa.it**, wait for the confirmation response and re-log in to the portal. Press the "Plants" button, then on "New plant", where you will be asked to enter the name and UUID.

4 USER INTERFACE

4.1 PAGE BAR

This bar displays icons for general settings, connection, date, time and weather.



4.1.1 TIME PROGRAMMING

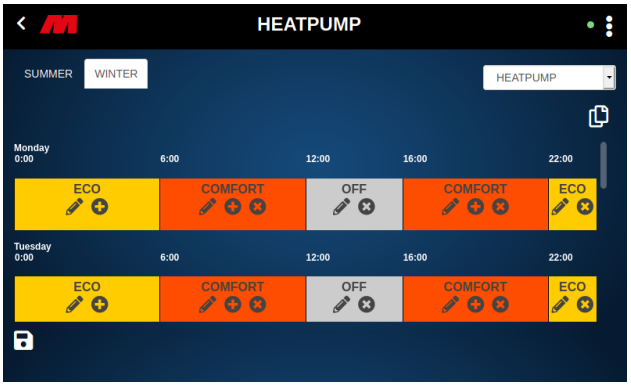
To access to time programming press on the icons ⋮, then on “Programming”.
The available programming is:

- Heat pump programming
- Sanitary programming
- Anti-legionella programming
- Climatic zone programming

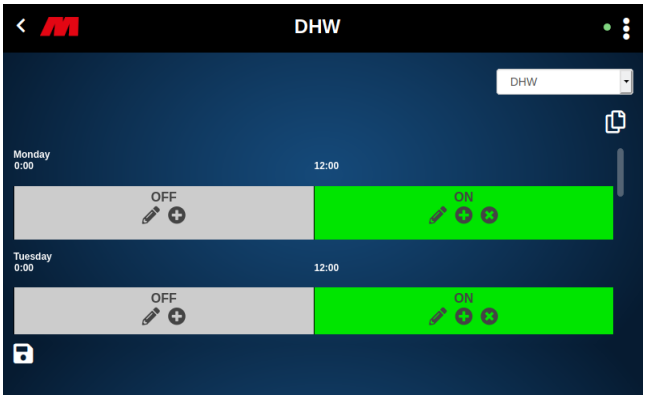
4.1.1.1 HEAT PUMP/ SANITARY/ ANTI-LEGIONELLA PROGRAMMING

This function is disabled pressing on “PROGRAM” from heat pump page (refer to paragraph 4.4). There are four unique chrono-programs for all PDCs on the network:

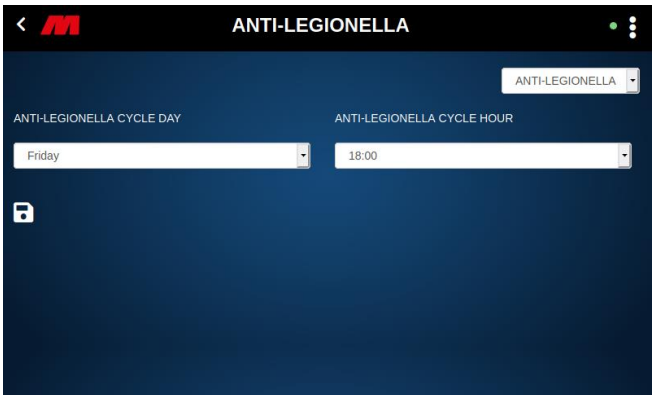
MULTIFUNCTION TOUCH SCREEN CONTROL UNIT



- **Summer** (Bands: Off, Comfort, Economy)
- **Winter** (Bands: Off, Comfort, Economy)



- **Sanitary** (Bands: Off, On), works only if PDC is set up.

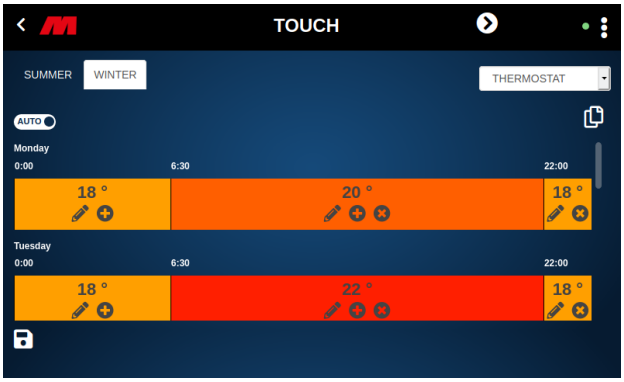


- **Anti-legionella** only works if PDC is set up. The unit must necessarily be in one of the following states: COOL + SAN or HEAT + SAN or ONLY SAN. The parameters "anti-legionella cycle day" and "anti-legionella cycle time" must be set. In case of a failed cycle, an alarm E061 appears.

Once logged in to the time programming, set point temperature for the different for the time bands of every day of the week is displayed, configurable separately for each controlled area:

- Press on to modify the set point value.
- Press on to add an hour band.
- Press on to delete the hour band.
- scroll with your finger the separation line between two successive time bands to change the time that marks the passage from one band to the next.
- Press on to save the changes made.
- Press the arrows to switch to time programming for other zones, or up to return to the Home screen.

4.1.1.2 CLIMATE ZONES PROGRAMMING



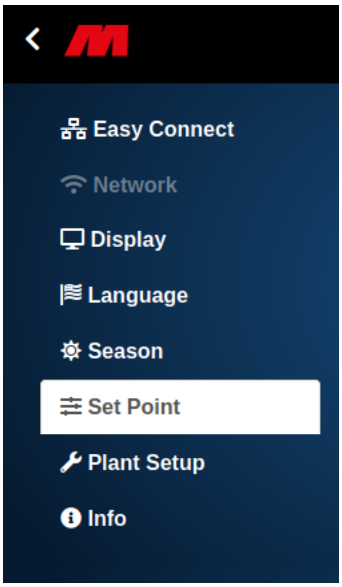
Four our unique chrono-programming for all PDCs on the network:

- Summer (Bands: Off, Comfort, Economy)
- Winter (Bands: Off, Comfort, Economy)
- Once logged in to the time programming, set point temperature for the different for the time bands of every day of the week is displayed, configurable separately for each controlled area:
- Press on to modify the set point value.
- Press on to add an hour band.
- Press on to delete the hour band.
- Scroll with your finger the separation line between two successive time bands to change the time that marks the passage from one band to the next.
- Pres on to save the changes made.
- Press the arrows to switch to time programming for other zones, or up to return to the Home screen.

4.1.2 ON/OFF INSTALLATION

To log in to the ON/OFF installation press in the icon , and then “ON/OFF installation”.
With this function it will be possible to turn off or log in al the areas and heat pumps of the unit.

4.1.3 SETTINGS



Log in to the setting pressing on , then “Settings”, to set up all the aspects regarding control features the control panel.

- **EASY CONNECT**

With this function the user can associate his smartphone (Android or iOS) to a system, through the control unit with a simple click.
The procedure is the following:

- Connect smartphone and base station to the same network
- From 7Touch go to "Settings" -> “Easy Connect”
- From the app, press the "find control unit" button, the button will appear

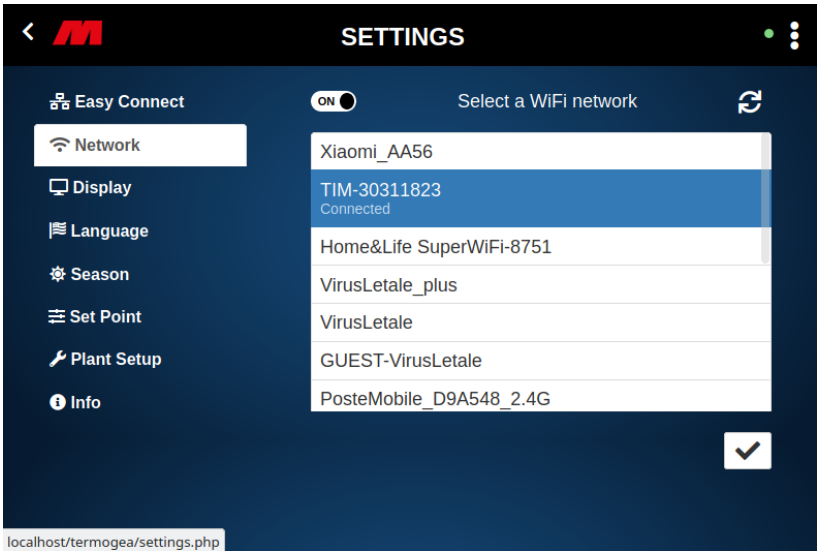
MULTIFUNCTION TOUCH SCREEN CONTROL UNIT

- From the control unit, press and hold the button, simultaneously press the same button on the app.

If the operation is successful, it will be displayed by the newly assigned system.
This procedure can also be performed without logging in to the application, with the difference that the system will only be displayed locally, and the data will not be recorded on the portal

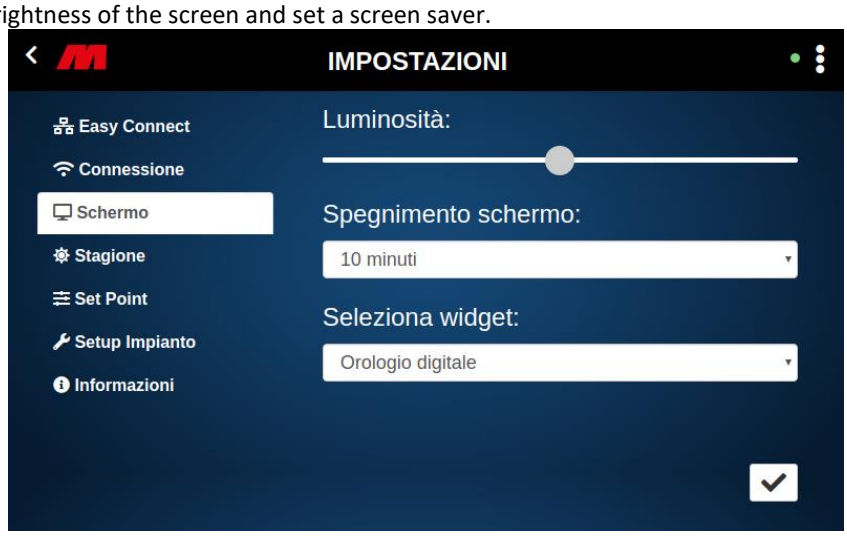
- **NETWORK**

It's possible to select a WiFi network.



- **SCREEN**

Is possible to modify the brightness of the screen and set a screen saver.



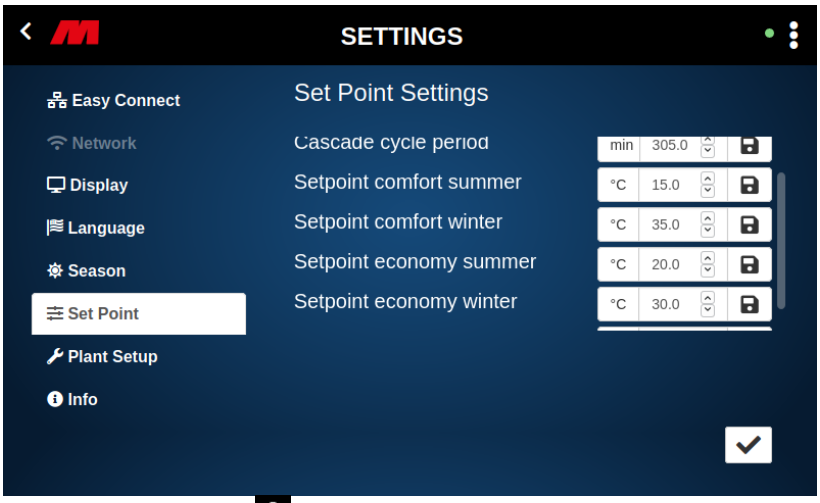
- **LANGUAGE**

It is possible to select between English and Italian.

- **SEASON**

It's possible to select Winter or Summer mode.

- **SET POINT SETTINGS**



The set point menu is accessed by pressing the icon , then press "Setpoint".
It is accessed to the setting of the comfort and economy setpoints, and the operation of the waterfall. It is possible to enable the cascade of the PDCs, to manage the start and shutdown of the PDCs not simultaneously, but in asynchronous mode, setting the setpoints with the addition of offset. If the offset temperature of the cascade is > 0, then the cascade is enabled. The following parameters can be set:

Parameter name	Minimum	Maximum	Unit measure
Temperature offset cascade	0	10	°C
Cascade cycle period	0	800	minutes
Summer setpoint comfort	5	23	°C
Winter setpoint comfort	25	55	°C
Setpoint economy estate	5	23	°C
Winter Setpoint economy	25	55	°C
Sanitary Setpoint	25	55	°C

- **INFORMATIONS**

Show touch version information of touch and thermoregulation firmware.

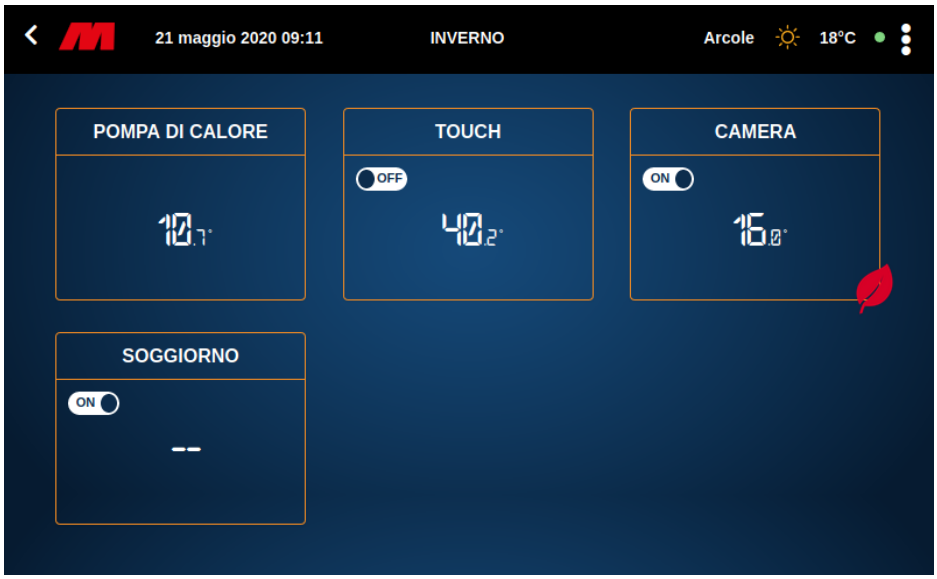
4.1.4 LOGIN

It is possible to access the login page pressing the icon , and then “Login”.
The access levels are the following:

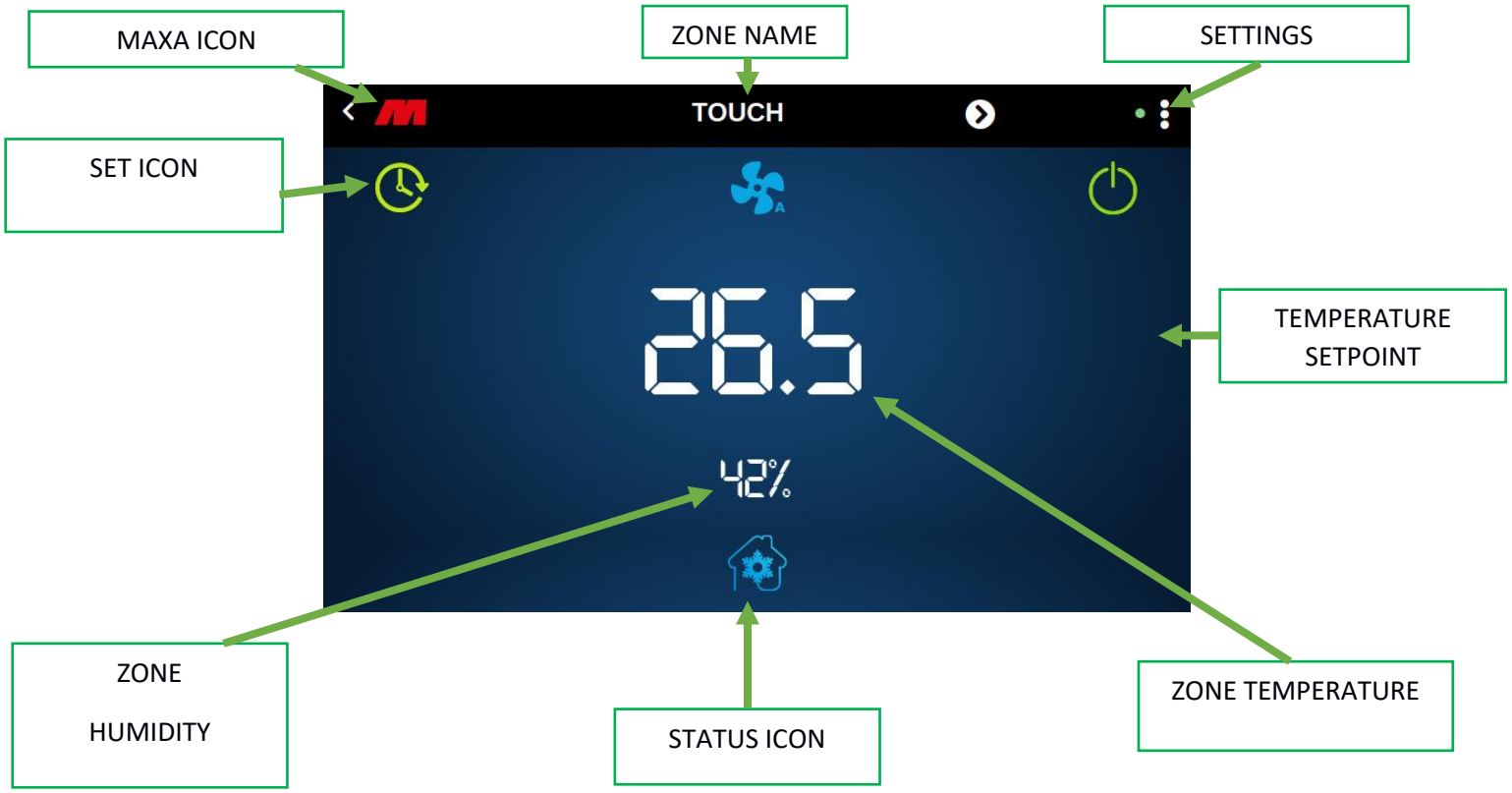
MULTIFUNCTION TOUCH SCREEN CONTROL UNIT

1 – Maintainer /Installer
2 – OEM
3 – post-sales
4 - admin

4.2 MAIN PAGE



In this page are displayed the configured zones in the control unit and the heat pump. On the first rectangle there is the discharge probe e the eventual alarm status.
Clicking on this rectangle, will be displayed the page “synoptic”. If no zone is present zone, the first page displayed, the first page displayed after the ignition will be directly the page “synoptic”.
In the other boxes are displayed the probes assigned to each zone. It is possible, clicking on the button “ON-OFF” present in every box, enable or disable the zone.
Clicking in each box it is possible to access to the set point thermoregulation and the ventilation of the climate zone.



To make appear the temperature set point () it is necessary to press in a free space on this page. It regulates pressing on + and – symbols.

4.2.1 ZONE NAME

On first start all the climatic zones configured by the installer have the generic name “Zone 1” … “Zone n” with “n” the number of the last zone.
You can change the name of each zone by clicking on the name. A popup will open in which you can choose the name of the zone. At the end of the compilation press "OK" to save or "Cancel" to cancel.

4.2.2 CONFIGURATION ICONS

Under the zone name are the configuration icons, which allow the user to modify and configure the operation of the system.

- **Operation mode**

ICON	Description
	Automatic mode: the time programming of the temperature is active; the set point value of the zone temperature is set automatically according to what defined in the Time Programming.
	Manual mode: the set point value of the zone temperature is set by the user; no time programming is active.
	Temporary Manual Mode: the set point of the zone temperature is modified by the user contrary to the time programming set, but at the end of programming period return to automatic mode. This mode activates every time the set point value of the climatic zone is activated while is in automatic mode.

- **Switching on and off zone**

ICON	Description
	Status On: normal zone operation
	Status Off: the zone is disabled

- **Fan coil speed**

ICON	Description
	Indicates the fan coil has automatic speed. Pressing it changes to the first speed.
	Indicates the fan coil has speed 1. Pressing it changes to the second speed.
	Indicates the fan coil has speed 2. Pressing it changes to the third speed.
	Indicates the fan coil has speed 3. Pressing it changes to the automatic speed.

- **Energy efficiency level the fan**

This icon enables to highlight the best and worst energy levels zone comparing the different areas of the house.
The leaf icon can take on three colors as shown below:

ICON	Description
	Indicates the house zones with the most energy efficiency areas of the house
	Indicates the house zones with intermediate energy efficiency areas of the house

	Indicates the house zones with the lower energy efficiency

- **Status icons**

Status icons indicate the actual installation operation of the air conditioning system and inform the user about what the system is doing at that time.

ICON	Description
	Dehumidification is active
	The air conditioning of the zone is active in cooling mode
	The air conditioning of the zone is active in heating mode
	Mechanical ventilation is active.

4.3 SYNOPTIC PAGE

The image above shows the image with all configurations enabled. The configurations are enabled by configuring the corresponding probes on the heat pump.

1 – Heat pump: in this zone is displayed the pump in different models. During the configuration phase, the assignment of the unit type will be expected.

2 – Heat pump status: in this zone is displayed the operating season and if is enabled the sanitary mode. In case of alarm the symbol  is enabled. Pressing on this symbol it is possible to access to the heating pump alarms page.

3 – Solar: solar panel temperature

4 – Tank: remote system installation temperature

5 – San Tank: Sanitary storage temperature

6 – Solar Tank: Solar tank temperature

7 – SAN: ACS recirculation temperature and level with shower

8 – Floor: Radiant panels mixing temperature and relative level.

9 – Assigned zone: Zone probe temperature. Pressing above displays the other zone temperatures in sequence.

10 – Outlet: PDC water outlet probe temperature and level.

4.4 HEAT PUMP PAGE

Pressing above the pump image it is possible to access on the screen where the first heat pump is displayed, with the possibility to scroll to the following ones. The PDCs are sorted by Modbus ID and the first one has the minor ID.
The IDs that can be set for PDCs range from 61 to 67 (the maximum number of PDCs in cascade is 7). As for the zones, you can rename the PDCs on the network by clicking on the name "Chiller 1".
In this page temperatures are displayed:

- External
- Water inlet
- Water outlet

Are also present:

- Replication of led on board machine
- Access to the area where all current values, alarms and parameters are present depending on the user level.
- Press on the unit to display the page with the probe data (read-only-values).
- Press the settings button ( ) to access to the parameters' area.
- Press the alarms symbol ( ) to see active alarms page.

4.5 REPLICA OF LEDS ON BOARD MACHINE

	Cooling
	Heating
	Circulator
	Alarm
	Defrost
	Compressor
	ACS
	Electrical Heater

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4.5 DATA PAGE

To access on this page, press the symbol . The following probes are displayed:

Probe name	Visibility level
External air	USER
Water inlet	USER
Water outlet	USER
Sanitary	USER
High pressure	INSTALLER
Low Pressure	INSTALLER
Pump	INSTALLER
Fan	INSTALLER

If present a second circuit, even the probes of the second circuit are displayed.

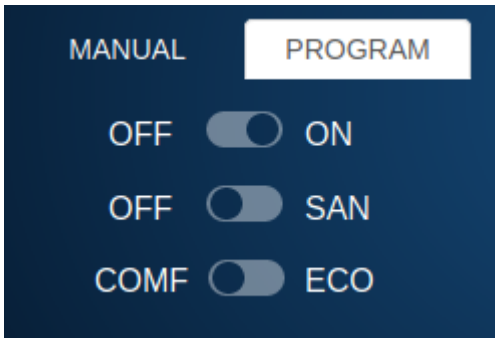
4.6 ALARMS PAGE

To access to the pump active alarms, press the symbol . If a second circuit is present, even the alarms of the second circuit are displayed.

4.7 PARAMETERS PAGE

It is possible to access this page pressing the symbol .

4.8 MANUAL/PROGRAMMED OPERATION



The User can choose:

- On/Off switching all PDCs in the network: **ON/OFF**
- Enabling or disabling sanitary hot water production: **OFF/SAN**. Sanitary hot water production is selectable only if the pump is enabled.
- Reference to the first and second setpoint (Comfort, Eco): **COMF/ECO**

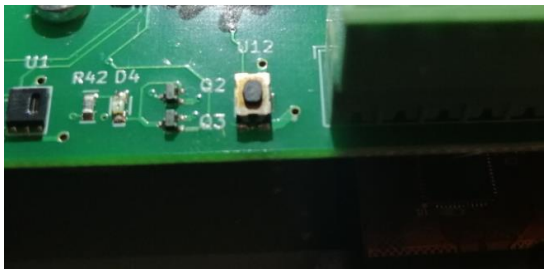
4.8.1 Programmed operation

The unit works according to programmed operation on the Chrono thermostat menu (ref. Paragraph 3.1.1).

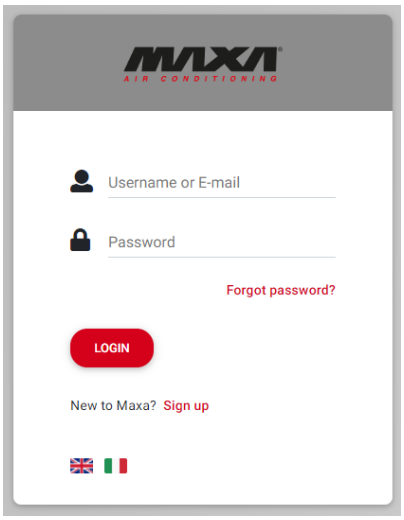
4.9 MAXASETUP

MaxaSetup is a tool with which it is possible to configure the control unit and perform the first test of the installed system through a series of tools such as diagnostics, probe and relay reading and parameter setting. No software installation is required to use MaxaSetup as it runs directly on the control unit; access can be made in two ways:

1. Directly from the 7-Touch display
2. From the computer browser by connecting it to the control unit via an ethernet cable. After the connection is made, you need to hold down the U12 key for 5 seconds. Turn off Wi-Fi if you are unable to establish a wired connection. Enter **http://my.maxa.eth** in your web browser.

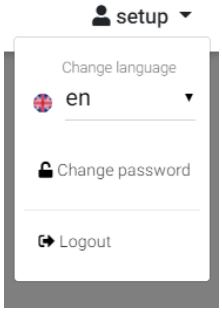


3. From "**my.maxa.it**" portal using the MaxaSetup button if access has been made with installer credentials. To obtain access credentials, you must send a request to **support@advantixspa.it**, communicating the user name chosen at the time of registration.

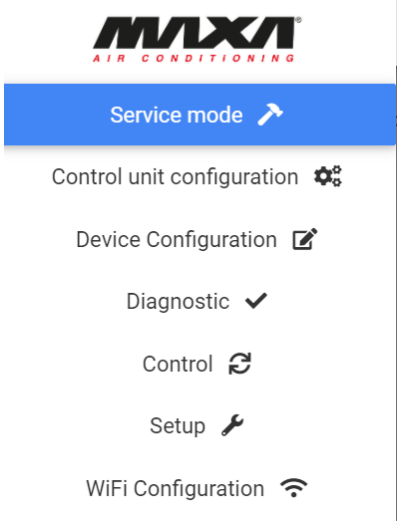


The default address is with the following credentials:
Username: setup
Password: setup

After the first access it is recommended to change the password through the drop-down menu in the top right corner.

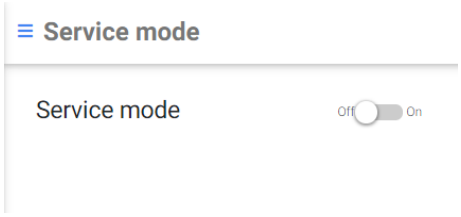


You have access to the following menu:



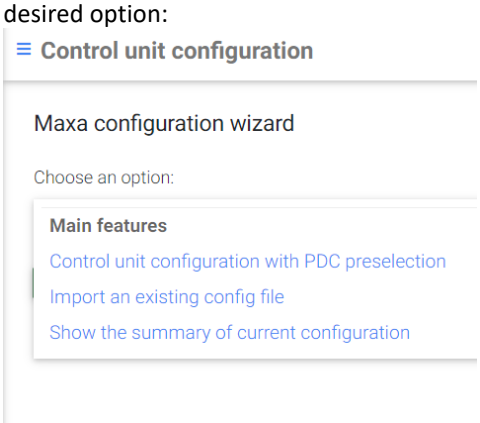
4.9.1 SERVICE MODE

Only for systems where Zone thermoregulation is present.
The service mode is used to disable temperature control during the test operation. During the test operation this mode must always be activated to avoid that the logic of the thermoregulation interferes with the tests.
Once the test has been completed, it is important to deactivate this mode and restart the control unit.



4.9.2 CONTROL UNIT CONFIGURATION

Using a drop-down menu you can select the desired option:

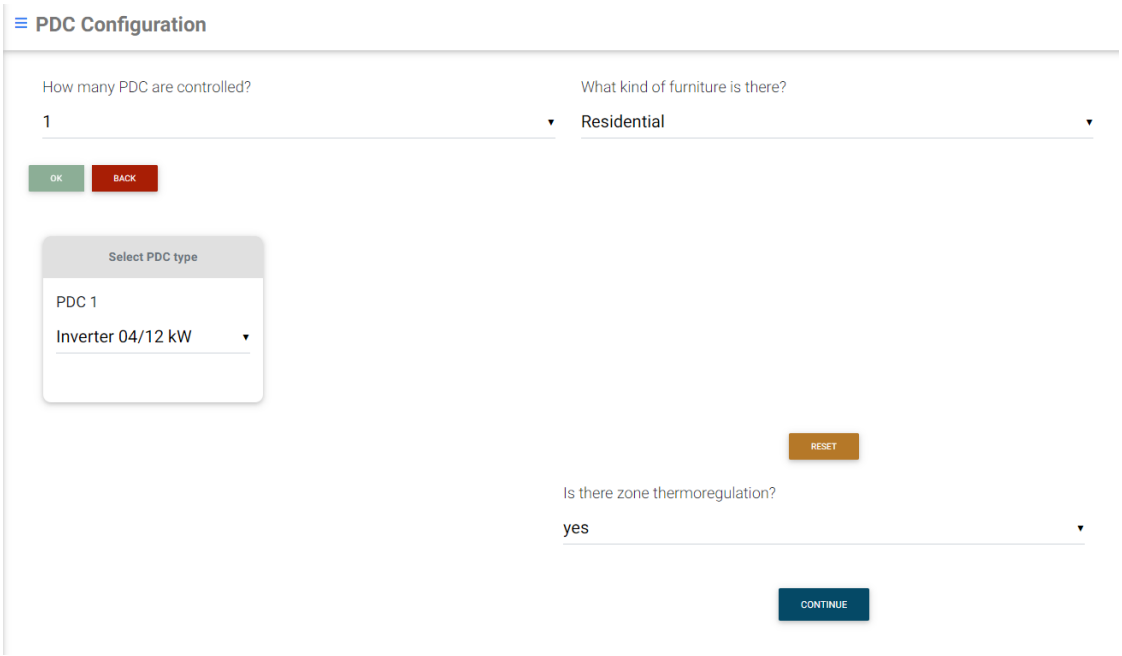


- **Control unit configuration with PDC preselection**: guided configuration of the system that precludes the presence of the Maxa heat pump/chiller.
- **Import an existing config file:** load a preconfigured system.
- **Show the summary of current configuration:** displays a summary of what is configured on the controller.

The configuration of the controller with PDC preselection includes the following steps:

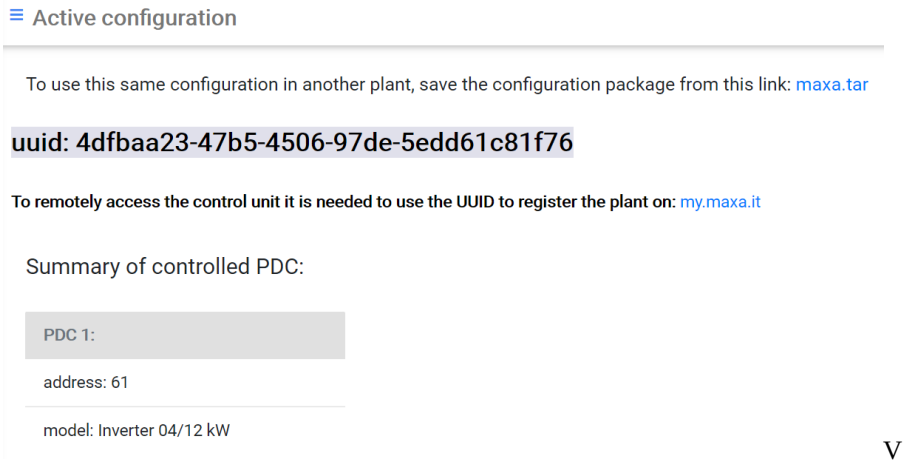
1- Select the number of PDCs controlled, their typology and type of furniture: residential, industrial or absent

MULTIFUNCTION TOUCH SCREEN CONTROL UNIT



2- If the system provides for the presence of temperature control zones, select yes on the appropriate selection.

If the system consists only of heat pumps, the configuration is finished and the following screen is displayed:



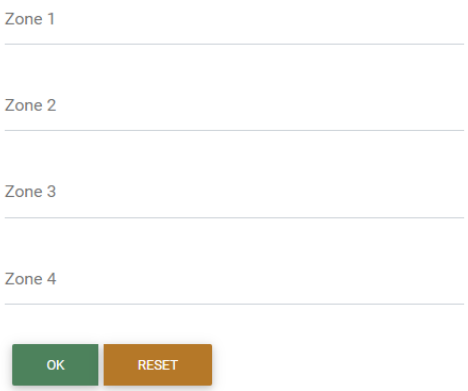
V

The screen resumes the configuration carried out, showing the modbus addresses that the controller requires.
It is therefore necessary to set the modbus addresses shown on the heat pumps, and "None parity, 1 stop bit" in all machines.
In this example they must be set:

- PDC 1: H125=3 (parity), H126=61 (modbus address)
- PDC 2: H125=3, H126=62.

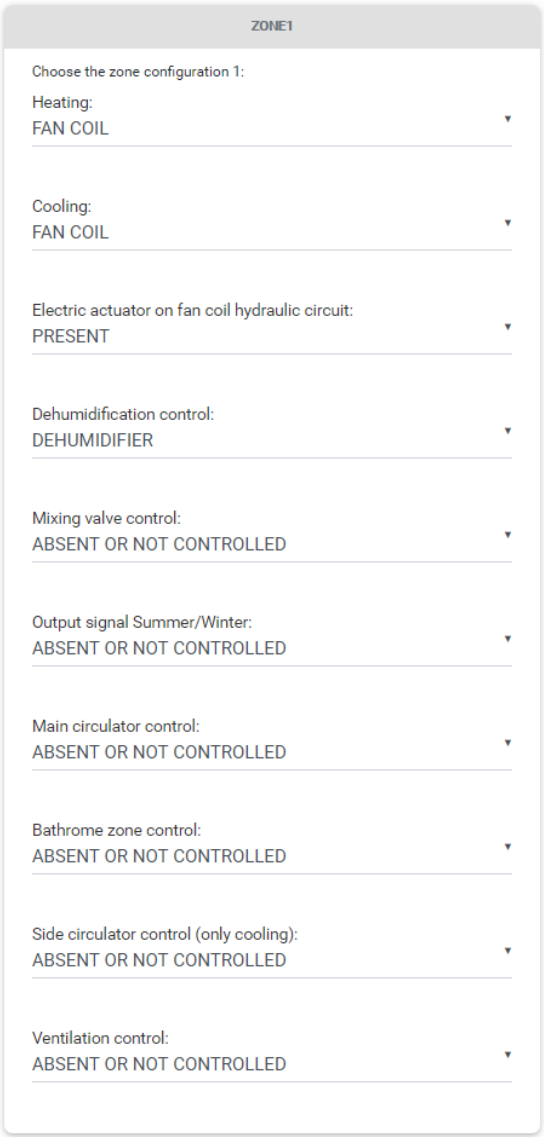
3- Select the number of zones. From here you can also modify their name, which otherwise will be Zone 1, ... , Zone n (with n = number of controlled zones).

It is possible to associate a name to every zone:



MULTIFUNCTION TOUCH SCREEN CONTROL UNIT

4- For each zone you can choose the configuration, here is an example:



- **Heating**

Title	Description	I/O necessary
Absent or uncontrolled	The system does not include any heating system	-
Radiant	The heating is provided by a radiant circuit	1 relay 1 probe
Radiator	Heating is via a radiator with solenoid valve	1 relays 1 probe
Radiant controlled by zone terminal	Heating is via radiant circuit controlled by Maxa R-Touch	- No I/O is required because you use those on board the R-Touch thermostat
Fan coil	Heating is via 3-speed fan coil	3 relays

		1 probe
Analogue fan coil	Heating by means of 0-10V fan coil	1 exit 0-10V 1 probe
Fan coil controlled by zone terminal	Heating is via fan coil controlled by Maxa R-Touch	- No I/O is required because you use those on board the R-Touch thermostat
Fancoil without temperature control	Heating is via 3-speed fan coil without temperature control	3 relays
Analogue fan coil without temperature control	Heating is done by 0-10V fan coil without temperature control	1 exit 0-10V

- **Heating**

Title	Description	I/O necessary
Absent or uncontrolled	The system does not include any cooling system	-
Radiant	Cooling is carried out by means of a radiant circuit	1 relay 1 probe
Radiant controlled by zone terminal	Cooling takes place by means of a radiant circuit controlled by Maxa R-Touch	- No I/O is required because you use those on board the R-Touch thermostat
Fan coil	Cooling takes place by means of 3-speed fan coil	3 relays 1 probe
Radiant + fan coil	Cooling is carried out by means of radiant heaters and 3-speed fan coils Speed 1: radiant only Speed 2: radiant + fan coil speed 1 Speed 3: radiante + fan coil speed 3	4 relays 1 probe
Analogue fan coil	Cooling is done by 0-10V fan coil	1 exit 0-10V 1 probe
Radiant + analogue fan coil	Cooling is by means of radiant and fan coil 0-10V	1 relay 1 exit 0-10V 1 probe
Fan coil controlled by zone terminal	Cooling is carried out by fan coil controlled by Maxa R-Touch	- No I/O is required because you use those on board the R-Touch thermostat
Fancoil with ventilation consent	Cooling is by 3-speed fan coil with water	3 relays

	temperature control	1 1WT probe
Analogue fan coil with ventilation consent	Cooling is done by 0-10V fan coil with water temperature control	1 exit 0-10V 1 1WT probe

- **Electric actuator on hydraulic fan coil circuit**

If the option used for heating or cooling control includes "Fan coil" or "Fan coil without temperature control" it is necessary to specify whether or not an electric actuator (solenoid valve) is present.

- **Dehumidification control**

A humidity reading probe (MTH sensor or on board the 7-touch control unit) is required. The operation only concerns the Summer mode. Through the setting of configurable parameters, it is possible to implement a better setpoint humidity tracking by the system and to compensate the reading offset of the sensor.

Title	Description	I/O necessary
Absent or uncontrolled	The system does not include any dehumidification control	-
Dehumidifier	dehumidifier mounted on the hydraulic circuit downstream of the mixing valve. When this dehumidifier is activated, the circulator associated with the hydraulic circuit also starts.	1 relay 1 probe 1 humidity sensor
Dehumidifier pre-mix	dehumidifier mounted on the hydraulic circuit upstream of the mixing valve. The activation of this dehumidifier does not affect the control of the circulator.	1 relay 1 probe 1 humidity sensor
Dehumidifier with integration	2-speed dehumidifier. The second speed (integration) is activated when the dew alarm limit is exceeded.	2 relays 1 probe 1 humidity sensor
Fan coil	allows the use of a 3-speed fancoil also for dehumidification as well as cooling	3 relays 1 probe 1 humidity sensor
Analogue fan coil	allows to use a fancoil with 0/10V control also for dehumidification, in addition to cooling	1 exit 0-10V 1 sonda 1 humidity sensor
Fan coil without temperature control	allows to use a 3-speed fancoil also for dehumidification, without any temperature control	3 relays 1 humidity sensor
Analogue fan coil without temperature control	allows to use a fancoil with 0/10V control also for dehumidification, without any temperature contro	1 uscita 0-10V 1 humidity sensor

- **Mixing valve control**

The "Mixer" module controls the servomotor of a mixing valve which varies its opening according to the flow temperature calculated from the climate curve settings. The climate curve is a function that calculates the flow temperature based on the measured outside temperature.

By setting parameters that can be configured by qualified personnel, the servomotor rotation time and the temperature range for which it is not considered necessary to vary the mixing.

Title	Description	I/O necessary
Absent or uncontrolled	The system does not include any mixing valve	-
Analogue mixing valve	The valve is controlled by an analogue output	1 exit 0-10V 1 external probe 1 output probe
3-way mixing valve	The valve is controlled with a 3-way actuator	2 relays 1 external probe 1 output probe

- **Summer/Winter output signal**

Select "present" in case you want to use a relay- Summer/Winter output signal to signal the season. Select "present" in case you want to use a relay to signal the season. Relay open in Winter, closed in Summer.

- **Primary circulator control**

Mixed circulator (can be used in case of radiant or fancoil). A primary circulator can be configured for heating only or for heating and cooling. The primary circulator is activated when at least one device mounted on the associated hydraulic circuit (e.g. radiant, fan coil, dehumidifier) is activated via a thermostat or humidistat. The reference probes (and offsets) are those associated with the thermostat or humidistat.
1 relay is required.

- **Bathroom area control (heating only)**

This function is used in case you want to control the heating in a room close to the area, normally the case of a private bathroom in a room.

Title	Description	I/O necessary
Absent or uncontrolled	The system does not include any bathroom area control	-
Powered on when zone is enabled	The valve always remains open when the main zone is enabled	1 relay
On when zone heating on	The valve remains open when the main zone thermostat is on call for thermoregulation	1 relay

- **Secondary circulator control (cooling only)**

Circulator for hydraulic devices that operate only in cooling mode.

- **Ventilation control**

The ventilation device is activated according to a weekly time schedule specifying the "on" and "off" periods.

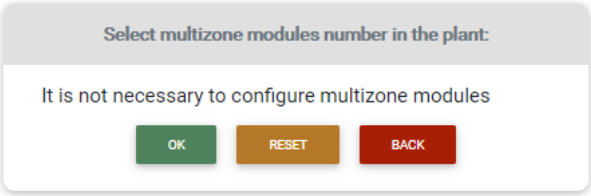
The Controlled Mechanical Ventilation module acts by operating the fans of the ventilating unit at regular intervals in order to obtain the number of hours of air change that has been set by the configuration interface.

MULTIFUNCTION TOUCH SCREEN CONTROL UNIT

Title	Description	I/O necessary
Absent or uncontrolled	The system does not include any ventilation control	-
Generic on-off	Ventilation is controlled by on and off periods	1 relay
Generic 0-10V	The ventilation is controlled via a 0-10V output, which allows the introduction of an intermediate ventilation threshold (used as night mode).	1 Exit 0-10V

1 After each zone has been configured, multi-zone modules must be set up. These modules are devices that can be shared by several zones.

If there is a single zone, or no multi-zone modules are present, a screen will be visualised inviting you to continue without a multi-zone configuration.



Otherwise you will be asked to select the number of devices and assign them to each zone.

The following table shows the devices that can be assigned multi zones; the example refers to the case of 3 zones.

Device	One device for all zones	More than one device for all zones
Dehumidifier	No further configuration required for zone ZONE 1, 2 and 3	Define the reference dehumidifier for each zone
Summer/Winter output module	No further configuration required for zone ZONE 1, 2 and 3	Define the reference Summer/Winter output module for each zone
Primary circulator	No further configuration required for zone ZONE 1, 2 and 3	Define for each zone the primary circulator of reference
Secondary circulator	No further configuration required for zone ZONE 1, 2 and 3	Define for each zone the primary circulator of reference
Bathroom area control	No further configuration required for zone ZONE 1, 2 and 3	Define the reference bathroom area control for each zone

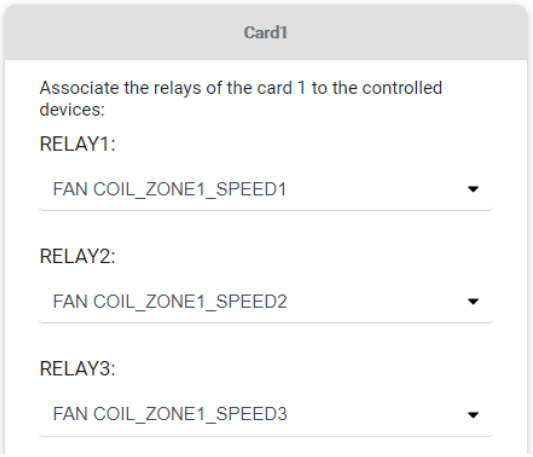
Example:

ZONE1	ZONE2	ZONE3
FAN COIL_ZONE1	RADIANT_ZONE2	RADIANT_ZONE3
BYPASS VALVE_ZONE1	RADIANT CONTROLLED BY ZONE TERMINAL_ZONE2	RADIATOR_ZONE3
DEHUMIDIFIER1	DEHUMIDIFIER1	DEHUMIDIFIER1

2 Summary of controlled devices in each zone

On this page there is a summary of the devices required for our system. You can also configure a larger number of Compact-8 cards.

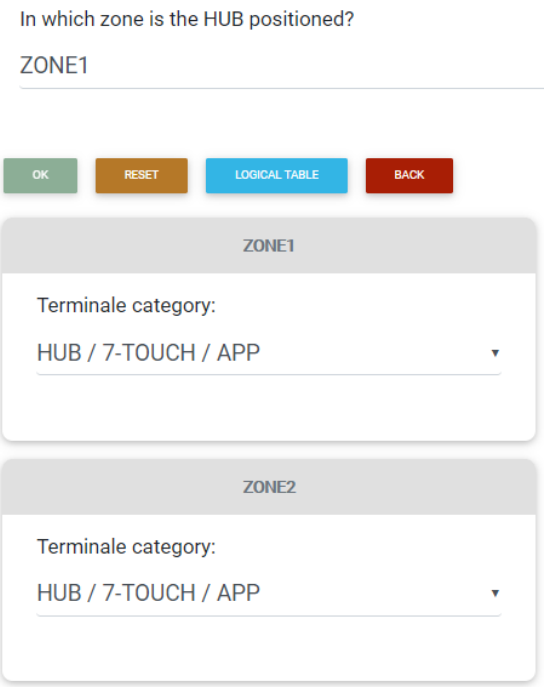
3 Once ok is pressed, you will access the page for assigning functions to each I/O of the devices.



4 Terminal configuration

Select the zone where the control unit is located; or if it is outside the controlled zones.

Select for each zone the type of control terminal (HUB/7-TOUCH/APP or R-TOUCH).

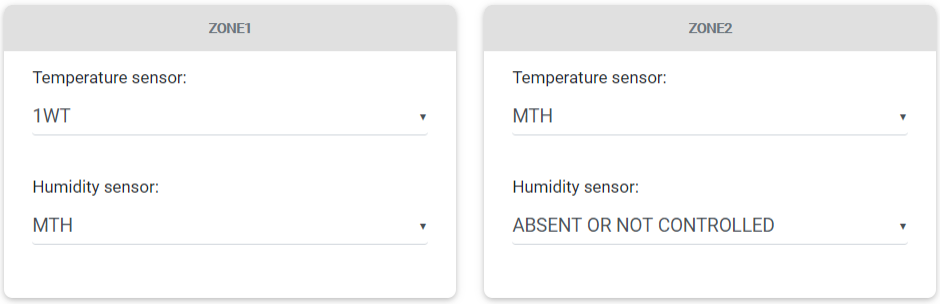


5 Logic table

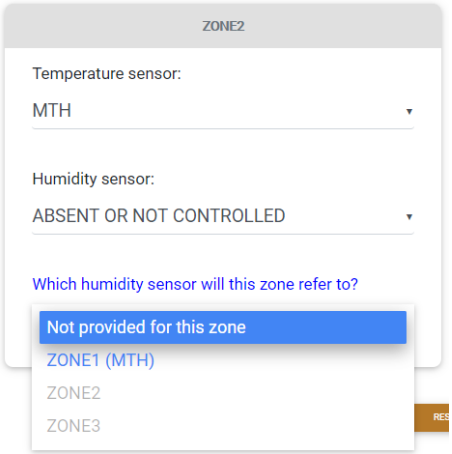
This page displays a table used for remote assistance.

6 Sensor configuration

From this page you can assign the type of temperature sensor for each zone.



If you choose the "absent or uncontrolled" humidity sensor, you can choose to refer to the temperature read by the sensor in another zone.



7 Active configuration
This page displays a summary of the set configuration. Two links are also displayed:

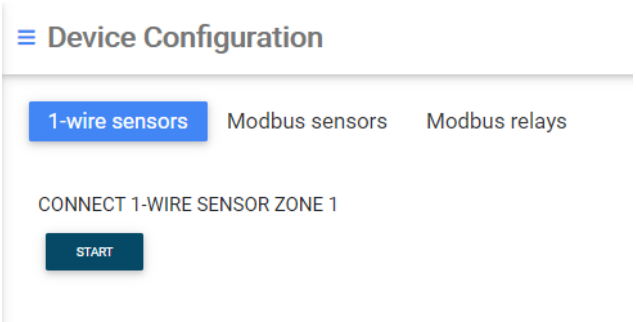
maxa.tar to save the configuration package (with the possibility of using it in another system)

my.maxa.it to access the control unit remotely

There are also the modbus addresses to be set in each device.
Remember to switch the control unit off and on again at the end of configuration.
This page contains the UUID code to be used for registering the system.

4.9.3 DEVICE CONFIGURATION

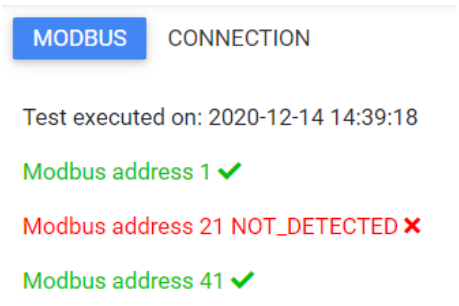
The device configuration page is divided into three boards for 1WT, MTH and relay boards. This step also serves to give the address to the devices.

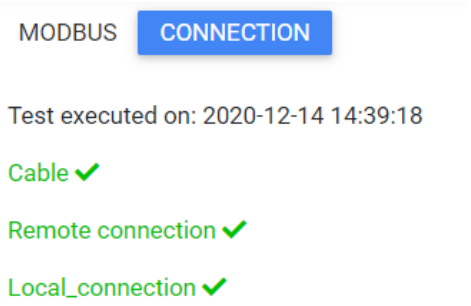


A simple automatic procedure will guide the user to connect the devices one at a time, until all the devices in the system are correctly configured.

4.9.4 DIAGNOSTIC

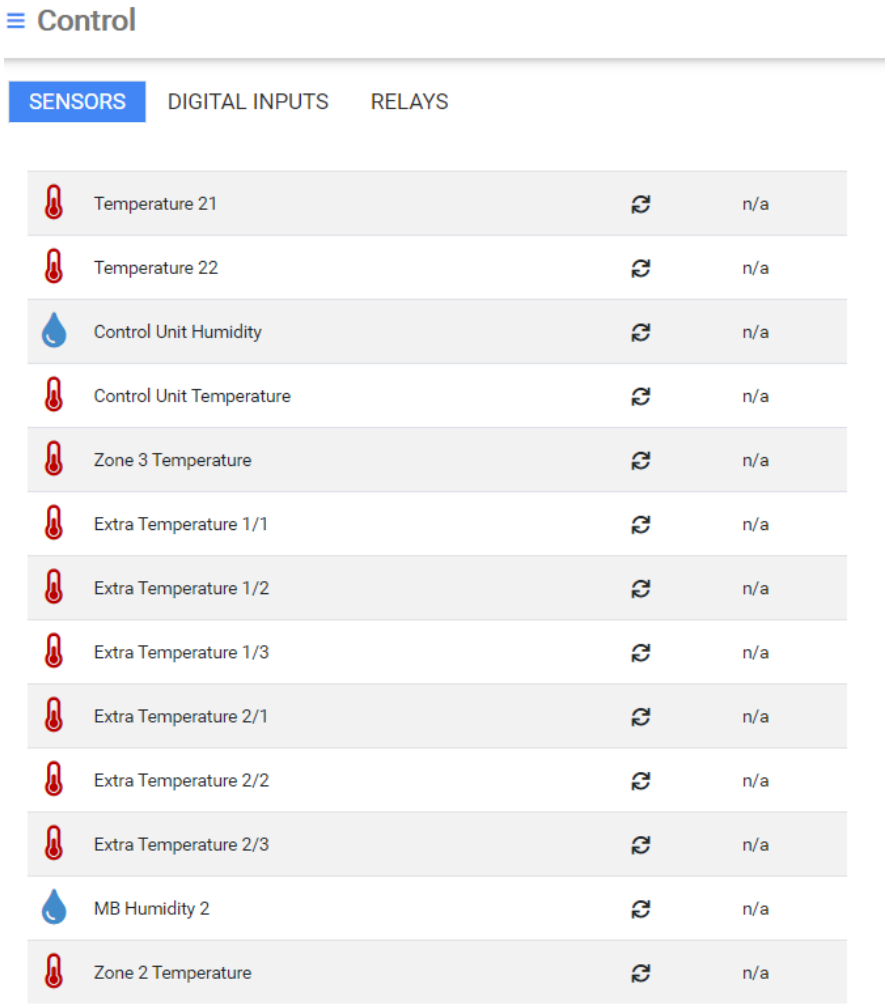
The diagnostic page is used to verify that all connections are correctly connected.
To do the test is enough pressing the TEST button, and the program will verify that all connections are correct.
If there is a probe or terminal is not connected correctly or not the page indicates which one.
It is analysed if the control unit is remotely connected or not from diagnostic Ethernet connection.





4.9.5 CONTROL

It is possible to verify that the measurements will be done correctly. In this page it is possible to read sensors (temperature and humidity), digital inlets, analogical inlets, relè and the mixing valves.
For relè, it is possible to change the status to verify the correct operation. (Service mode ON).

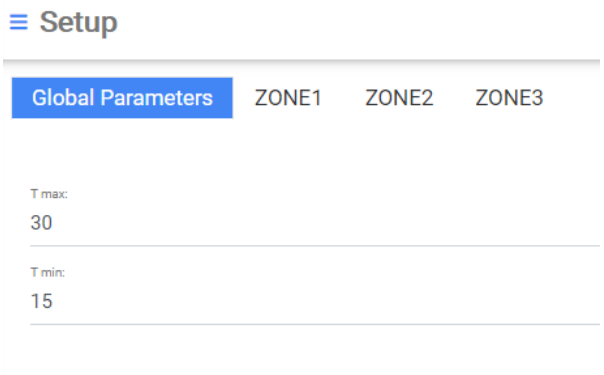


MULTIFUNCTION TOUCH SCREEN CONTROL UNIT

4.9.6 SETUP

In this page it is possible to change some thermoregulation function parameters.
This page is divided into:

- Global parameters
- Zone
- Mixing valve



4.9.6.1 GLOBAL PARAMETERS

These parameters apply to the entire system and are not specific to a single area.

T max	Maximum temperature that can be set by the user
T min	Minimum temperature that can be set by the user
T fancoil min winter	Minimum fancoil consent settable temperature
T fancoil max summer	Maximum fancoil consent settable temperature

4.9.6.2 ZONE PARAMETERS

These parameters can be set for each individual zone. Below the parameters are grouped for the functionality to which they apply.
On the settings page will appear only the parameters related to the functionalities that have been configured in the system

Thermostat These parameters can be set if a heating device has been configured and/or Cooling.	**T offset**	Temperature probe correction
	T hysteresis	Temperature Hysteresis
Humidostat These parameters can be set if a dehumidifier has been configured. H offset	**H offset**	Humidity probe correction
	H hysteresis	Humidity hysteresis
	H set point	Set point of the humidistat, if it is set the user cannot set it from the Touch screen
Dew point These parameters can be set if a dehumidifier has been configured	**Dew limit**	Dew alarm limit, if not set the alarm is disabled
	Dew safety	Dew safety limit, if not set the alarm is disabled
Ventilation These parameters can be set if a ventilation device has been configured	**VCM speed**	VMC speed when switched on

4.9.6.3 MIXING VALVE PARAMETERS

These parameters can be set for each mixing valve that has been configured

Valve opening	Total opening time from 0 to 100% (in s), only required for 3-point valve
T Set (0°C) Winter	Parameter of the winter climate curve, Outlet setpoint at 0°C outside
T Set (20°C) Winter	Parameter of the winter climate curve, Outlet setpoint at 20°C outdoors
T Min Winter	Winter climate curve parameter, Minimum flow setpoint
T Max Winter	Parameter of the winter climate curve, maximum flow setpoint
T Set (20°C) Summer	Parameter of the summer climate curve, Outlet setpoint at 20°C outdoors
T Set (40°C) Summer	Parameter of the summer climate curve, Outlet setpoint at 40°C outdoors
T Min Summer	Parameter of the summer climate curve, minimum flow setpoint

T Max Summer	Parameter of the summer climate curve, maximum flow setpoint

4.9.7 WIFI CONFIGURATION

Here is possible to select one of the WiFi networks that are visible from the control unit.

MULTIFUNCTION TOUCH SCREEN CONTROL UNIT

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