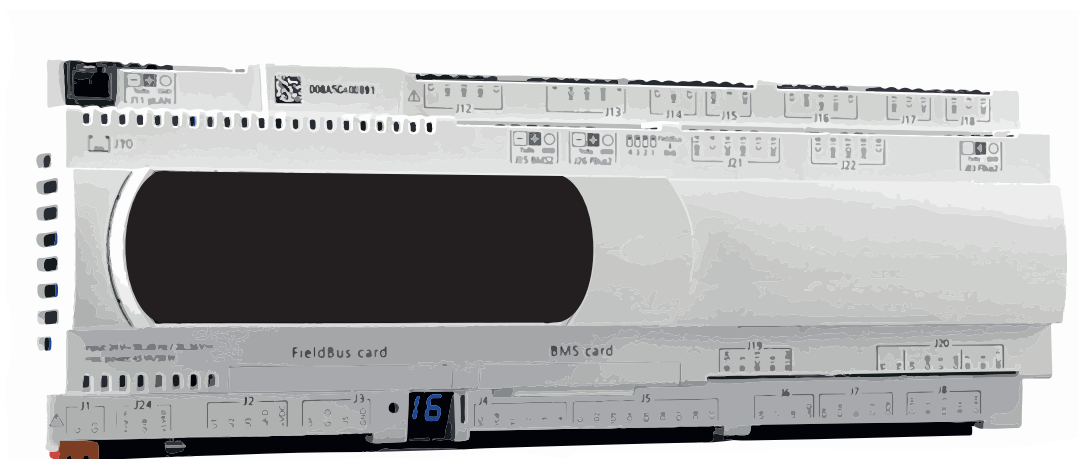


# Controller manual

EN

04-06-2024



**c.pCO controller for units:**

**Datatech BTD Series**

**Datatech BTD Sky Series**

**Coolblade BTD Series**

**Coolblade BTD Sky Series**

**Lambda Sky Series**



**BlueBox**   
by Swegon

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# 1 INTRODUCTION

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## 1.1 General

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Some information on the use of this manual.

### 1.1.1 c.pCO controller functions

Through appropriate configuration, this gives the possibility of managing a wide range of units with relevant specific functionalities.

The family of c.pCO electronic microprocessor controllers includes various module sizes. The software is flexible to the extent that the use of modules is optimized, meaning the modules used for reach application are those having the necessary number of inputs and outputs.

The c.pCO board is connected to the various modules and communicates with them via a high speed, highly reliable field bus.

The controller user interface consists in a colour, 4.3" touch-screen display.

### 1.1.2 Recommendations for digital security

This unit is designed for connection to an Ethernet network.

Unit networking must be implemented by technicians who can take the appropriate security measures required to prevent system violations.

In particular:

- We recommend that access to the unit controller be restricted to the network inside the organization. System exposure to the Internet is strongly not recommended.
- If remote access is required, the connection must be encrypted via SSL/TLS or VPN and through a firewall configuration within the internal IT environment.
- The authorization to use a remote access must only be granted to equipment that the organization has supplied and approved, as specified in the previous item.

## 2 SYSTEM HARDWARE

This chapter describes the basic parts making up the system and any accessories as concerns the operation of this software.

Refer to the wiring diagram of the unit for the various connections.

### 2.1 c.pCO board

The c.pCO controller is the main hardware component of the system and it is designed to control the unit via inputs and outputs.

A picture of the controller, the layout of the inputs and outputs and relevant description are shown below.

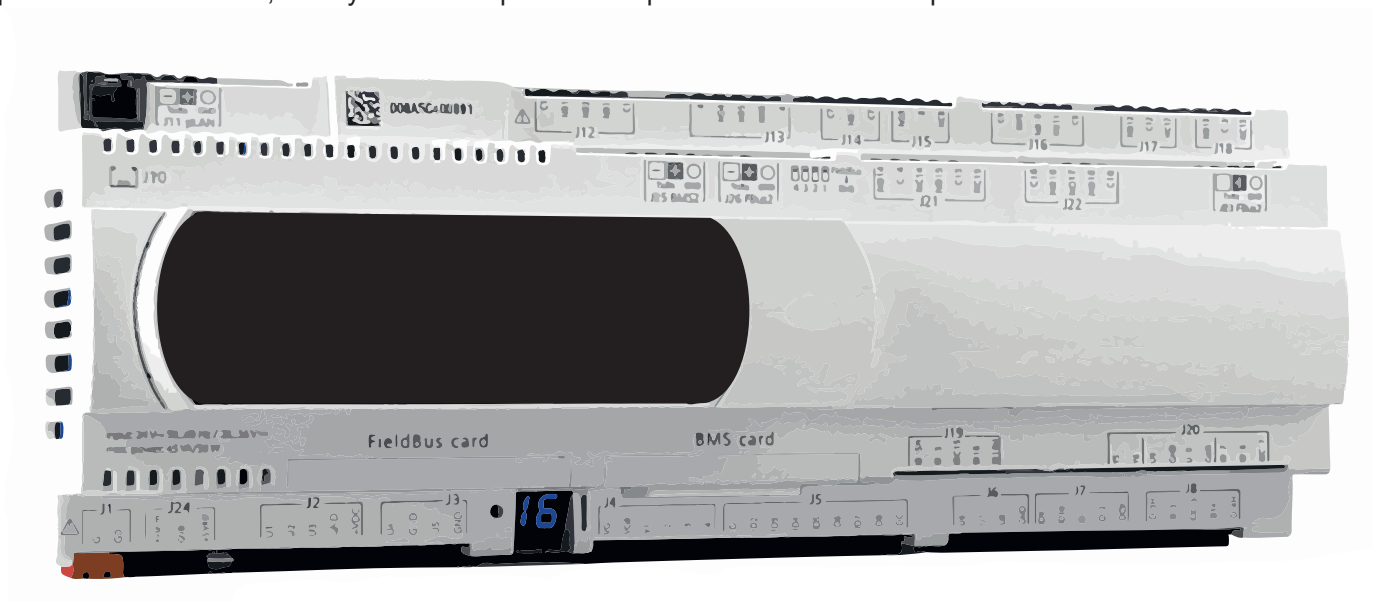


Fig. 1 c.pCO controller

The c.pCO system is designed to fit controllers of different sizes. The main difference between sizes lies in the number of inputs and outputs.

Below are the connection layouts for sizes “Large”, “Medium” and “Small”. All three board sizes can be equipped with a different number of serial ports.

Full optional board descriptions are listed in this manual. Refers to wiring diagrams for optional and size of control board installed in the unit.

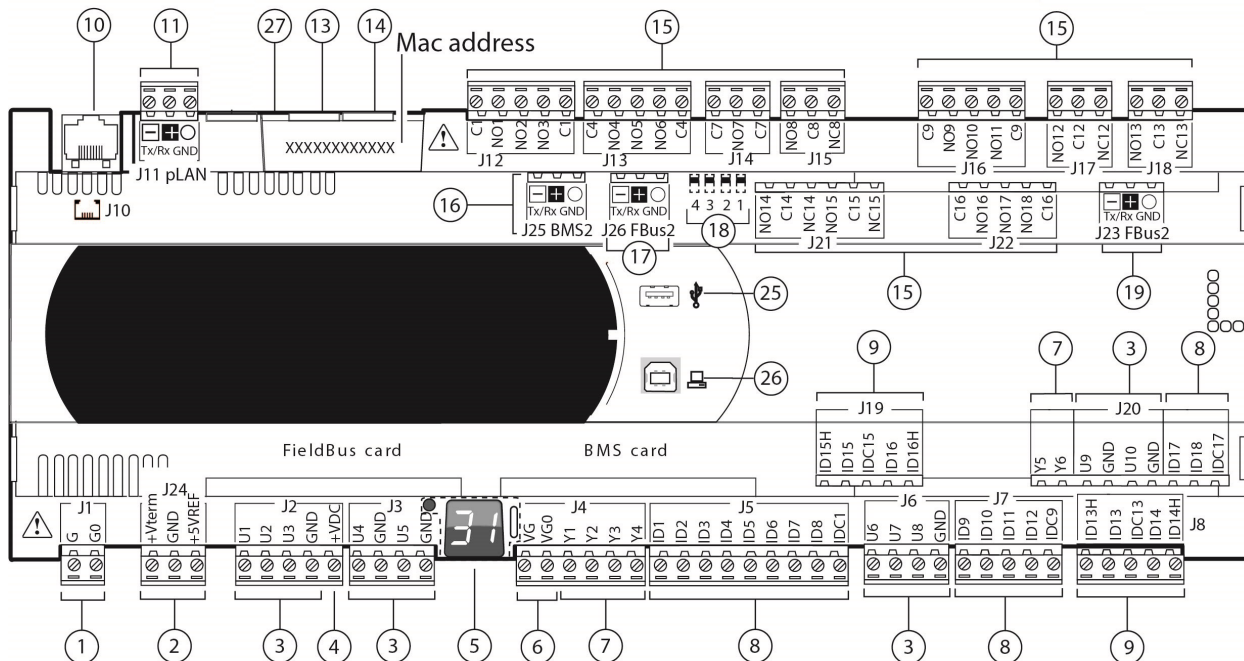


Fig. 2 Layout of "Large" size board

| Ref. | Terminal              | Description                                                                                                                                    |
|------|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | J1                    | Power connector [G(+), G0 (-)]                                                                                                                 |
| 2    | J24                   | +Vterm: power supply for additional terminal<br>+5 VREF: power supply for ratiometric probes                                                   |
| 3    | J2 - J3 - J20         | Universal inputs/outputs                                                                                                                       |
| 4    | J2                    | +VDC: power supply for active probes                                                                                                           |
| 5    | -                     | Set pLAN Address button, secondary display, LED                                                                                                |
| 6    | J4                    | VG: power supply with A(*) voltage for optically isolated analog output<br>VG0: power supply for optically isolated analogue output, 0 Vac/vdc |
| 7    | J4 - J20              | Analogue outputs                                                                                                                               |
| 8    | J5 - J7 -J20          | ID: 24 Vac or 28...36 Vdc digital inputs                                                                                                       |
| 9    | J8 - J19              | ID...: 24 Vac or 28...36 Vdc digital inputs<br>IDH...: 230 Vac - 50/60 Hz digital inputs                                                       |
| 10   | J10                   | pLAN telephone connector for terminal/to download application software                                                                         |
| 11   | J11                   | Removable pLAN connector                                                                                                                       |
| 12   | -                     | Not used                                                                                                                                       |
| 13   | -                     | Ethernet port 1                                                                                                                                |
| 14   | -                     | Ethernet port 2                                                                                                                                |
| 15   | J12 ÷ J18 / J21 - J22 | Relay digital outputs                                                                                                                          |
| 16   | J25                   | Connector BMS2                                                                                                                                 |
| 17   | J26                   | Connector FieldBus2                                                                                                                            |
| 18   | -                     | Micro switches for FieldBus/BMS selection                                                                                                      |
| 19   | J23                   | Connector FieldBus2                                                                                                                            |
| 25   | -                     | USB Host port (Master)                                                                                                                         |
| 26   | -                     | USB Device port (Slave)                                                                                                                        |
| 27   | -                     | Faston terminal for Ethernet port connection to earth                                                                                          |

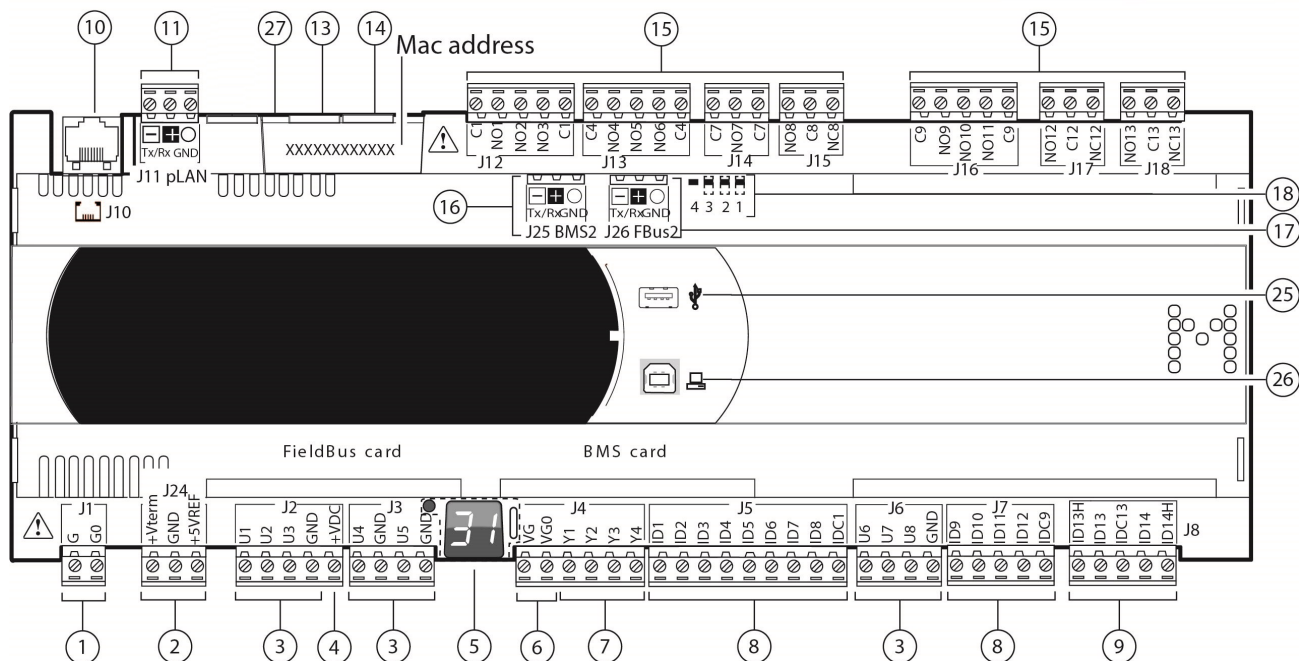


Fig. 3 Layout of "Medium" size board

| Ref. | Terminal  | Description                                                                                                                                    |
|------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | J1        | Power connector [G(+), G0 (-)]                                                                                                                 |
| 2    | J24       | +Vterm: power supply for additional terminal<br>+5 VREF: power supply for ratiometric probes                                                   |
| 3    | J2 - J3   | Universal inputs/outputs                                                                                                                       |
| 4    | J2        | +VDC: power supply for active probes                                                                                                           |
| 5    | -         | Set pLAN Address button, secondary display, LED                                                                                                |
| 6    | J4        | VG: power supply with A(*) voltage for optically isolated analog output<br>VG0: power supply for optically isolated analogue output, 0 Vac/vdc |
| 7    | J4        | Analogue outputs                                                                                                                               |
| 8    | J5 - J7   | ID: 24 Vac or 28...36 Vdc digital inputs                                                                                                       |
| 9    | J8        | ID...: 24 Vac or 28...36 Vdc digital inputs<br>IDH...: 230 Vac - 50/60 Hz digital inputs                                                       |
| 10   | J10       | pLAN telephone connector for terminal/to download application software                                                                         |
| 11   | J11       | Removable pLAN connector                                                                                                                       |
| 13   | -         | Ethernet port 1                                                                                                                                |
| 14   | -         | Ethernet port 2                                                                                                                                |
| 15   | J12 ÷ J18 | Relay digital outputs                                                                                                                          |
| 16   | J25       | Connector BMS2                                                                                                                                 |
| 17   | J26       | Connector FieldBus2                                                                                                                            |
| 18   | -         | Micro switches for FieldBus/BMS selection                                                                                                      |
| 25   | -         | USB Host port (Master)                                                                                                                         |
| 26   | -         | USB Device port (Slave)                                                                                                                        |
| 27   | -         | Faston terminal for Ethernet port connection to earth                                                                                          |

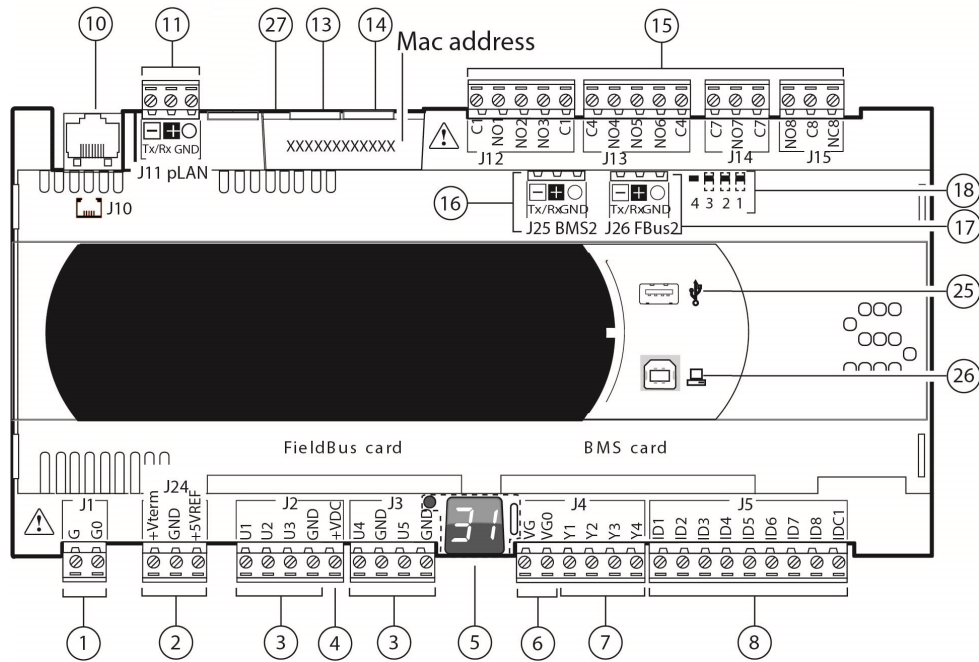


Fig. 4 Layout of "Small" size board

| Ref. | Terminal  | Description                                                                                                                                    |
|------|-----------|------------------------------------------------------------------------------------------------------------------------------------------------|
| 1    | J1        | Power connector [G(+), G0 (-)]                                                                                                                 |
| 2    | J24       | +Vterm: power supply for additional terminal<br>+5 VREF: power supply for ratiometric probes                                                   |
| 3    | J2 - J3   | Universal inputs/outputs                                                                                                                       |
| 4    | J2        | +VDC: power supply for active probes                                                                                                           |
| 5    | -         | Set pLAN Address button, secondary display, LED                                                                                                |
| 6    | J4        | VG: power supply with A(*) voltage for optically isolated analog output<br>VG0: power supply for optically isolated analogue output, 0 Vac/vdc |
| 7    | J4        | Analogue outputs                                                                                                                               |
| 8    | J5        | ID: 24 Vac or 28...36 Vdc digital inputs                                                                                                       |
| 10   | J10       | pLAN telephone connector for terminal/to download application software                                                                         |
| 11   | J11       | Removable pLAN connector                                                                                                                       |
| 13   | -         | Ethernet port 1                                                                                                                                |
| 14   | -         | Ethernet port 2                                                                                                                                |
| 15   | J12 ÷ J15 | Relay digital outputs                                                                                                                          |
| 16   | J25       | Connector BMS2                                                                                                                                 |
| 17   | J26       | Connector FieldBus2                                                                                                                            |
| 18   | -         | Micro switches for FieldBus/BMS selection                                                                                                      |
| 25   | -         | USB Host port (Master)                                                                                                                         |
| 26   | -         | USB Device port (Slave)                                                                                                                        |
| 27   | -         | Faston terminal for Ethernet port connection to earth                                                                                          |

## 2.2 pGD Touch-Screen Display

The pGD Touch-Screen display (graphic LCD display [4.3"]) is the interface through which the controller is managed. 2 displays can be connected to the same controller. In this case, it is necessary to set a different serial address for each connected display.

Depending on model, pGD display can be connected in pLAN via "RJ12" cable or via terminals, or with Ethernet cable "RJ45".

Display models depend also on indoor or outdoor installation types.

Refers to wiring diagrams to check the number of displays connected and the type of connections.



Where provided, it is possible to change the pLAN/Ethernet connection.

See the point "Change display connection programming" to apply the modifications.

### 2.2.1 pLAN connection with telephone cable

The display is connected to the controller via telephone cable on "RJ12" connectors.

The telephone cable must be fitted in the controller using the outlet marked as "J10".

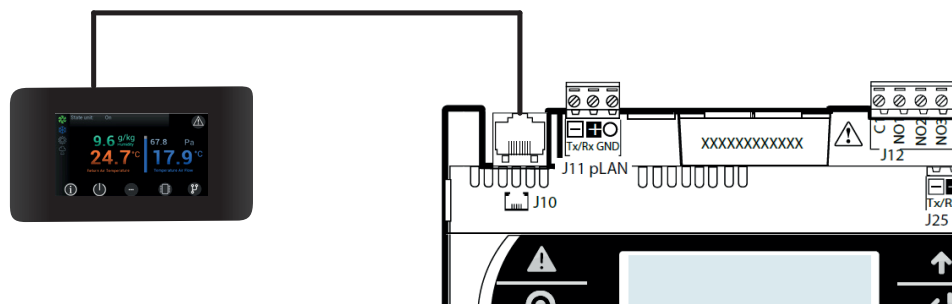


Fig. 5 pLAN connection with telephone cable

This type of connection, allowing a limited distance between the display terminal and the controller, is more appropriate for installations on board the machine or in any case near the unit.

### 2.2.2 pLAN connection with terminals

The display must be connected via serial to the controller with shielded cable. It must be used a 20/22 AWG cable.

The connection is made thanks to the screw terminals present on the "black terminal" display and those on serial port of the controller present on terminal "J11".

We also recommend connecting the mesh of the grounded shield on both sides of the cable.

The display is connected to orange terminals and electrically fed with 230Vac/24dc power supply.

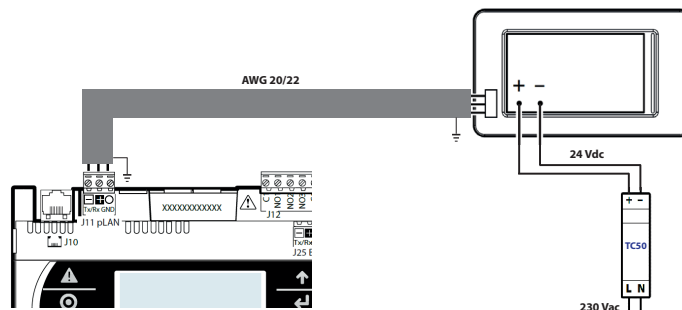


Fig. 6 pLAN connection with terminals



The max. length of the serial connection cable must be 500 metres.

If the display is installed far from the controller, the 230Vac/24Vdc power supply must be installed nearby.



Make sure that the exact connection between terminals “+” and “-” is respected.

### 2.2.3 Connection via Ethernet

The display must be connected with an Ethernet cable and "RJ45" terminals.

The display is connected to orange terminals and electrically fed with 230Vac/24dc power supply.

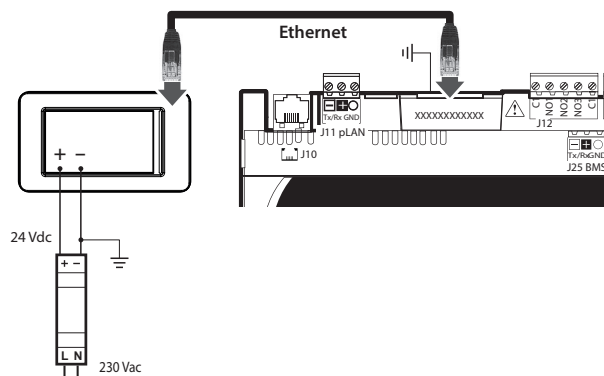


Fig. 7 Point-to-point Ethernet connection

For controller with one Ethernet port , the unit must be connected to network using a switch. The network switch must be performed by costumer.

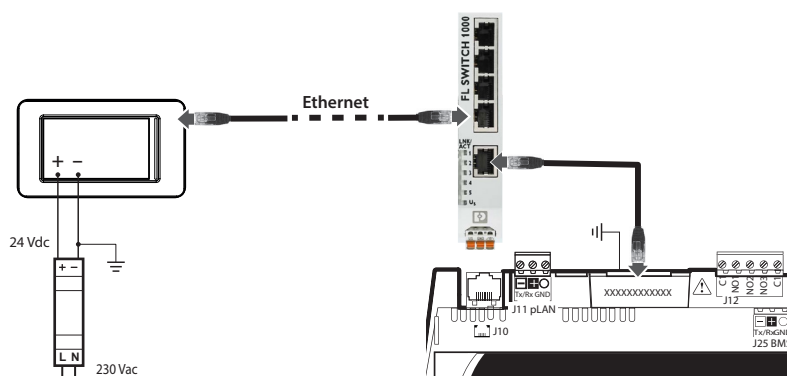


Fig. 8 Ethernet connection to the network

If the display is installed far from the controller, the 230Vac/24Vdc power supply must be installed nearby.



Make sure that the exact connection between terminals “+” and “-” is respected.

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## 3 GRAPHICS ON THE DISPLAY

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During development of the application, particular attention was given to intuitive use of the user interface.

### 3.1 Graphic conventions

---

The touch-screen display is designed to browse the interface.

Provision has been made for some intuitive icon buttons that are tapped to easily browse the featured screens and menus. Other user-friendly symbols are used to locate parts and active functions.

Below is a list of the icons used as buttons and the symbols featured in the various screens of the interface.

#### 3.1.1 Icons and symbols

Icons are used as physical buttons in the touch-screen display to browse the menus and screens. The featured icons include:



“Home” - this icon is pressed to go back to the Home page. The arrow buttons are pressed to move within the given loop;



“Info” - this icon gives access to the screens containing information on both the software and the unit; The arrow buttons are pressed to move within the given loop;



“On/Off” - this icon gives access to the screen used to switch the unit on or off from the user interface;



“Menu” - pressing of this icon on the Home page gives access to the “Menu” screen. If this icon is pressed on any other screen, the system moves back by one level;



“Demand” - this icon gives access to the screens where the various demands from the system are displayed; The arrow buttons are pressed to move within the given loop;



“Synoptic panel” - this icon gives access to the screen where the layout showing the operating principle of the circuit featured in the unit is displayed. A tap on the circuit components gives access to the relevant information and parameters.



A click on this icon gives access to the Alarms menu. If the icon is red, at least one alarm is active; no alarm is active if it is grey.



A click on this icon either enables or disables the function it is associated with.



A click on this icon enables movement to the left within one screen loop.



A click on this icon enables movement to the right within one screen loop.

---

Some symbols help easily understand the functions featured in the unit and their status. Symbols include:



this symbol is featured in all units and it indicates the ventilation function. When it is grey, the ventilation unit is not operational and it is when the symbol is coloured.



this symbol indicates the cooling function. When it is grey, the cooling unit is not operational and it is when the symbol is coloured.



this symbol indicates the humidification function. When it is grey, the humidification unit is not operational and it is when the symbol is coloured.



this symbol indicates the de-humidification function. When it is grey, the de-humidification unit is not operational and it is when the symbol is coloured.



this symbol indicates that access is now active after login to pages containing protected parameters. Access to some parameters requires entry of a password which depends on the profile for which the user is accredited.



this symbol indicates the connection with a USB pen drive. The symbol appears when data transmission is in progress.

---

## 4 SOFTWARE MANAGEMENT

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It is essential for those who service units provided with this controller to be able to program it or correctly update its software. These operations can make the system unserviceable if they are not carried out correctly. All useful information for proceeding correctly is given in the next chapters.

### 4.1 Installing the software

---

The system includes the c.pCO controller and the pGDX display.

Both must be programmed to operate and this requires uploading of some files.

The descriptions below illustrate both the programming of new components and their upgrading.

The easiest way to upload the programming files is through the USB port of the controller and the micro USB port of the display using formatted USB pen drives "FAT32".



This operation requires that the operator has a pen drive with two connections or a USB pen drive and a USB/micro USB adapter.



If a controller already installed on the machine has to be programmed, disconnect the 230 V auxiliary circuit. Close the 230 V auxiliary circuit again only after controller and display programming is completed.



Program the pGDX display first and then the c.pCO controller.

#### 4.1.1 Pen drive preparation procedure

Zipped folder "UpdatePackage.zip" is used for display programming, whereas file "Autorun.ap1" is required for controller programming.

To switch between pLAN/Ethernet connections, two "UpdatePackage.zip" files are available: one with the pLAN programming and one Ethernet programming.

Three different types of the "Autorun.ap1" file are available, depending on the type of programming to be run. They basically differ in contents and in the fact that they are used to update software components separately:

- "Application logic" (standard population);
- "Application logic" (populated for LonWorks supervision);
- "Web pages".

The supervision type required determines which of the two "Application logic" files needs to be used.

The installation of the "Web pages" file is complimentary to "Application logic".

Controller programming requires that the pen drive contains a folder titled "UPGRADE" with an "Autorun.ap1" file in it.

A folder titled "USERFILE" must also be present as it stores the machine configuration files (these files have a \*.conf extension).



The system authorises uploading of one single "Autorun.ap1" file at a time to the "UPGRADE" folder in the pen drive. If installation of both the "Application logic" and "Web pages" files is required, two separate operations must be run: one operation to upload the application and one to upload the web pages.



As soon as the pen drive is plugged into the controller, the .conf files in the "USERFILE" folder are uploaded automatically. If you wish to update the web pages only, this folder and the files in it must not be saved in the pen drive.

The zipped folder "UpdatePackage.zip" is needed for display programming.

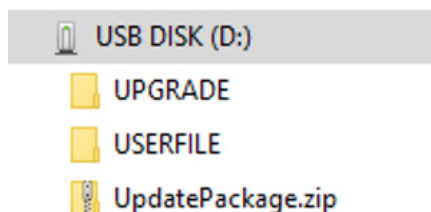


Fig. 9 Folder structure of the USB pen drive



As shown in the figure, all the elements must be in the pen drive root.



The contents of the pen drive can include a folder titled "UPGRADE" with an "Autorun.ap1" file in it (either the application or the web app file), a folder titled "USERFILE" (containing the configuration files in ".conf" extension) and the compressed folder "UpdatePackage.zip" (for pGDX programming).



If two "UpdatePackage.zip" files are expected, the upload must be done one by one.

#### 4.1.2 Display programming procedure

The port of the pGDX display is micro USB type.

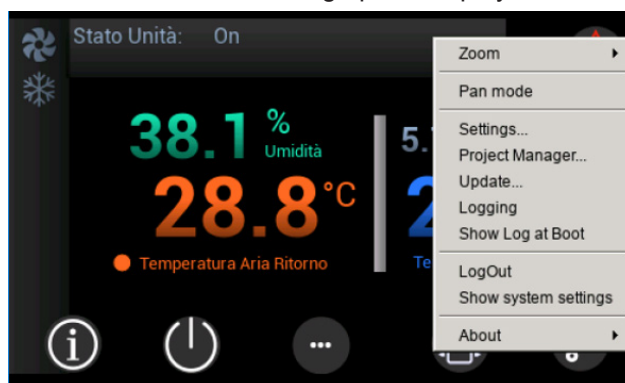
A micro-USB port is located at the top right of the display, covered by the frame.

To access the micro-USB port you need to remove the display frame.



The procedure for display programming consists in the steps below.

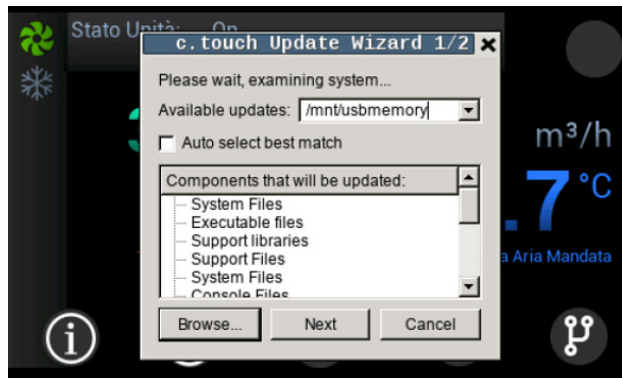
- Fit the USB pen drive in the display port.
- After initialization, the display shows the home page.
- press on the right side of the screen for 5 seconds to bring up the display menu;



- Click "Update" to call up the programming menu.



- Click "Next" to start downloading the programming file (the download takes a couple of minutes).



- The display is restarted automatically after the programming files have been downloaded.



Power to the display must be cut out and then restored and the programming procedure must be started again from the beginning in cases when a no-exit menu or an incorrect menu is selected by error in one of the various steps of the procedure.



If you want to upload the settings for both the "pLAN" and "Ethernet" connections, this procedure must be carried out once with the "UpdatePackage.zip" file for "pLAN" and once for "Ethernet".

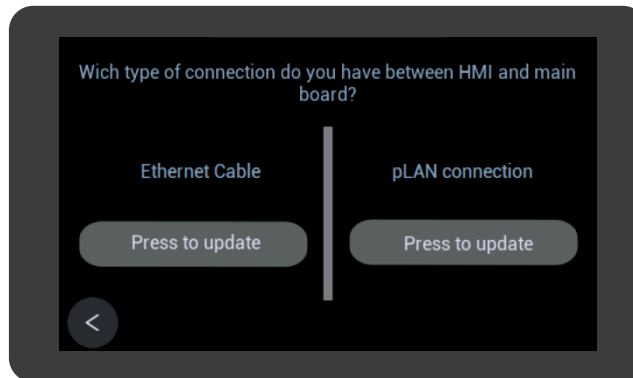


If both connections setting must be uploaded, load the one you want to use as last.

---

### 4.1.3 Display connection programming change

If the loading of the display programming does not take place in the correct order or, if you want to change the type of connection from "pLAN" to "Ethernet" and vice versa, where the application permits it, it is possible to do so from the screen shown in the image.



Once the selection has been made, the loading of the new programming starts. The operation takes a few minutes after which the display restarts.

The screen shown in the image is present in the path:

- Configuration;
- Network;
- Terminal type.

#### 4.1.4 Programming the controller

The port of the c.pCO controller is USB type.

##### 4.1.4.1 Installation of “Application logic”

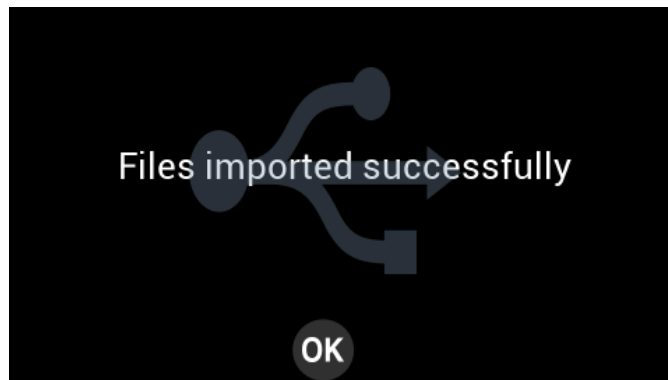
Below is a description of the procedure to be implemented for “Application logic” installation.

- Plug out from the controller the driver(s) which control(s) the electronic expansion valves (no need to disconnect the other serially connected components).

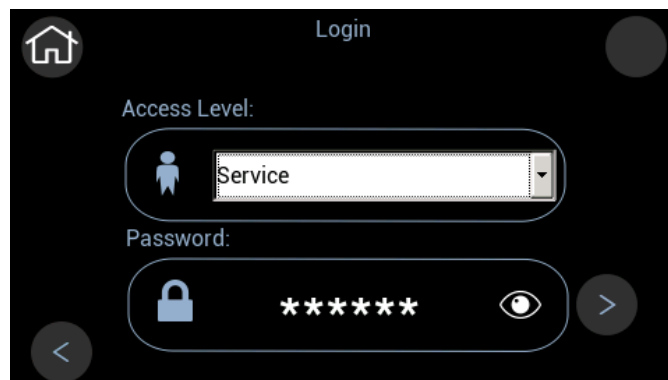
Energize the controller (where it is not) and wait until it is fully initialized and the main screen pops up.

Fit in place the USB pen drive after preparing it as explained above. The pen drive must have an “UPGRADE” root folder containing the “Aautorun.ap1” file of the desired “Application logic” (standard population or populated for LonWorks) and the “USERFILE” folder with the machine configuration files in it.

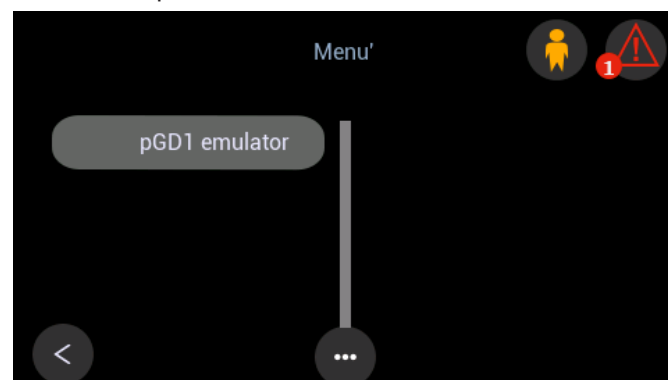
- Wait until a message appears to confirm successful file import and then click “OK”. If the process is not successful, a message appears to warn about the negative outcome. Press “OK” to confirm and exit the procedure. Check that the USB pen drive contains the right files and repeat the operation. If the process is not successful, a message appears to warn about the negative outcome. Check that the USB pen drive contains the right files and repeat the operation.



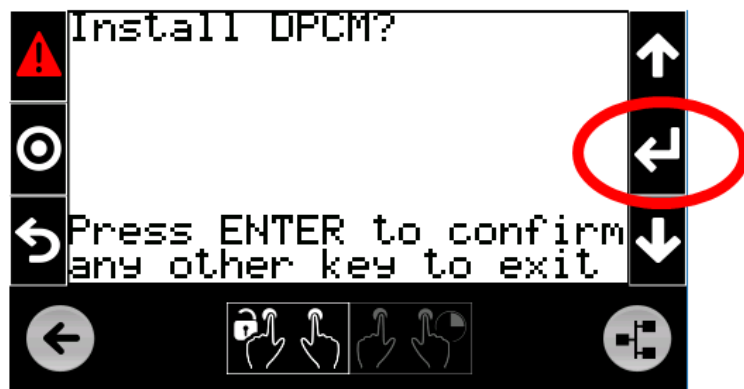
- Go to the “Login” screen of the pGDx display and log in with “Service” profile.



- Go back to the previous menu, access the “pGD1 emulator” menu and wait a few seconds until the files are uploaded.



- A screen appears requesting the installation of the programming files. Press “ENTER” to start software installation (the installation procedure takes approx. five minutes).

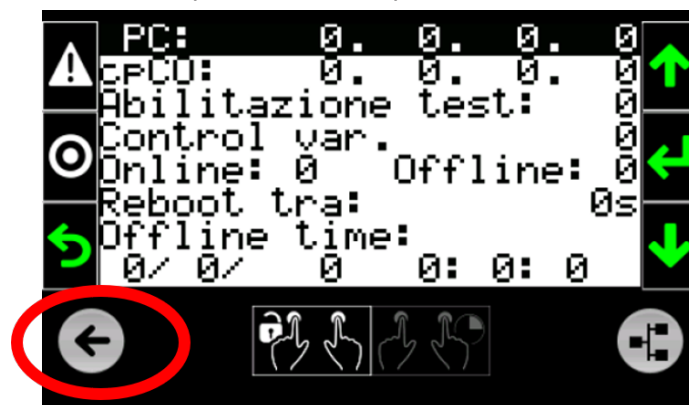


When the installation procedure is completed, take out the pen drive after the message “Upload successful” appears on the display.

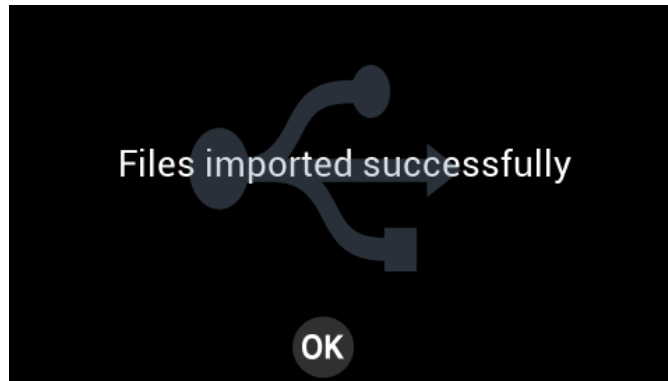
To restart the controller, press “ENTER” after removing the USB pen drive (the restart procedure takes approx. one minute).



Click the arrow on the left-hand side to exit the pGD1 emulation procedure.



Wait for the message informing about the files having been imported.



Now, the USB pen drive can be removed.

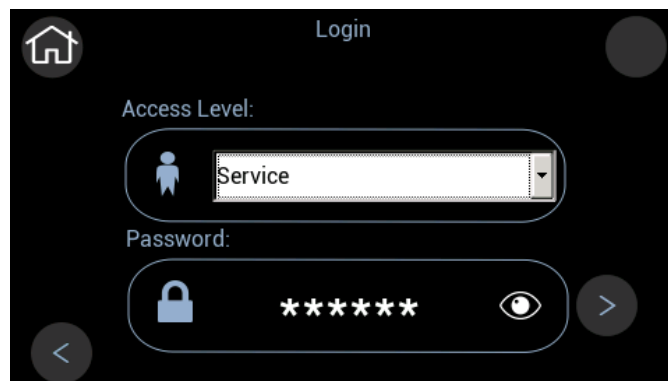


A set of alarms appear after the programming process has been completed: they are connected to 230V power failure and missing connection of the drivers that control the electronic thermostatic expansion valve.

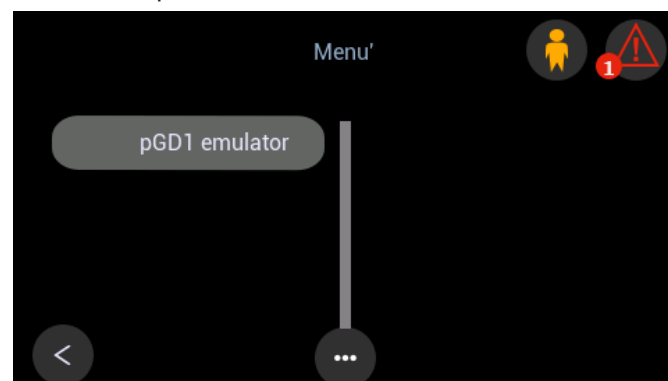
#### 4.1.4.2 Installation of “Web pages”

Below is a description of the procedure to be implemented for “Web pages” installation.

- Energize the controller (where it is not) and wait until it is fully initialized and the main screen pops up.
- Fit in place the USB pen drive after preparing it as explained above. The pen drive must have an “UPGRADE” root folder containing the “Autorun.ap1” file of the web pages.
- Go to the “Login” screen of the pGDx display and log in with “Service” profile.



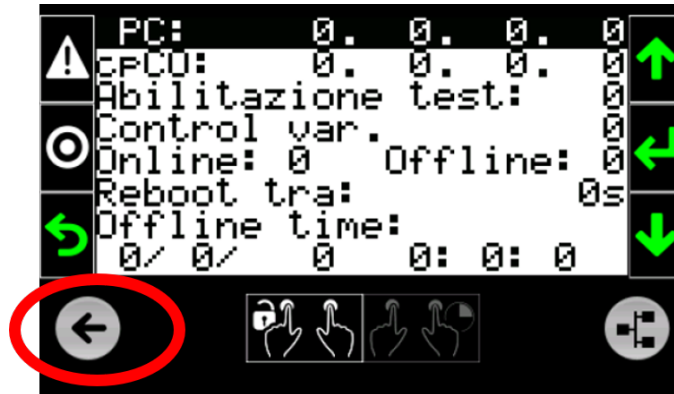
- Go back to the previous menu, access the “pGD1 emulator” menu and wait a few seconds until the files are uploaded.



- A screen appears requesting the installation of the programming files. Press “ENTER” to start software installation (the installation procedure takes approx. one minute).



Click the arrow on the left-hand side to exit the pGD1 emulation procedure after completion of the installation procedure.



#### 4.1.5 Programming completion procedure

At the end of the programming procedure, after all or some of the illustrated steps have been performed, as required in each specific case, the controller must be de-energised and then energised again.

#### 4.1.6 Addressing of drivers for EEV (close control)



These instructions refer to the addressing procedure of the electronic valve drivers installed in “close control” units.

The drivers of the electronic expansion valve must be addressed correctly for proper operation, as explained below:

- address “2” is for the driver controlling the valve in the first circuit;
- address “3” is for the driver controlling the valve in the second circuit.

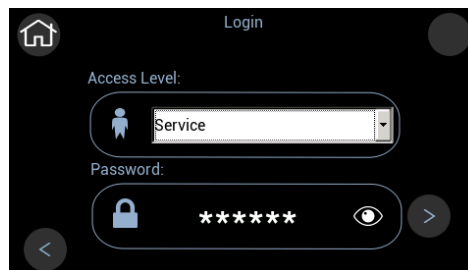


If the drivers are not brand new and their serial address is not known, a modification is required, which is implemented using the supplied display.

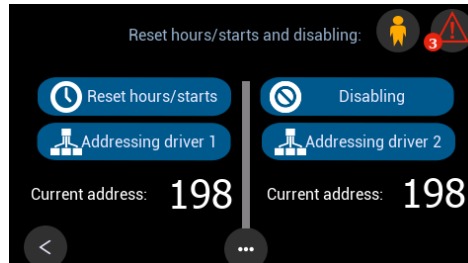
A guided addressing procedure is featured in the controller software for brand new drivers in which the default address is set to “198”.

Below is the procedure for correct driver addressing.

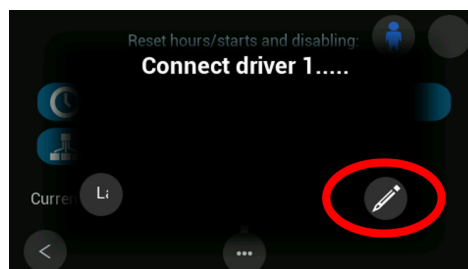
- Go to the “Login” screen of the pGDX display and log in with “Service” profile.



- Go back to the previous menu and access the “Service” menu.



- Click “Driver 1 addressing”, connect the driver of the first circuit serially, and click the pencil icon.



The display shows the outcome of the operation after around ten seconds. The green icon appearing and alarm “160” disappearing confirm that the driver of the first circuit has been addressed correctly.



The display shows the outcome of the operation after around ten seconds. The green icon appearing and alarm “160” disappearing confirm that the driver of the first circuit has been addressed correctly.



- If the unit features two circuits, click “Driver 2 addressing”, connect the driver of the second circuit serially, and click the pencil icon. The display shows the outcome of the operation after around ten seconds. The green icon appearing and alarm “161” disappearing confirm that the driver has been addressed correctly. The display shows the outcome of the operation after around ten seconds. The green icon appearing and alarm “161” disappearing confirm that the driver has been addressed correctly.



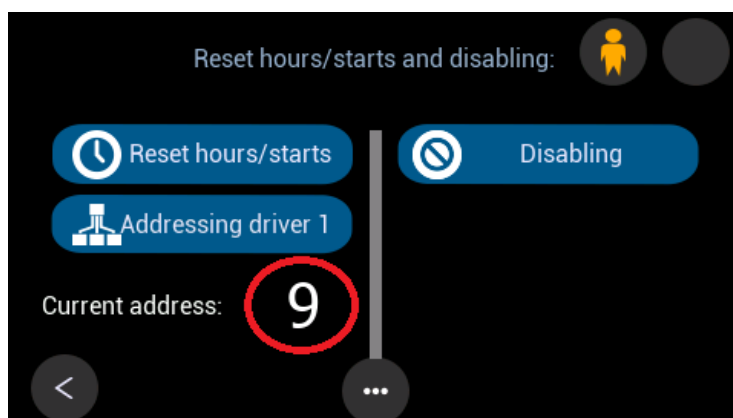
The serial connections of the two drivers must be made correctly in units featuring two refrigerant circuits to prevent incorrect addressing.



If the addressing procedure returns a negative outcome (icon turns red), make sure that the driver is correctly powered and connected serially, as required during the guided procedure.



The following screen is used, before starting the guided addressing procedure, to specify whether this is going to be run to remedy an existing wrong addressing or to address drivers that are not brand new but have a known serial address.



#### 4.1.7 Programming completion procedure

At the end of the programming procedure, after all or some of the illustrated steps have been performed, as required in each specific case, the controller must be de-energised and then energised again.

#### 4.1.8 Addressing of drivers for EEV (roof top units)



These instructions refer to the addressing procedure of the electronic valve drivers installed in “roof top” units.

The drivers of the electronic expansion valve must be addressed correctly for proper operation, as explained below:

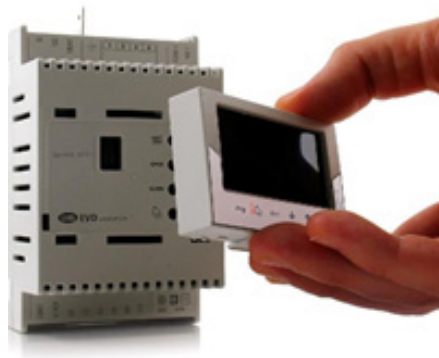
- address “2” is for the driver controlling the valve in the first circuit;
- address “3” is for the driver controlling the valve in the second circuit.



A dedicated display is required for the addressing of the “EVD EVO” drivers.

If the code “MICA154A” appears in display EVDIS00EN0, the language selected is English.

The display address must be set up with the serial port disconnected.



The driver addressing procedure is as follows:

- connect the display to the driver;
- go to the main screen and press “Prg”; then enter password “66”;
- when in the main menu, press “Enter” to access the “Configuration” menu and set address “2” for the driver in circuit “1” and address “3” for the driver in circuit “2” (where fitted);
- press “Esc” to go back to the main menu;
- use the arrows in the main menu to scroll up/down until “Special” can be selected and then press “Enter” to access the menu;
- Use the arrows to scroll the “Special” menu until screen 5/13.
- press “Enter” to access edit mode;
- select **“none; 1 bit; 19200”**.
- press the button “Esc” to go back to the main screen;
- de-energise and then re-energise the driver to confirm the setting.

---

#### 4.1.9 Import of configuration files

The controller needs some configuration files for correct operation of the unit. The instructions below must be followed whenever these files require upgrading.

The USB pen drive must be formatted as "FAT32" and it must contain a "USERFILE" folder where the configuration files requiring upgrading are stored, as listed below:

- default.conf - file containing default operating parameters of the machine;
- alarm.conf - file containing the parameters to customise the behaviour of the active alarms.



The procedure for file upgrading consists in the steps below.

- Energize the controller (where it is not) and check that the unit is Off.
- fit the USB pen drive;
- Wait a few seconds until the file import procedure is completed. The import process is easy to identify as it is indicated by the USB icon. A pop-up window appears at the end of the process to confirm successful completion.
- Press "OK" to confirm. If the process is not successful, a message will appear to warn about the negative outcome. If this is the case, check the USB pen drive and repeat the operation.
- Remove the USB pen drive.
- Go to the "Login" screen of the pGDX display and log in with "Service" profile.
- Go to the "File management" screen and then to the "Upload .conf files" screen and press the file item you wish to upload. A feedback message reading "In progress ..." will pop up in the top part of the display and the progress status of the operation is displayed in the progress bar. The message "Done successfully" will eventually appear at the end of the process.

If a default.conf file is uploaded which requires controller rebooting, a button ("Reboot") is enabled in the pGDX display to start manual rebooting. If this button is not pressed, the system is rebooted automatically after 60 seconds.

## 4.2 Editing the IP addresses of the controller and the user interface

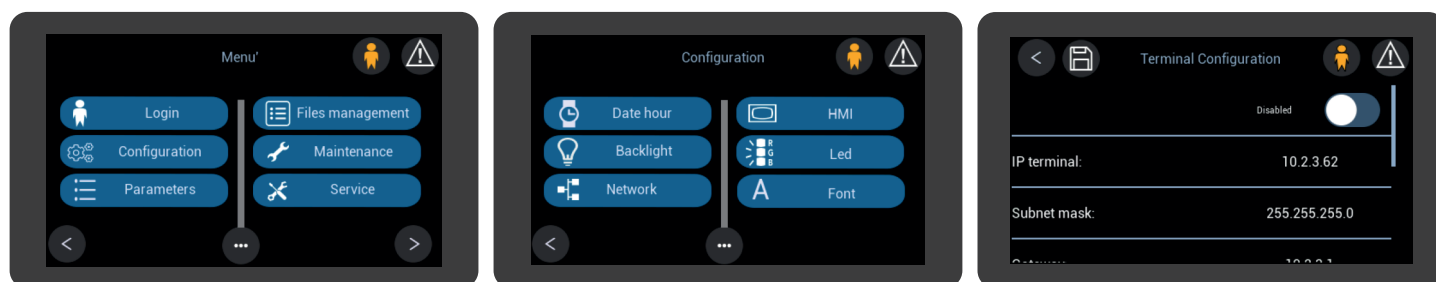
The controller and the user interface are networked and they have an identifying IP address. The IP addresses are set up at the factory for correct communication.

If the unit needs to be connected to the Internet after installation, the IP references of the controller and the user interface need to be changed.

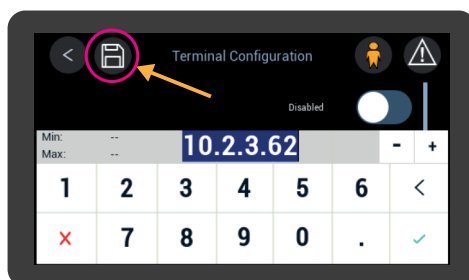
These operations can be carried out easily thanks to the user interface and after access is gained with a “Service” profile.

### 4.2.1 Editing the network references of the user interface

When in the main menu, select “Configuration” and “Video display” to access the edit screen.



A virtual keypad pops up in the edit screen after selecting the parameter that requires editing.

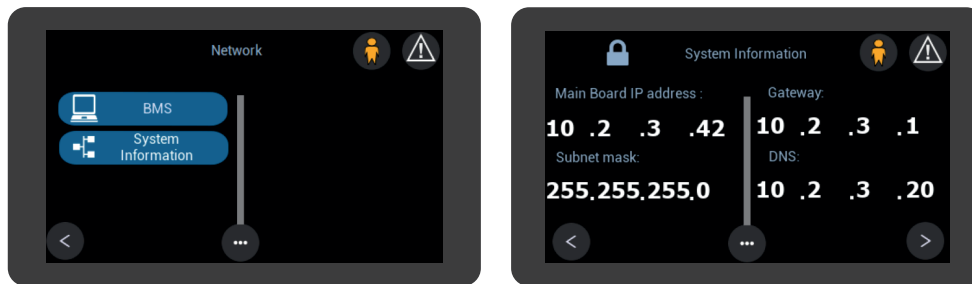


Edit the parameter and then tick it to confirm it: make all the necessary changes and then save them by clicking the Save icon on the top left-hand side of the screen.

### 4.2.2 Editing the network references of the controller

When in the main menu, select “Configuration”, “Network” and “System Information” to access the edit screen.





Unlock the padlock and select the values to be edited: the virtual keypad pops up.



Edit the parameter and then tick it to confirm it: make all the necessary changes and then save them by clicking the Save icon on the bottom right-hand side of the screen.

### 4.2.3 Re-addressing the user interface

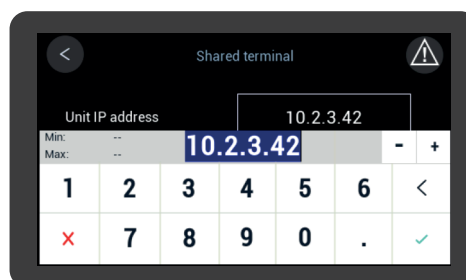
The address of the controller with which the interface is communicating must be entered in the interface.

When the IP address of the controller is edited, its address must also be edited in the user interface.

To access the edit screen, select the network icon in the main screen.



A virtual keypad pops up when the IP address is selected.



Edit the parameter and then tick it to confirm it.

### 4.3 Saving the log on a USB pen drive

When needed, it is important to be aware of how the unit has been operating.

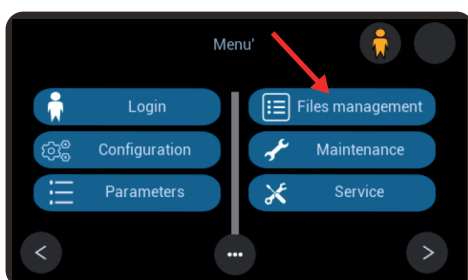
The controller records all information concerning unit operation in logs which can be downloaded onto a USB pen drive. A formatted USB pen drive “FAT32” is required.

First, fit the pen drive into the Host Master USB port (ref. 25 in board descriptions): this symbol  appears on the bottom right-hand side of the display.

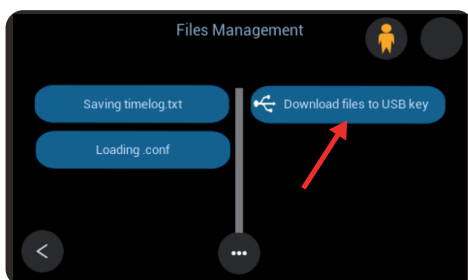


The USB pen drive must not be taken out while the saving process is in progress.

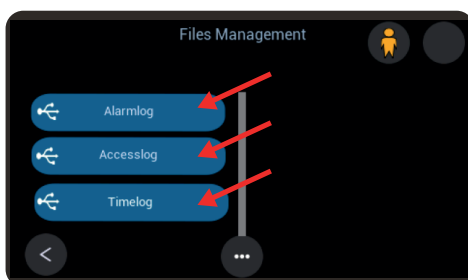
Access with “Service” level credentials is required to download the log.



Select the menu “Manage file”.



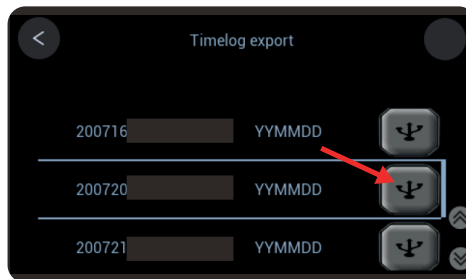
This menu is selected to download the log files onto a USB pen drive.



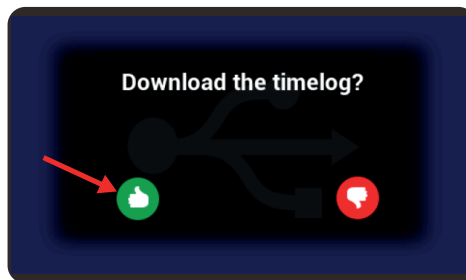
Three log types are available:

- **Alarm log** – in which alarms are recorded;
- **Acceslog** – in which all edited parameters and all credential-based accesses are recorded;
- **Timelog** – in which the operating variables set in the “timelog.txt” file are recorded.

The first two logs are saved by simply clicking the relevant selection on the display. Selection of “Timelog” gives access to the corresponding menu.



Select the day whose corresponding logs need to be saved.



Confirm to start the save process.

While the save process is ongoing, the message “In progress .....” is displayed.

The save time is relatively short for the first two log types. On the other hand, saving of the “Timelog” requires a few minutes. As soon as the save process is completed, the message “Executed successfully!” will flash for a few seconds.

## 4.4 File Actual.conf

Units are tested and shipped from the factory with the operating parameters set by default.

The factory parameters may require adjustments at the time of commissioning or during unit operation in order to be adapted to the operating requirements of the installation.

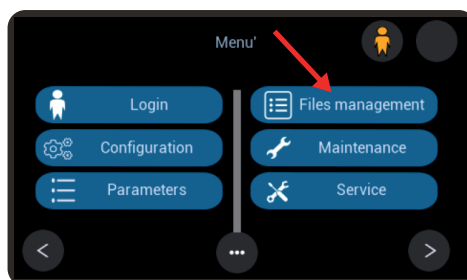
The controller is designed to save any new parameters in the “actual.conf” file.

Management of “.conf” files requires access with “Service” credentials.

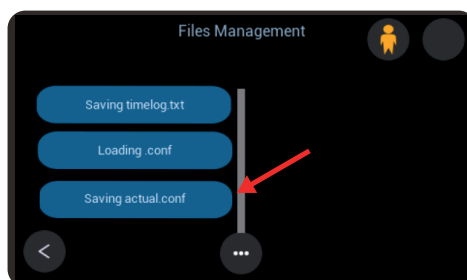
### 4.4.1 Saving edited parameters

Whenever they are edited, it is important that the new operating parameters are saved in the “actual.conf” file.

Select “Files management” in the main menu.



Select “Saving actual.conf” to save the new set of parameters.



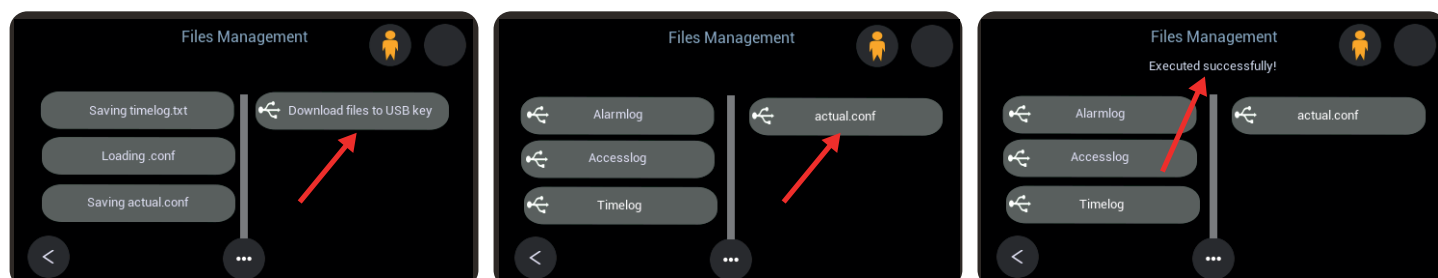
By doing so, the operating parameters that are currently set up in the controller are saved into the “actual.conf” file.

If you wish to restore any parameter saved after a software upgrade, please keep a copy of the “actual.conf” on an external medium, i.e “personal computer/USB pen drive”.

### 4.4.2 Saving the “actual.conf” file onto a USB pen drive

An empty USB pen drive is required to copy the “actual.conf” file that is saved in the controller.

Fit the pen drive into the USB port of the controller and then go to the main menu and select “Files management”, “Download files to USB key” and “actual.conf”.



Wait until a message appears to confirm that the file has been exported.

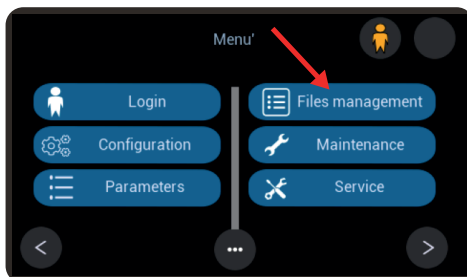
### 4.4.3 Restoring operating parameters

If you have saved the operating parameters of the unit, they can be restored at any time and, what is more important, they can be set up quickly when the controller software is upgraded.

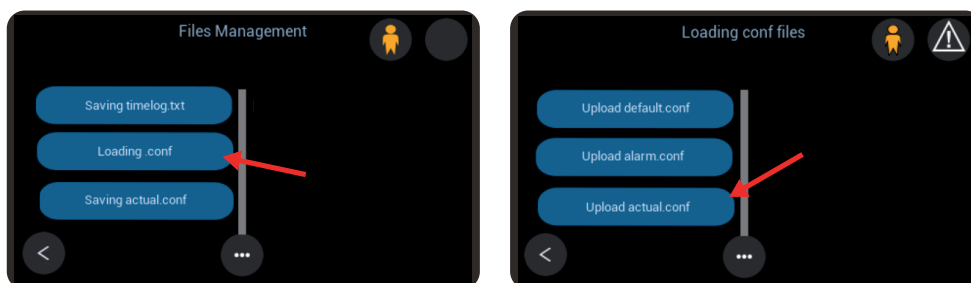
#### Restoring the “actual.conf” file in the controller

If the operating parameters have been edited and you wish to go back to the initial setting, you can restore the original parameters saved in the controller.

Select “Files management” in the main menu.



Select “Loading.conf” followed by “Upload actual.conf”.



This operation helps restore in the controller the parameter values stored in the “actual.conf” file.

#### Restoring the “actual.conf” file, including software upgrade



To use the “actual.conf” file saved, a check must be made for its compatibility with the new version of the software.

If the “actual.conf” file saved is compatible with the new software version in the controller, the saved parameters can be simply restored by copying the file into the “USERFILE” folder and using it to overwrite the existing file.

When the software is upgraded, the parameter values saved are restored automatically.

The instructions provided in the previous section “Controller programming” must be followed to upgrade the software.

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## 5 THE SCREENS

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The user interface gives access to all information and setup parameters relating to unit operation. The manual describes the access procedure to the desired information and to the parameter pages where the various functions can be set up.

### 5.1 Screen tree

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The user interface gives access to all information and setup parameters relating to unit operation. The manual describes the access procedure to the desired information and to the parameter pages where the various functions can be set up.

As explained in the description of icons, the home page gives direct access to the most significant information and functions. Most parameters and settings are featured in the screen, which are broken down in one main menu and various sub-menus.

The tree diagram of the screens is provided in the software manual.

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### 5.1.1 Screen menu

A click on the “Menu” button in the home page gives access to the main menu.

The arrow icon buttons featured in the main menu are used to scroll all lower level menus.

Access to lower level menus is allowed based on the user’s credentials. Some users have free access, while others have to log in with the profile they are accredited for.

Access to the various menus is gained by clicking the colour area containing the menu description.

For easier understanding and use, texts are shown to explain the meaning of the values and parameters featured in the screens.

## 5.2 Menu browsing

The screen tree helps the operator to browse the menus.

Some other suggestions are given to help use the icon buttons to browse the screens.

The home page is the starting point.



Refer to the chapter titled “Graphic Conventions” for the interpretation and use of the icon buttons.



In addition to the “On/Off” icon, the main page features icons such as “Info”, “Demand” and “Synoptic Panel”, which give direct access to information loops. The page also features the “Menu” icon which gives access to the main menu contained in the screen tree.

The arrow icon buttons are pressed to scroll screens of the same level, while a click on the “Menu” icon brings back to a higher level.

Parameter screens show editable parameters with white wording and view-only parameters with cyan wording.

A click on white parameters calls up the relevant edit screen. The parameter value is confirmed when ticked and it is deleted when marked with symbol “x”, in which case the last setpoint is restored.

Parameters referred to function enabling/disabling are activated/de-activated by moving the white circle. The status confirmation is visible along the parameter.

For easier consultation, many parameters and measured values are featured in multiple screen loops, grouped by uniform functions.

### 5.2.1 Info

The “Info” icon on the home page gives access to a screen loop containing information on the unit.

### 5.2.2 Demand

The “Demand” icon on the home page gives access to a screen loop containing information on the demand status of the active functions in the unit.

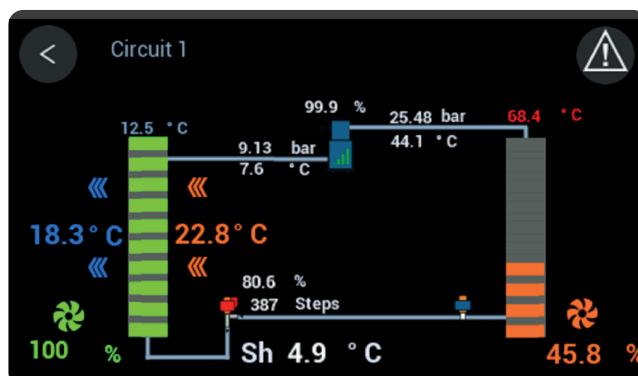
The relevant setpoints are visible in the various demand screens.

### 5.2.3 Synoptic panel

The “Synoptic Panel” icon gives access to the corresponding menu.

The synoptic panel is designed to show an overview of the operating status and of the main parameters.

Screens vary according to the features of each unit.



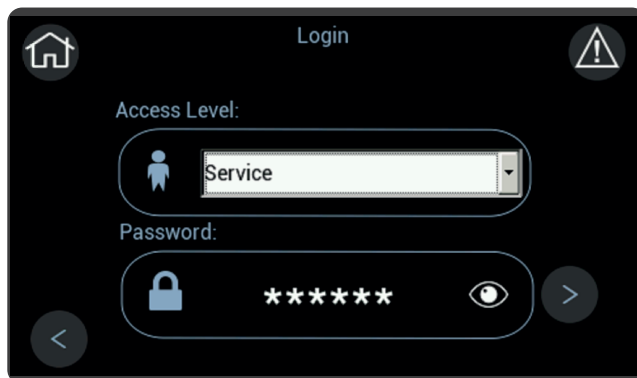
The “Info” icons in the screens give access to the information and parameters of the corresponding component.

## 5.2.4 Operating setpoint

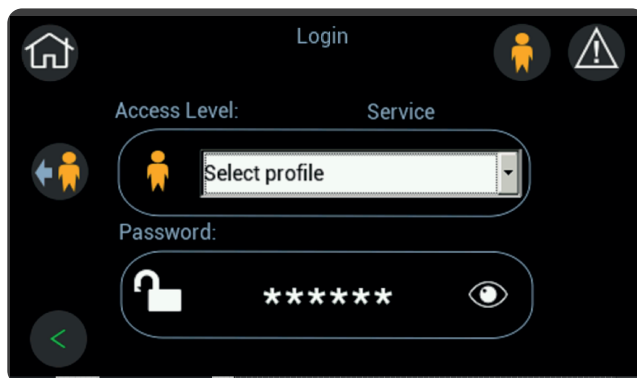
### 5.2.5 Login

The user must log in with his own profile in order to access reserved menus and to edit the featured parameters. Below is the login procedure.

- Select the access level corresponding to the given credentials.
- Click "password" and enter the value corresponding to the given access level, then tick to confirm.
- Confirm the password tapping the green arrow icon button on the bottom right-hand side.



If the entered password is correct, the padlock opens and the access symbol appears, based on the level. Tap the green arrow icon button on the bottom left-hand side to go back to the main menu.



The little man icon with the arrow on the left causes the system to exit the access level.

The symbol stays on the top right-hand side of all screens, except for the home page, until access is active. The system exits the login automatically after an idle time shown on the display.

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