HITACHI
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CSNET WEB

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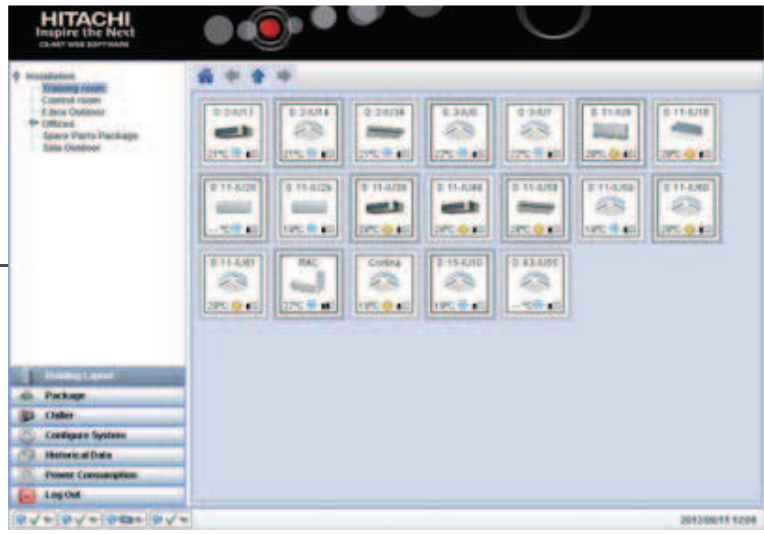
CSNET WEB



Technical Catalogue

Utopia, Chiller & Set Free series
Building Air Conditioning control
Version 3

HITACHI
Inspire the Next

Contents

General Index

1. General characteristics

Index

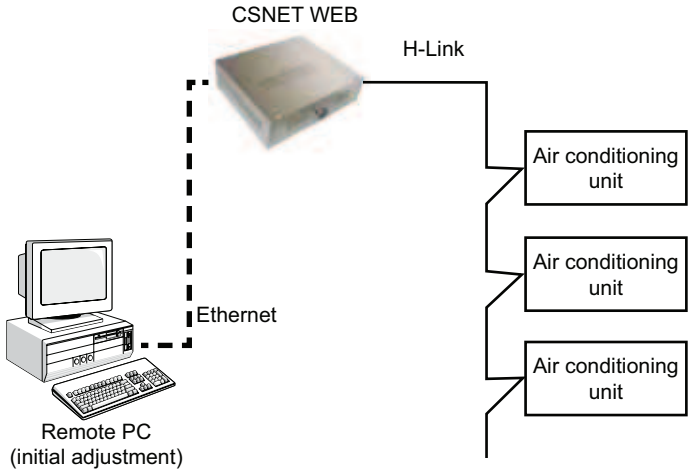
1.1 Distributed system

CSNET WEB is an independent centralised control system which can control an H-LINK comunication line. When it is connected to a system with Packaged units, it can control up to 160 indoor units and 64 outdoor units, and when connected to water coolers, up to 8 water chillers.

CSNET WEB connects to a Local Area Network or Internet (using a DSL Router) by means of its Ethernet port, so that the parameters can be adjusted and monitored at a distance.

The internal memory for adjustments to the timer and the units allows CSNET WEB to function independently after initial adjustment through a personal computer or similar device.

CSNET WEB does not need a dedicated computer to operate.



NOTE

An initial adjustment is always required.

1.2 CSNET WEB Network

Up to 4 CSNET WEB servers can be connected to a CSNET WEB client thus forming a CSNET WEB network. This network should be configured from Local Computer Configuration.

A CSNET WEB Network may be formed with both packaged and chiller CSNET WEB servers. Then it is possible to have in a single CSNET WEB client both chiller and packaged units.

NOTE

Each CSNET WEB server can control only either chiller or packaged units.

1.3 Based on Java technology

CSNET WEB uses JAVA technology to control and monitor remotely operation of the installation.

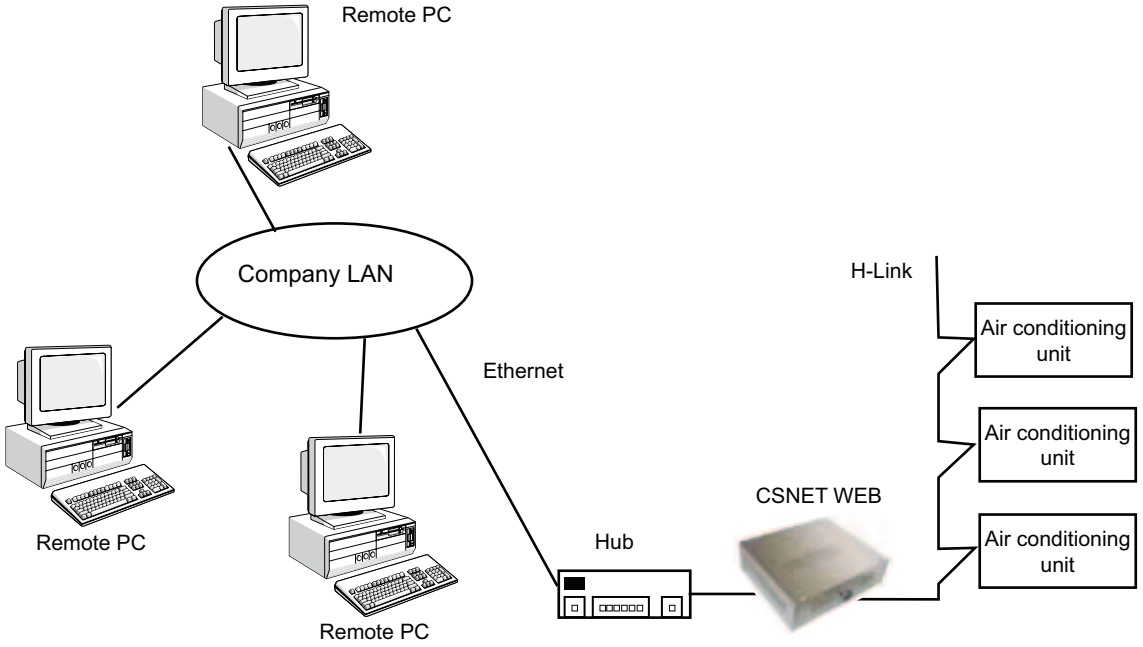
If you want the CSNET WEB application to run in a PC, it must have JAVA J2SE Runtime Environment installed.

CSNET WEB is supplied with a CD-ROM to ensure simple installation.

1.4 LAN connection

CSNET WEB can be connected to a Local Area Network through its Ethernet port. After configuring the network, the system will be accessible from any site in the company's network.

Some adjustments are required for the LAN connection, and the network administrator's assistance is needed.



1.5 Internet connection

CSNET WEB has been designed to be accessible via Internet. This means maintenance is quick and effective, which satisfies the needs of the final user.

NOTE

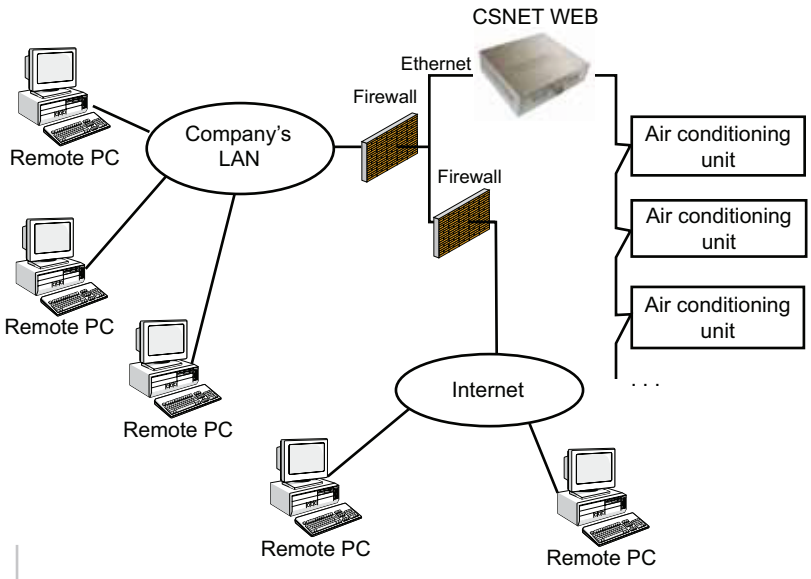
It is recommended that a dedicated DSL line is used in order not to interrupt the company's network in the building.

1.5.1 Via a LAN

CSNET WEB can be connected to the Internet and to the company'd LAN using a router.

The LAN has to be specially configured to guarantee security, using firewalls and anti-virus software.

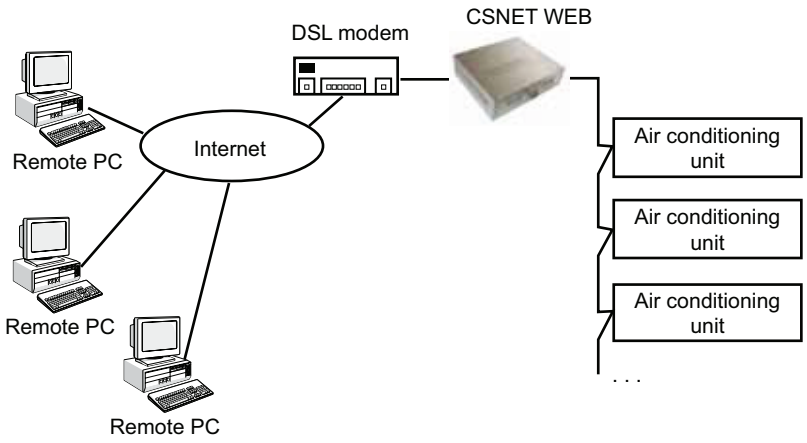
This requires the assistance of the company's LAN administrator.



1.5.2 Direct

Using the Ethernet port, CSNET WEB can be connected directly to the Internet via a suitably configured DSL modem. This makes it is possible to monitor the system from any computer with Internet access.

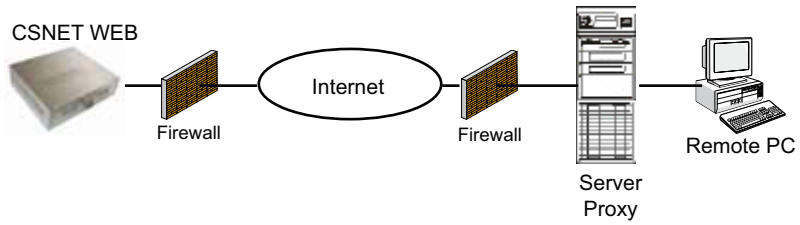
Assistance from an IT expert is required. Security should also be ensured by external means such as firewalls and anti-virus software.



1.5.3 Proxy

A proxy is a network server which generally only allows access to WEB content.

It is configured in the new proxy adjustment window which has been added to the Local software configuration, as shown later.



NOTE

- *Proxy will use NTLM1, Kerberos, Basic or Digest authentication. NTLM2 authentication is not permitted. Your network administrator should provide you with information about authentication. The operation through a proxy is not guaranteed as the network configuration and the antivirus software may hinder the correct communication between the client computer and the CSNET WEB.*
- *The proxy and firewalls will allow communication through port 8080.*

1.6 Graphic interface

CSNET WEB has two ways of presenting information and the available program options:

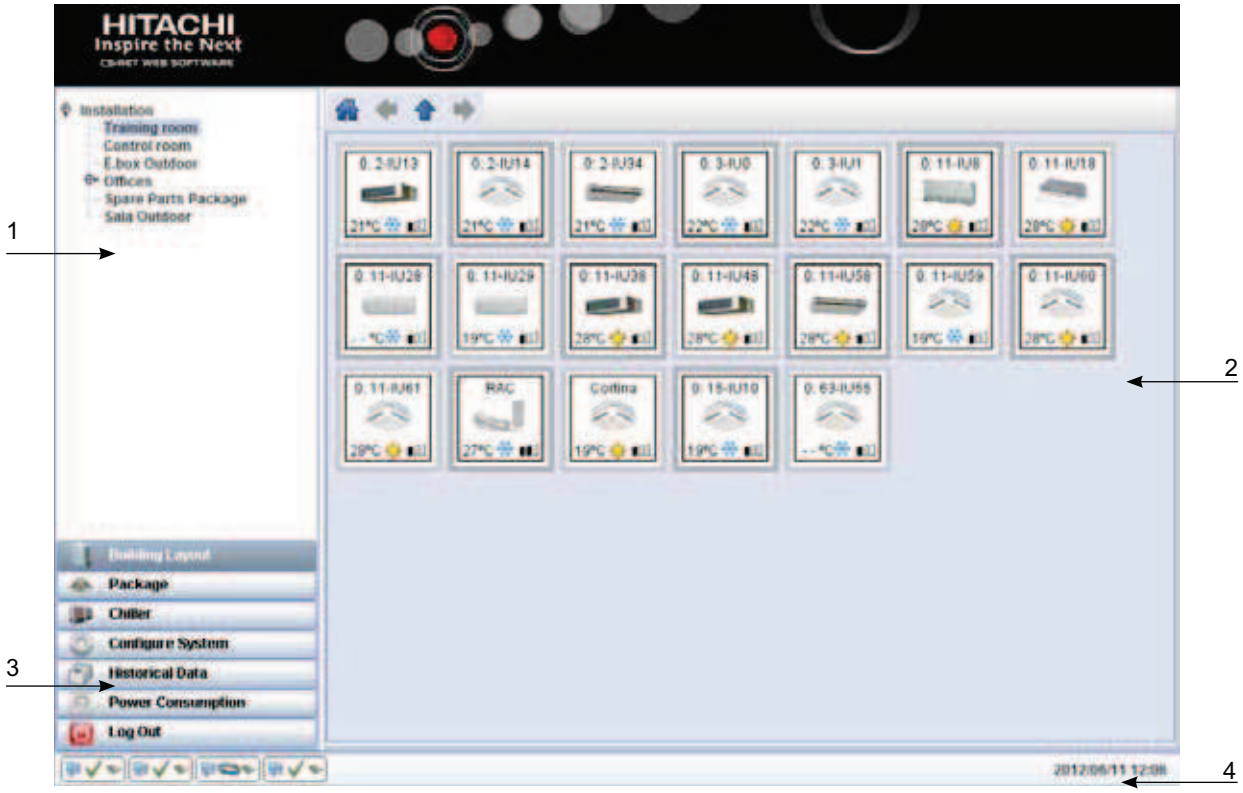
- Overall view: use a tree to organise the installation units and a table to show the units information.
- Building Layout view: use a tree to organise the installation units and a zone layout to show the units information.

This two interfaces makes it easier to use and allows access to the system in a clearer more comprehensible way.

1.6.1 Overall view

CSNET WEB has an initial screen that shows a virtual layout with the detected units.

By clicking on the unit icon a virtual remote controller will appear giving to the user the option of managing the units.



1 **Area tree**: Installation tree with the different areas defined by the user.
2 **Units zone**: Lists of all the indoor units and chillers with a basic state information.
3 **Main options**: Gives access to the installation data view (Chiller and/or Package), the configuration of CSNET WEB, the Historical Data and the Power Consumption.
4 **HARC-WEB Status**: HARC-WEB Status: show the current state of four HARCWEB connections, software functions enabled and if there are automatic updates available.

CSNET WEB has also an extended view that allows more complex functions.

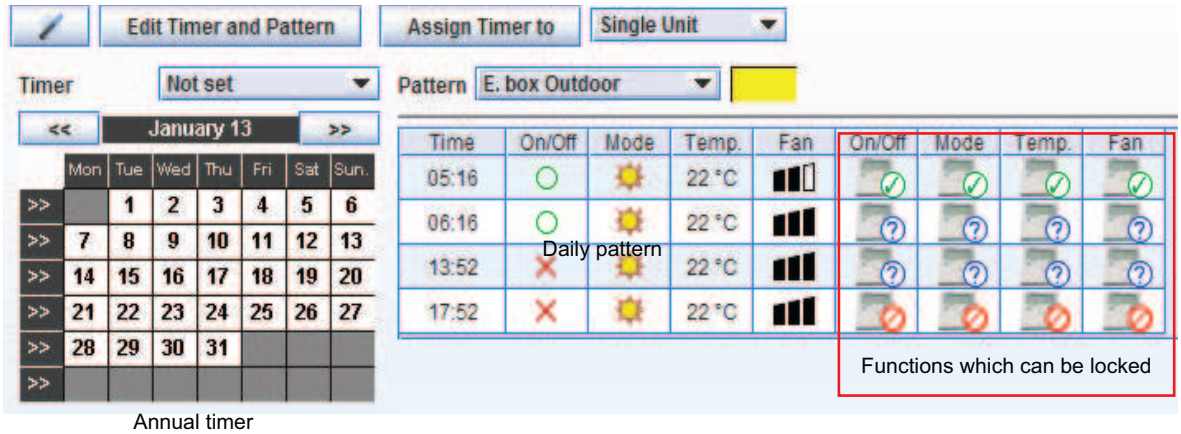
1 **Edition of area tree**: Allows you to edit the area tree.
2 **Operation panels**: Control area for the operation of units.

1.6.2 Timer

CSNET WEB has a new improved timer which is easier to program. It can memorize up to 4 years of programming and lets you choose an annual timer independently for each unit and day.

It is easy to create a daily Pattern which can be assigned to the days required, and the timer can be easily assigned to specific units as required.

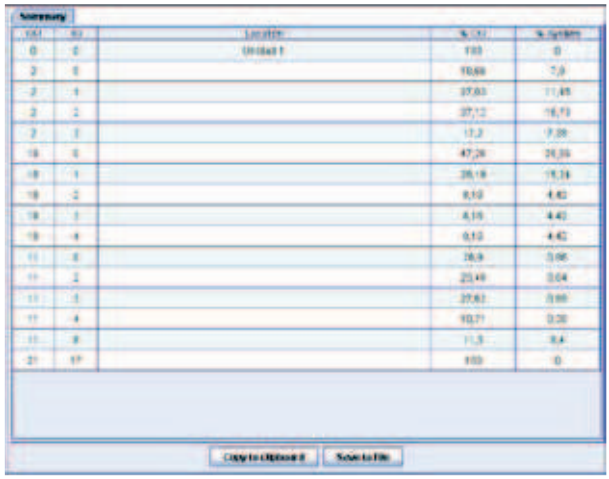
The daily Pattern lets you time the lock/unlock remote control functions as required, so you can control the system perfectly with greater comfort.



Annual timer

1.6.3 Power consumption option

CSNET WEB lets you choose the period for which you control the proportion of power consumption of the indoor units compared to the outdoor, ranging from the data for a particular date to the data for a whole year.

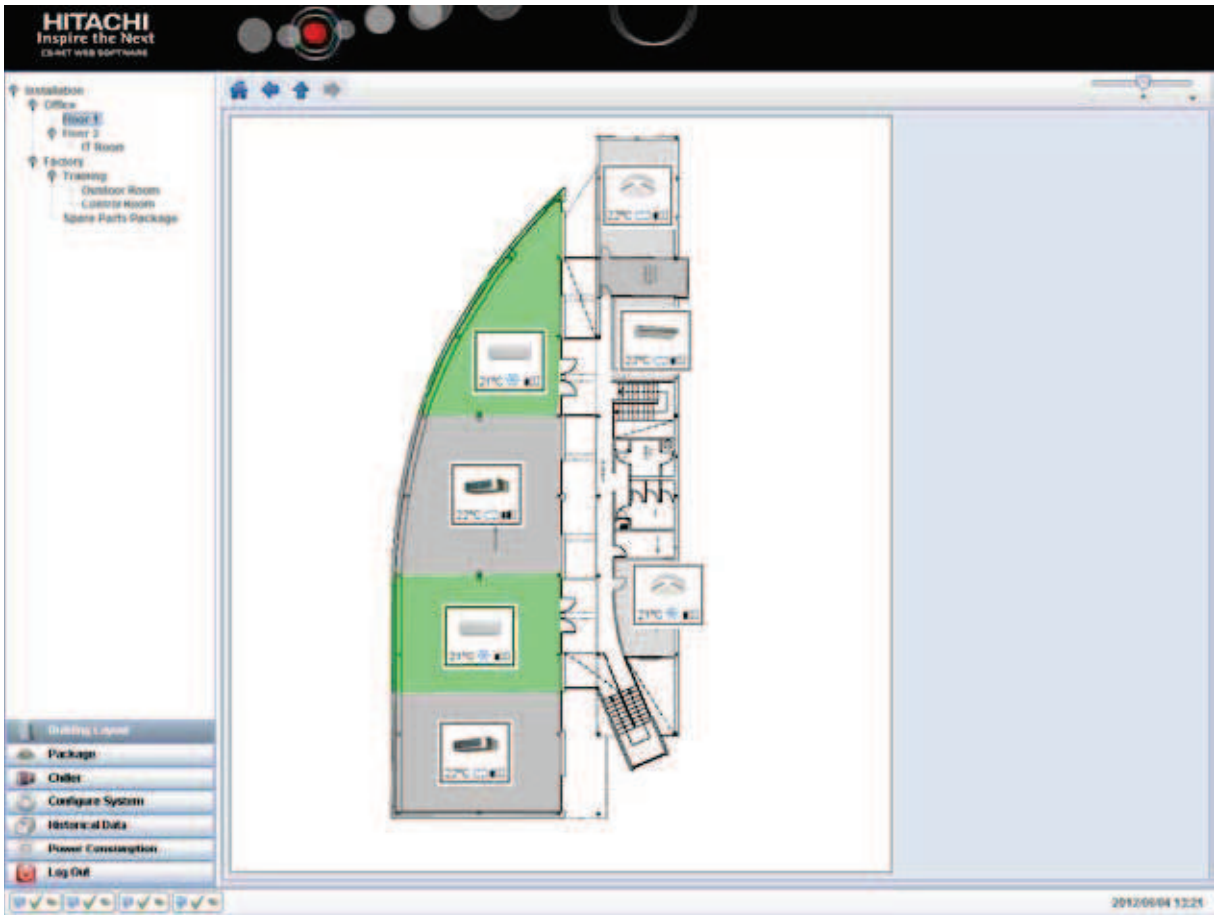


1.6.4 Historical data option

CSNET WEB introduces the option of always showing historical data in the format of a table and graph, letting you analyse the problem immediately and find a solution easily.

1.6.5 Building layout editor

CSNET WEB is supplied with a Building Layout Editor that let the user to customize their view and the way of how the units are distributed through the installation.



The functions are the same than normal CSNET WEB, but there is a new user friendly view. To control a Packaged or a Chiller unit just clic on the area or the icon of the unit and start to work with the virtual remote controller.

NOTE

Virtual remote control is different for Chiller units.

1.6.6 Interface utilities

◆ HARC Web status bar

HARC Web status bar indicates the date & time of current. HARC on the right side, and on the left it has one icon for each HARC. That icon will show us the current state of each HARC. At the left of the date & time, it could appear a notification of new software updates.

ICON	HARC STATUS
	Not configured
	Connected and synchronised
	Communication error
	Sending information to the HARC
	Time and date are not synchronised

ICON	HARC STATUS
	Asking for synchronisation
	Synchronising data
	Doing autoconfiguration
	There are software updates for that HARC

Setting the mouse over the icon it will give more information about the HARC.

NOTE

Autoconfiguration indication will grow following the percentage of autoconfiguration task that is currently done.

Status bar informs about general functions that are currently being executed by the software.

Those icons meaning is explained on the following table.

ICON	NOTIFICATION
	Auto power consumption file storage is currently activated.
	Web server is running without problems
	Web server is running but it has some communication problems.
	Fidelio data is configured and working.
	Fidelio data is configured but it is not working.
	Mail alarm is running.
	Mail alarm error sending.
	Mail alarm is sending an email.
	Power meters are configured and enabled.
	Problem communicating with Power Meters.
	There are updates available for CSNET WEB software

◆ Password visualisation

On each password field it could exist the option to enter this password viewing the keys typed.

By default password will be hide, but if user does not know what is typing wrong, he can click with right button of the mouse and it will appear a popup menu that will give the option to show or hide the password data.

In case that user presses “show password” option, the current password will be deleted due to keep a strong security, and from that moment password typing will be visible.

Next times that user will enter to these windows, the password will be always hidden to the user.

1.6.7 New features

◆ Adjustment of optional functions

The use of of a 7-segment display on the CSNET WEB interface makes installation and maintenance easy.

CSNET WEB includes optional functions which can be configured using the DSW switches:

- Alarm notification: This is the selected by default. It shows when there is an alarm and indicates the code in a 7-segment display.
- IP notification: This function shows the current IP address in the 7-segment display, allowing the installer to make a connection when the IP configuration is different from the default.
- Unit notification: CSNET WEB will indicate the number of units detected.
- Detailed alarm notification: This functions shows the installer the alarm code for each unit in the 7-segment display.

◆ Configuration of the backup copy

Maintenance of CSNET WEB has improved, and allows a backup copy to be made of the current configuration. If CSNET WEB had to be replaced, the backup copy of the configuration file would restore the configuration of the new CSNET WEB.

NOTE

The passwords are not stored in the backup copy. They have to introduced again manually.

◆ Register of alarms

Maintenance of the installation has been improved with the introduction of a register of alarms. The data show a detailed description of what happened for each alarm which has been produced. The information can be analysed from CSNET WEB or exported to a text file for later analysis.

◆ Download of historical data

CSNET WEB now lets you download the historical data starting with a particular date.

The historical data can be stored in the new CSNET WEB format or in a format compatible with previous versions of CSNET.

CSNET WEB stores up to 50 MB of compressed historical data. Depending on the installation and connection this option may take a few minutes.

50 MB of compressed data can store approximately the data of an installation of 128 indoor units for 3 months.

◆ Autosave of the error registry

From the software adjustment window, you can configure the error registry to be saved automatically in the remote computer when there is an error.

◆ Autosave of the power consumption

From the software adjustment window, you can configure the power consumption file to be saved daily in the remote computer.

◆ Installation list

It is now easier to administer different CSNET WEB installations from a remote PC. The new installation list lets you select a list of the latest connections. The user's name and password can also be remembered by the software if required.

This new feature makes the installation easier to use for users who connect regularly with different CSNET WEB installations.

◆ Automatic updates

The CSNET WEB software and the interface software can be updated online after configuring the internet connection. That option allows latest updates without having the last version of the CD-ROM.

Otherwise, the CSNET WEB interface can be updated using the latest version of the CD-ROM CSNET WEB, and the CSNET WEB customer software must be reinstalled for each remote computer using the installation software in the CD-ROM.

◆ Cold draft

In VRF systems, when load is very low and only few units are working in a system, it is possible that discharge air temperature is reduced below comfort value. With this new option HITACHI improves comfort for these situations by setting unit to Thermo OFF when discharge air temperature is below comfort temperature and set unit again to Thermo ON when temperature will be again inside comfort range.

◆ H-LINK II

CSNET WEB is compatible with new version of the Hitachi communication protocol H-LINK II. The software still operates with old protocol version.

◆ RCS Web

RCS Web is a reduced CSNET WEB for Packaged that allows controlling only the remote control functions. It is user friendly and easy to be used due to its virtual remote controller appearance.

◆ Automatic Building Layout

CSNET WEB is supplied with a Building Layout editor that let the user to customize their Building Layout view. Although if the Building Layout file is not created, CSNET WEB automatically creates a layout view following the tree organization created on the HARC.

◆ Compatibility with Central Stations

CSNET WEB is now compatible with PSC-A64GT & PSC-A64S Central Stations but with some restrictions with RCS sensor and liquid and gas temperature variables.

◆ Web Server

CSNET WEB software can run as a web server that lets users to configure setting for the user allowed units.

With that, users can send orders without installing CSNET WEB software

◆ Compatibility with Power Meters

Modbus-TCP Power Meter devices can be connected to the CSNET WEB. The data extracted from those devices will be showed and used for power consumption calculation.

◆ Power consumption costs inputs

Power Consumption lets to configure the energy cost within different time periods. With this defined energy costs, CSNET WEB shows an estimated cost per indoor unit.

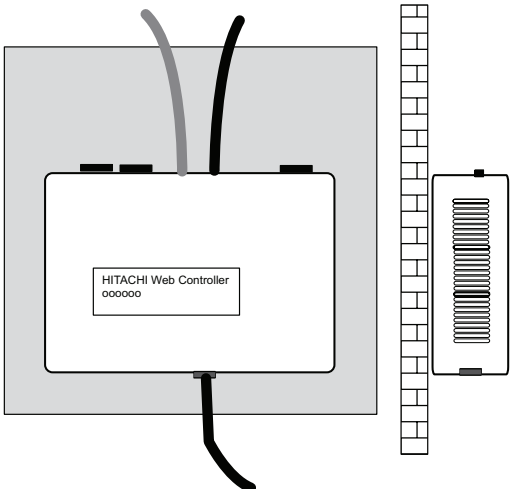
2. Installation

Index

2.1 Security summary

CAUTION

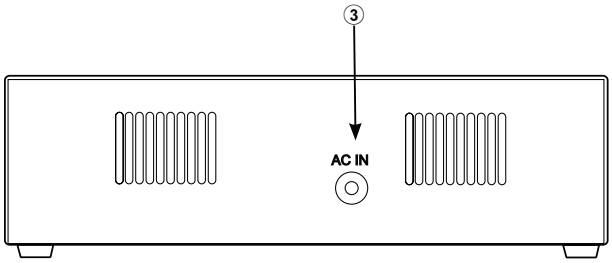
- *Do not connect the electrical power to the control system until the preparation for the trial operation has been finalized successfully.*
- *Read this manual carefully before carrying out any installation work.*
- *Read the operation manual before configuring the air conditioning units.*
- *Install CSNET WEB away from possible generators of electromagnetic waves.*
- *Comply with the local electrical regulations.*
- *Use a power circuit which is not subject to surges in demand.*
- *Make sure that there is sufficient space around the CSNET WEB (a minimum of 50 mm) for heat to dissipate properly (see Installation procedure).*
- *If the equipment is installed vertically, situate the power feed below and the control outputs above.*
- *Do not install CSNET WEB in places...:*
  - *in which there is vapour, oil or spills.*
  - *in which there are sources of heat nearby (sulphurous atmospheres).*
  - *in which the accumulation, generation or leaks of inflammable gases have been detected.*
  - *near the sea, or in saline, acid or alkaline atmospheres.*
- *This appliance must be used only by adult and capable people, having received the technical information or instructions to handle properly and safely this appliance.*
- *Children should be supervised to ensure that they do not play with the appliance.*



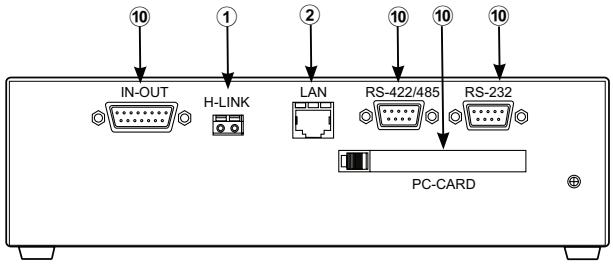
2.2 Identifying the elements

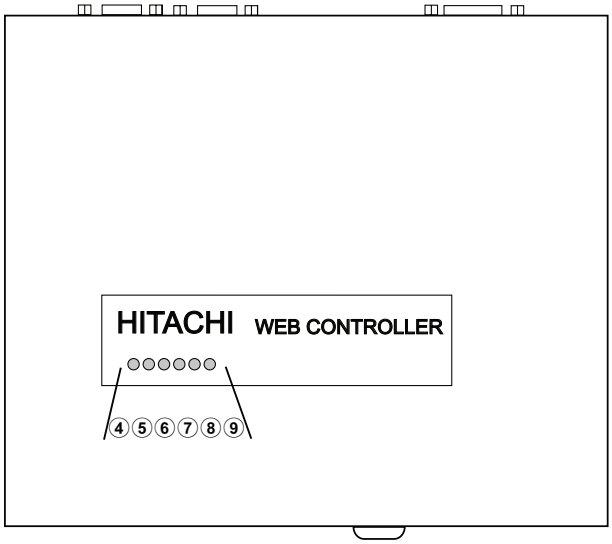
The figure shows the name of each element of the CSNET WEB interface.

Rear view



Front view from “A”





① H-LINK connector: Connected to the air conditioning equipment

② LAN connector: Connected to the local area network

③ Network cable: Power feed entry

④ POWER: LED power indicator

⑤ H-LINK: LED indicator of transmission from the air conditioning equipment

⑥ RS-422/RS-485: LED indicator of transmission (not used)

⑦ RS-232-C: LED of transmission (not used)

⑧ LAN: LED of LAN transmission. Shines when adjusting the LAN link

⑨ ERROR: LED indicator of abnormality. Blinks on error

⑩ Unused connectors

2.3 Specifications

Hardware specifications:

Elements	Specifications
Power feed	AC 230 V 1~ ±10% (50Hz)
Consumption	20W (maximum)
External dimensions	Width: 240 mm, Length: 204 mm, Height: 74.5 mm
Weight	1.94 kg
Installation conditions	Indoors (in a control panel, table-top)
Ambient temperature	0~40 ºC
Humidity	20~85% (without condensation)

Specifications for communication with the units:

Elements	Specifications
Communication with	H-LINK (H-LINK II compatible) (1)
Communication cable	Twin wire, without polarity
Communication system	Half-duplex
Communication method	Asynchronous
Transmission speed	9600 Bauds
Cable length	Maximum 1000 m (total length)
Number of units	Up to 64 outdoor units and 160 indoor units or up to 8 water chillers (1)

Communication specifications with a local area network:

Elements	Specifications
Remote computer	Processor at 1000 MHz, 256 MB RAM, 200 MB free hard disc space. Windows 2000 or higher, with Java Runtime Environment (2) Versión 6 Update 3 or higher installed (included in the CD-ROM)

(1) Either Packaged units or water chillers only can be connected in an H-LINK communication line. Mixed connection of Packaged units and water chillers is not permitted.

(2) Java(R) is a registered trade mark of Sun Microsystems.

NOTE

Remember that H-LINK II has a limit of 200 devices connected. Therefore, in the case of 64 outdoor units connected to the same H-LINK, only 135 other elements may be connected (including indoor units and control system).

2.3.1 H-LINK

◆ H-LINK II Compatible

CSNET WEB v3.0 adds compatibility with the new version of H-LINK communication called H-LINK 2 while maintaining full compatibility with current H-LINK (H-LINK 1) units.

Connection of both H-LINK 1 and H-LINK 2 units in the same H-LINK unit is possible considering the unit limitations and addressing.

H-LINK 2 communication system adds new addressing for up to 64 Refrigerant Address and up to 64 Indoor Unit Address per each Refrigerant Address.

Also H-LINK 2 adds increased number of devices up to a maximum of 200 devices in the H-LINK 2 line. It is considered as a device a CSNET WEB, an Indoor Unit, an Outdoor Unit or other devices with H-LINK address.

PC-A1IO, KPI or DX-Kit count as a normal indoor unit.

◆ Compatibility with Central Stations

CSNET WEB is now compatible with PSC-A64GT & PSC-A64S central stations.

By switching on the Pin 7 of the option dip-switch, CSNET WEB activates the compatibility with the central stations.

CSNET WEB has preference over the central stations. If CSNET WEB is set in central mode a unit and Central Station tries to send an order, CSNET WEB will overwrite the order and restore the state of the unit that CSNETWEB has known.

If CSNET WEB has configured the remote switch not available of a unit, the Central Station will not be able to remove that configuration.

CAUTION

- *When this function is enabled, CSNET WEB requires a Central Station to communicate with the units. If there is no Central Station controlling some unit, it will cause important H-LINK communication problems.*
- *At Central Station compatibility mode, CSNET WEB does not detect the RCS Sensor, so it will not be displayed on system status and it will not be available to select as an input on the auto cool/heat operation.*
- *There are some variables in system status like liquid or gas temperature that will only be displayed after a value change. Those values are only asked by CSNET WEB after the change value, so after starting CSNET WEB they will be displayed as 0 until their value changes.*

The maximum number of Indoor units is 160, and for the outdoor units are 64.

When there is a central control device like CSNET WEB, the maximum number of total units (indoor and outdoor units) for only 1000 meters of H-LINK line is shown on the following table:

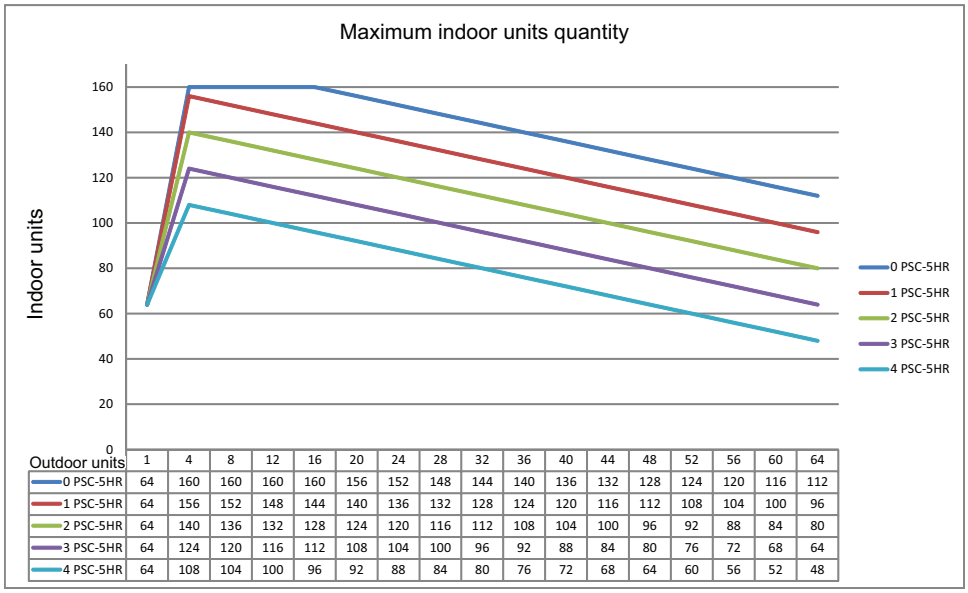
	Maximum number
Outdoor units	64
Indoor units	160
Units (outdoor and indoor)	176
H-LINK devices	200

H-LINK line length could be up to 1000 meters, they could be increased to 5000 meters using up to 4 PSC-5HR. Each of them adds 1000 meters to the line, affecting the quantity of indoor unit that can be connected to the same H-LINK.

Each H-LINK line repeater (PSC-5HR) counts as 16 indoor units. The following table summarize the affection of the PSC-5HR to the indoor and outdoor unit maximum number.

Number of PSC-5HR	Maximum length of H-LINK	Maximum number of indoor and outdoor units
0	1000 meters	176
1	2000 meters	160
2	3000 meters	144
3	4000 meters	128
4	5000 meters	112

Therefore, considering the previous maximums and the number of PSC-5HR, the maximum number of indoor units with one central control, on that case CSNET WEB, is shown on the following table and graphic.



Outdoor units	1	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64
0 PSC-5HR	64	160	160	160	160	156	152	148	144	140	136	132	128	124	120	116	112
1 PSC-5HR	64	156	152	148	144	140	136	132	128	124	120	116	112	108	104	100	96
2 PSC-5HR	64	140	136	132	128	124	120	116	112	108	104	100	96	92	88	84	80
3 PSC-5HR	64	124	120	116	112	108	104	100	96	92	88	84	80	76	72	68	64
4 PSC-5HR	64	108	104	100	96	92	88	84	80	76	72	68	64	60	56	52	48

◆ Chiller compatible

CSNET WEB v3 maintain compatibility with water chillers. Remember that water chiller and packaged units cannot be connected to the same H-LINK line.

CSNET WEB v3 requires DSW setting configuration to select between chiller and Packaged.

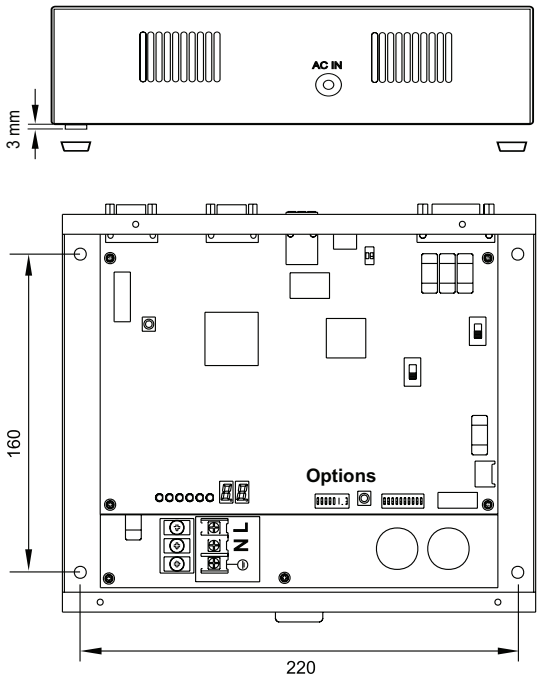
2.4 Installation

When unpacking the equipment, make sure that it has not been damaged during transport.

2.4.1 Securing the device

Proceed as follows:

1. Remove the rubber base pads.
2. Remove the 4 screws from the cover and take it off.
3. Secure the box to the vertical back plate from inside with M5 screws (not supplied), using 3 mm washers outside to separate the box from the wall.
4. Replace the cover. Be careful to position the top correctly.



CAUTION

- *Before switching on and starting CSNET-WEB you should make sure that:*
  1. All the cooling units and circuits are switched on and working correctly.
  2. All the H-Link connections have been made.
  3. All the units are either Packaged units or water chillers. Mixed connection of Packaged units and water chillers is not permitted.
- *If any unit is not connected or without power when CSNET-WEB is started, it will not be recognized and will have to be configured later.*
- *The signal cables should be a short as possible. Keep other power cables at a distance of at least 150 mm. Do not cable them together (although they may cross). If a joint installation is inevitable, take the following measures to prevent parasitic currents:*
  - Protect the signal cable with a metallic tube earthed at one end.
  - For communications, use a shielded cable earthed at one end.

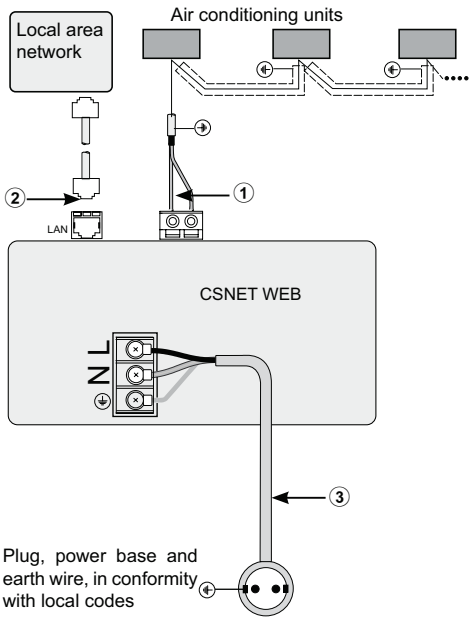
DANGER

- *Always disconnect the power from CSNET WEB when manipulating the equipment to prevent electrocution.*
- *Do not connect the interface to the network until the installation is complete.*
- *Follow the local codification and safety rules strictly when connecting the installation to the electrical network.*
- *A three-wire cable is needed for a connection to the network (two wires plus earth), with a suitable plug at one end.*

2.4.2 Electrical connection

In order to work, CSNET WEB has to be connected to the electrical power network, the air conditioning equipment (H-Link) line and the Ethernet LAN.

No.	Connection	Cable specifications
①	Transmission cable for the units (H-Link)	Twisted pair cable 1P-0,75 mm². Without polarity. Insulated and earthed at one end. To select the type of cable, see the outdoor unit Installation and Operation Manual
②	LAN line	Category 5 or above LAN cable - A cross-over cable is needed for direct connection to a PC. - A direct cable is needed for connection to a commercial distributor (Hub)
③	Network cable 2 phase + earth	AC 230V 1~ 50 Hz Make sure that the cable used complies with local regulations and that both the plug and socket are correctly earthed.



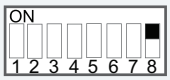
After making the connections, replace the cover

2.4.3 Set Chiller or Packaged installation

During the installation you must to specify what kind of units are installed.

By default, CSNET WEB is configured to Packaged units, but you can specify that units are Chillers using the DSW switches of the CSNET WEB.

Due to set the CSNET WEB ready for work with Chillers it must to be set ON the DIP-Switch option the pin 8 to ON and restart the CSNET WEB device.

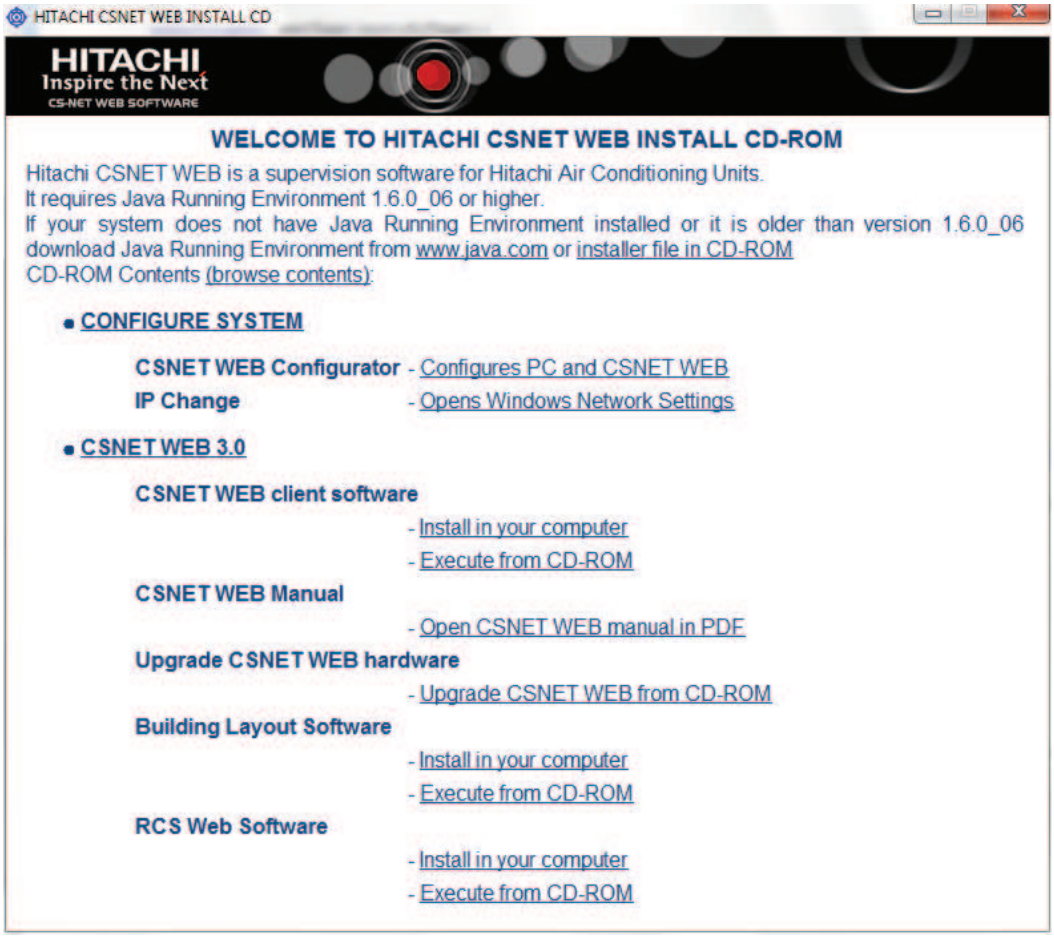
Option DIP Switch	Pin 8
	0: Packaged 1: Chiller

Switches and pins are explained in the chapter *System options*.

2.5 Configuring the Hardware

After completing and checking the electrical installation, ensure that all the air conditioning units are running, and supply power to CSNET WEB in order to configure the CSNET WEB interface

1 Connect the computer that will be used for configuration to CSNET WEB with a crossed Ethernet cable.
2 Insert the CD-ROM that is supplied with the CSNET WEB Packaged into the computer that is already connected. If the Windows auto-start option is enabled, the installation programme will start automatically; if this option is not enabled, execute the Autoinstall.exe application that is included in the CD-ROM.
3 The initial page for the installation will be displayed with the following options:
   - **CSNET WEB Configurator:** open the CSNET WEB Configurator interface in order to configure and install your installation.
   - **IP Change:** Open the network settings of your system allowing change the IP of your computer.
   - **CSNET WEB Software:** execute the CSNET WEB Software from the CD.
   - **Install CSNET WEB in PC:** Install a copy of CSNET WEB in the local computer.
   - **CSNET WEB Manual:** opens the technical catalogue of CSNET WEB.
   - **Upgrade CSNET WEB hardware:** Upgrade the firmware of your CSNET WEB using our interface.
   - **Building Layout Software:** Execute the Building Layout Editor in order to use this application to create a Building Layout file.



2.5.1 CSNET WEB Configurator

The initial page for the installation, “CSNETWEB Hardware & Software Setup”, will be displayed with the following options:

- **Configure CSNET WEB Hardware (Change Network Settings)**: Change CSNET Web’s TCP/IP configuration in order to adapt it to the network where it will be installed.
- **Connect to CSNET WEB for Configuration:** Connect to the CSNET WEB application in order to configure all the points that are explained in the following chapters.
- **Install CSNET WEB Software in local PC:** to install the CSNET WEB application on our PC, and afterwards on the computers in the same network that will use CSNET WEB.
- **Update CSNET WEB Hardware:** this permits remote updating of the firmware of the CSNET WEB interface.

◆ Connecting to the CSNET WEB interface

1 Select “**Configure CSNET WEB Hardware (Change Network Settings)**” and the “**Select Network Card**” screen will be displayed showing the different network adapters available on the PC.

2 Select the network adapter that you will use and click “**Next**”.

3 The “**CSNET WEB Hardware Settings**” screen will be displayed in order to change CSNET WEB’s TCP/IP configuration.

The “Installer” password will be required in order to configure CSNET WEB. Initially, the password is “Installer”; it can be changed afterwards. Enter this password in the “**INSTALLER PWD**” field.

The HW IP ADDRESS, HW NETMASK and HW GATEWAY fields must be the configuration parameters required for CSNET WEB; they will be provided by the network adminstrator.

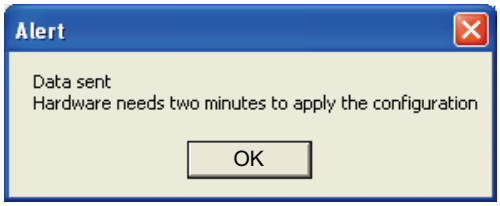
Click “**Next**” to continue. The “**Time, date & zone configuration**” screen will be displayed.

Enter the date and time.

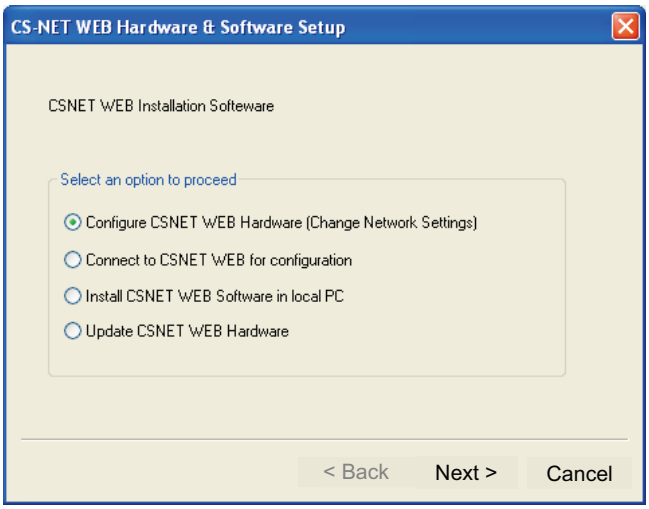
Select the geographical area nearest the installation.

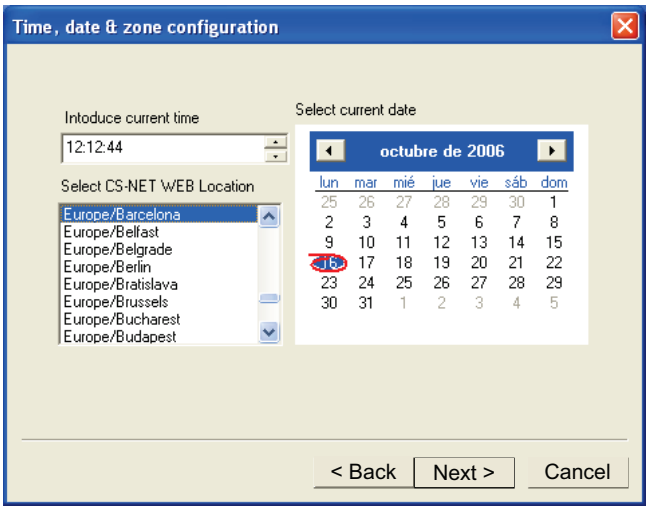
Click “**Next**” in order to configure CSNET WEB.

The installation programme will display the following message as a reminder that 2 minutes are required to apply the configuration.



Once CSNET WEB’s TCP/IP configuration is finished, the installation software will return to the initial screen.





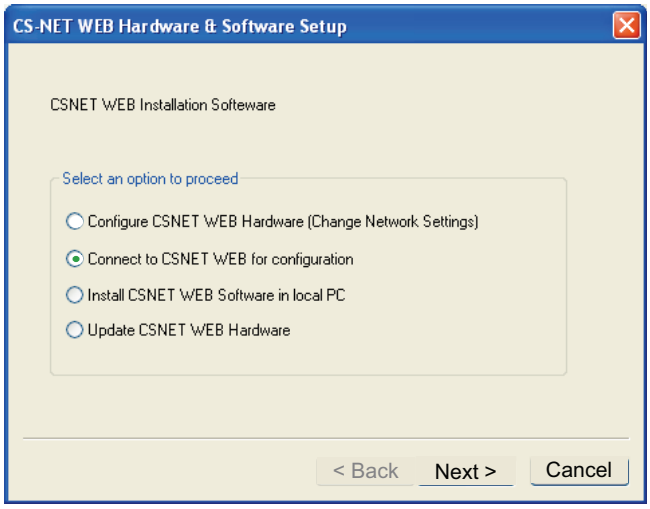
Connecting to CSNET WEB to configure the software

This option lets you change the PC network settings temporarily and connect to the CSNET WEB interface.

CAUTION

We recommend that you do not configure the software without configuring the CSNET WEB interface first.

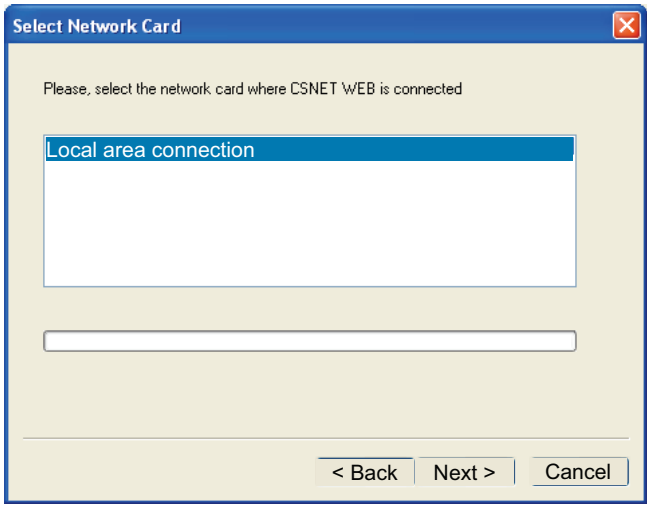
1 Select **Connect to CSNET WEB for Configuration**, press **Next** and the **Select Network Card** window appears, showing the network adaptors available in your PC.
2 Select the network adaptor you are going to use and press **Next**.
We recommend you choose **Local area connection** if the system does not already have a specific network (the network administrator will help you make the correct choice).
3 Introduce the IP of the CSNET WEB you want to connect to. The configuration you have already chosen appears by default. You should always introduce the temporary IP the PC has to use.

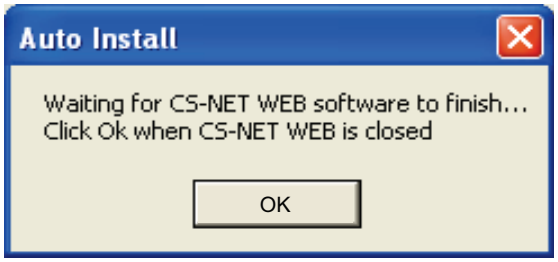


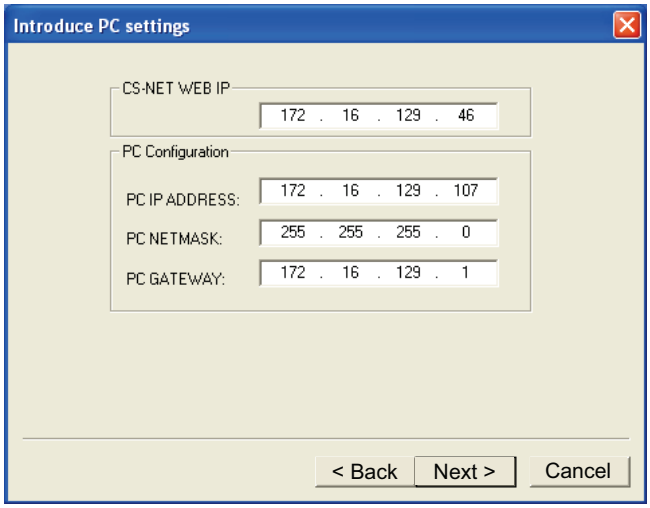
CAUTION

If the PC and CSNET WEB interface are connected to a local area network, the network configuration should be supplied by the network administrator. Otherwise, use a valid configuration within the range set for the CSNET WEB interface. In case of doubt, consult the network administrator.

4 Press **Next** to validate the changes, change the PC network configuration temporarily and start the CSNET WEB application which configures the system.
5 When the application starts it configures the system as indicated in chapter *Operation and configuration of packaged units*.
6 After completing the configuration close the CSNET WEB application and choose **OK** in the message **Waiting for CSNET WEB software to finish....** The installation will return to its initial screen.



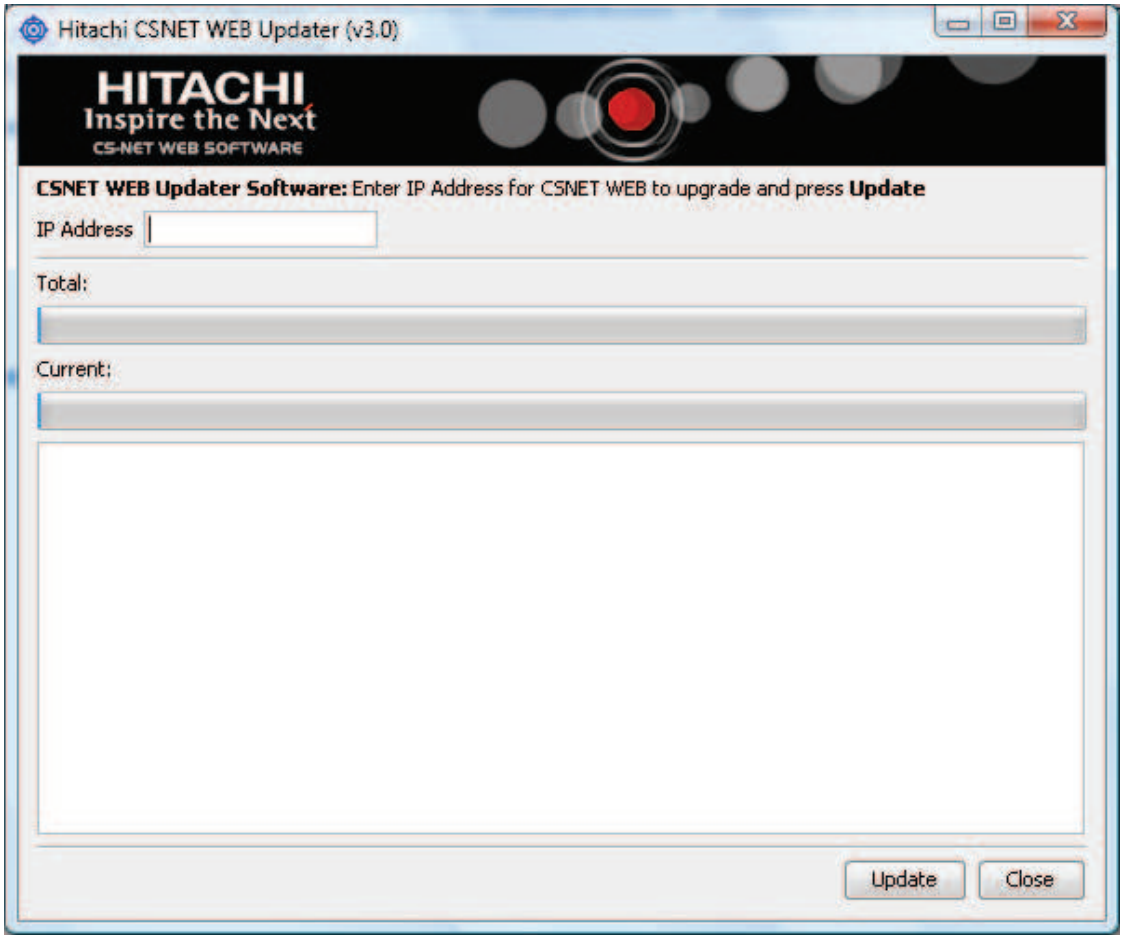




2.5.2 Updating the CSNET WEB hardware

This option allows updating of the firmware of the CSNET WEB.

1 Enter the installer's password, by default "**Installer**", in the "Installer Password" field. Enter IP address or the CSNET WEB network name in the "**IP Address**" field.
2 Press "**Update**". After a few minutes the progress bar will indicate that the process has ended (the time will depend on the speed of the connection with CSNET WEB).
3 Close the update software by pressing "**Close**".



2.5.3 Installation of the CSNET WEB software and of a shortcut in your PC

Proceed as follows to install the CSNET WEB application on your PC and/or on computers in the same network which have to be connected with the CSNET WEB interface:

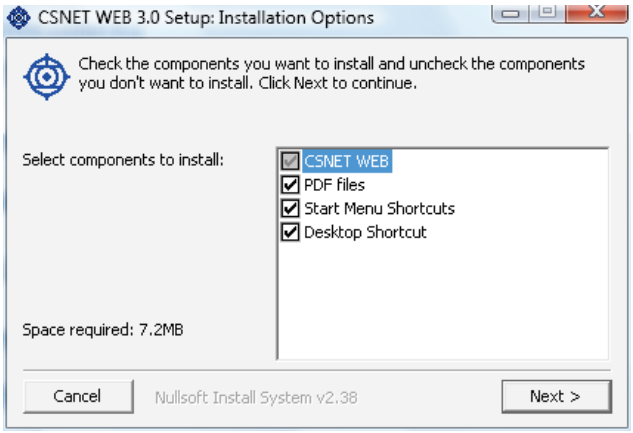
CAUTION

In order to run, the CSNET WEB application requires Java J2SE Runtime Environment to be installed in your PC. If it is not correctly installed, carry out step 1. In case of doubt, or if it is installed, go to step 2. If still in doubt, consult the network administrator.

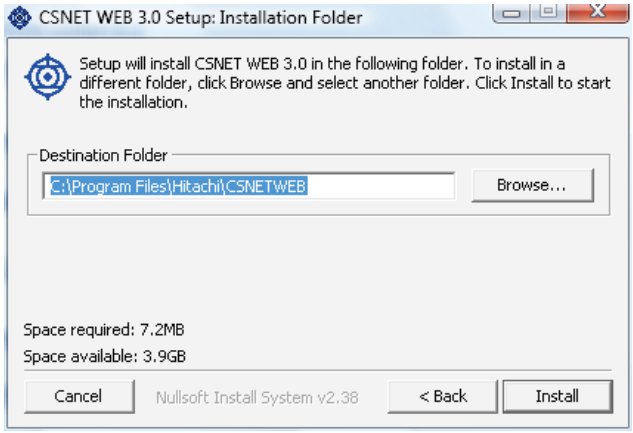
1 Press the **Installer file in CD-ROM** link in order to Install Java J2SE Runtime Environment 6.0. The Java installation application will start.

2 Press the **Install in your computer** link to install the CSNET WEB application.

3 Select the installation options.



4 Select the installation folder.



3. Local software configuration

Index

After configuring the CSNET WEB interface you should begin the configuration of the system. To install the RCS Web instead of CSNET WEB read the chapter *RCS Web*. Remember that RCS Web is a reduced version of CSNET Web with only remote control functions but more user-friendly for a non-expert user.

NOTE

CSNET WEB needs at least the following to be configured:

- *Local software configuration (see next page)*
- *Area tree (see chapter Area tree)*
- *Configuration of the unit (see chapter Unit settings)*
- *Auto Cool/Heat (see chapter Auto cool/heat)*

We recommend configuring the other points indicated in the manual at the same time, although this can be done later.

CAUTION

Remember that to access CSNET WEB by a shortcut you need to connect the computer to the Ethernet connection connected to the CSNET WEB interface.

When you click on the shortcut, a page appears in which you have to specify the language you want to use. The same screen shows a second timer (this can be configured later), which runs down to zero and then runs CSNETWEB in the selected language.

If you wait 10 seconds or press the OK button, CSNET WEB will show the Initial Page.

3.1 Initial page

The initial page is divided into two parts:

1 Access to the installation required

Local Software Configuration: The user name and password are case-sensitive.

When you try to access to the required installation, the initial screen shows three text fields which have to be completed to access the installation:

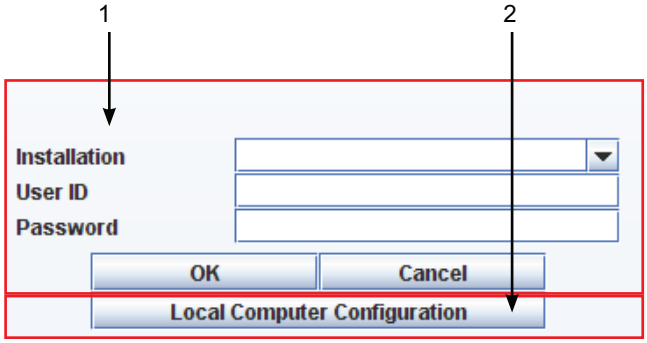
- **Installation**: Enter the IP address of the CSNET WEB to which you want to connect or the name of a previously created installation. The default IP of CSNET WEB is 192.168.0.3.
- **User ID**: Enter the name of the type of user who will access the installation.
- There are two types of user:
  - **"Installer"**: Has access to all the options. We recommend that only authorized people who know the program have access to this option.
  - **"User"**: Only has access to the Configuration of the units and visualization of the Timer.

NOTE

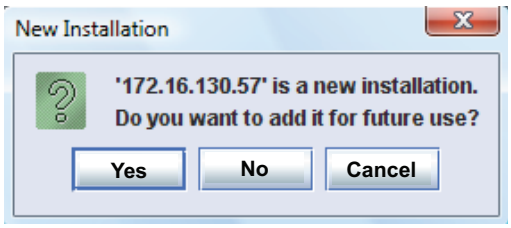
The User ID is case-sensitive.

- **Password**: Write the password of the user you have entered.
  - The default password for the "Installer" is: **Installer**
  - The default password for the "User" is: **User**

2 Using a proxy: As can be seen in the *Local Computer Configuration* section, if you select this option, the connection will be made through a proxy (if one is configured).



Once all the data have been introduced, press the "**OK**" button. If you are accessing this installation for the first time, the message "**New installation**" will appear:



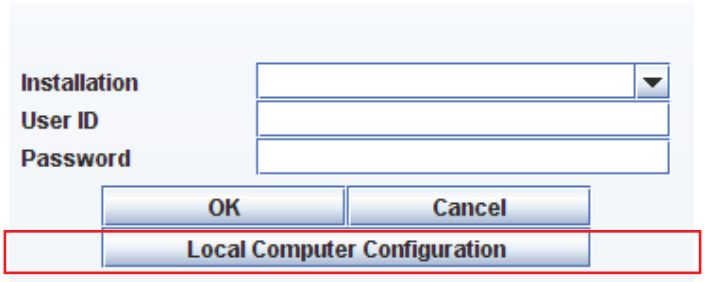
If you click "Yes", the data introduced will be saved. In this way, each time you start CSNET WEB in the "Installation" text field, you will see a drop-down menu with the different installations saved.

Next, CSNET WEB will connect to the installation you have entered, and show the main screen.

3.2 Local computer configuration

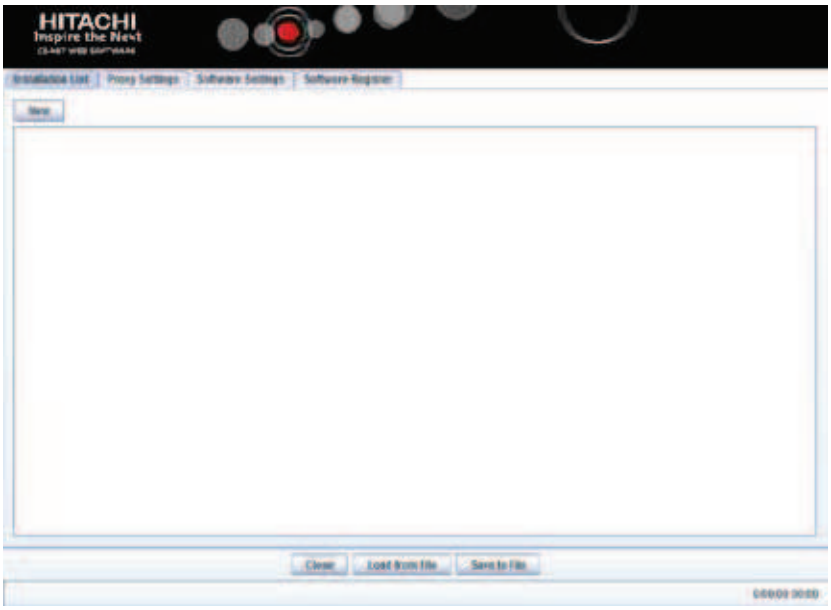
This option allows the different client computer configuration parameters to be modified, such as the Internet connection configuration, default language, local data storage or list of rapid access to installations.

If you click this button the following screen appears:



This screen lets you configure the operation of the software in your computer in terms of:

- Installation list.
- Proxy settings.
- Software settings.
- Software register.



3.2.1 Installation list

Press **New** to create a new installation.

"**New Network Item**" window will appear. Installation may also be edited or deleted by pressing in the Installation "**Edit**" and "**Delete**" buttons respectively.

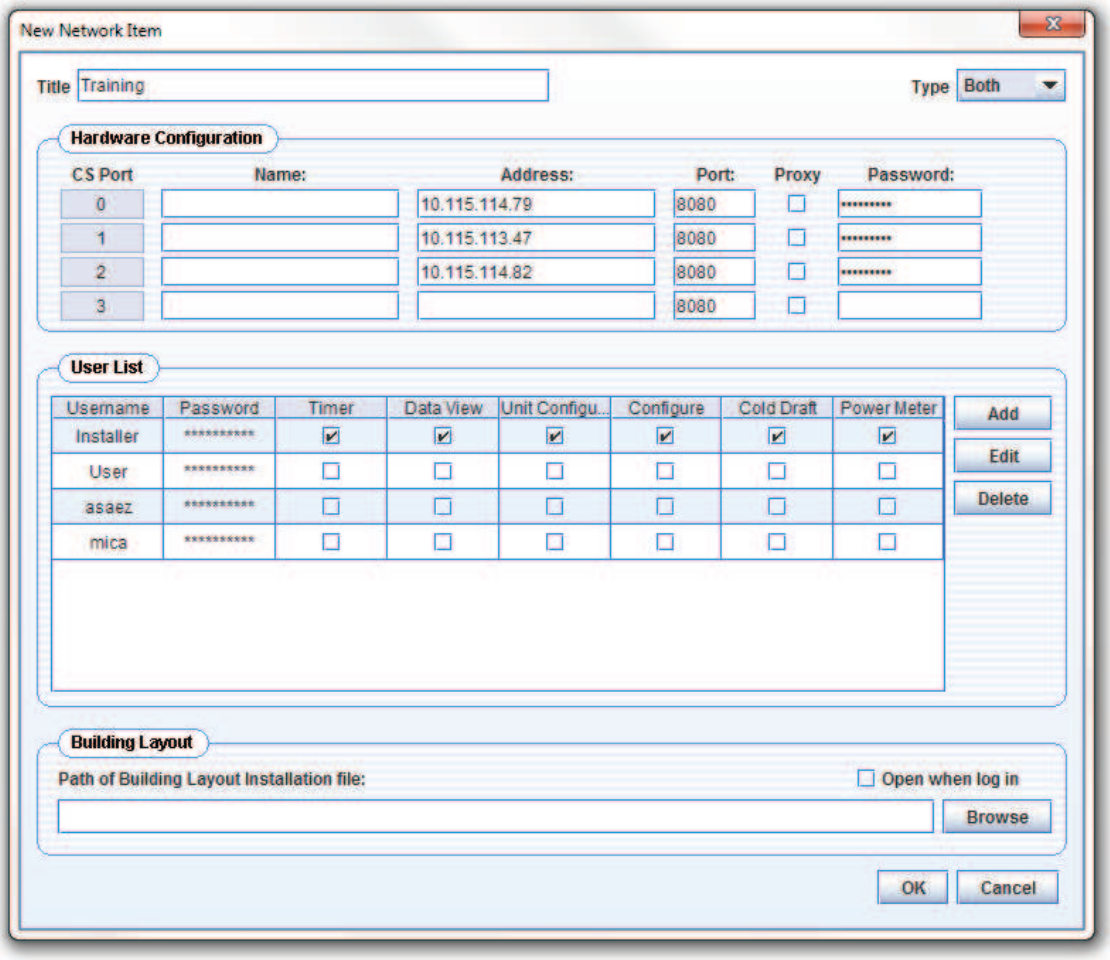
Enter details for the installation as follows:

- **Title**: Identification name for installation.
- **Building Layout:** Folder of the building layout file that represents this installation. This file must to be created previously using the building layout editor. Adding this file will appear a building layout button automatically when you log in your installation.
- **Open when Log In:** Open Building Layout as a default view after log in CSNET WEB.

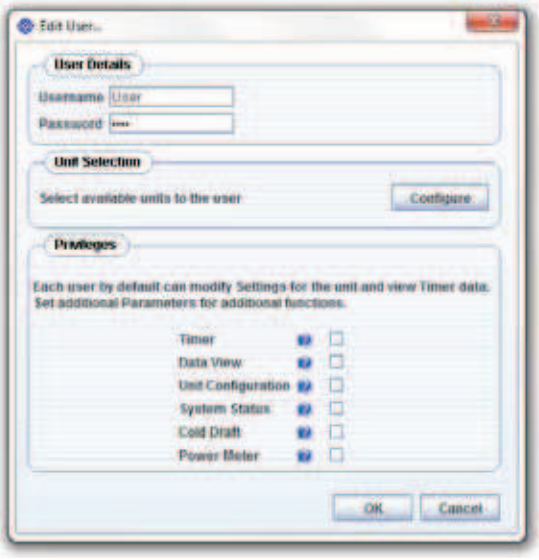
For each CS Port (available CSNET WEB server to connect):

- **Name**: Identification name for CSNET WEB server.
- **Address**: IP Address for CSNET WEB server.
- **Port**: Connection port where CSNET WEB server is listening.
- **Proxy**: Determine if comunication with CSNET WEB server shall pass a proxy server.
- **Password**: Password for CSNET WEB. By default it is Installer.

Press **Add** button in User List area to create a new user. At least a user needs to be created in order to connect to an installation. "**New User…**" window will appear. Users may also be edited or deleted using **Edit** or **Delete** buttons respectively.

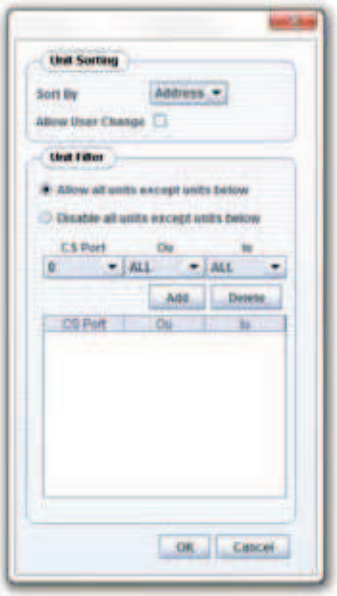


Enter desired username and password. Also select the different privileges for the user. Note that username may not be repeated.



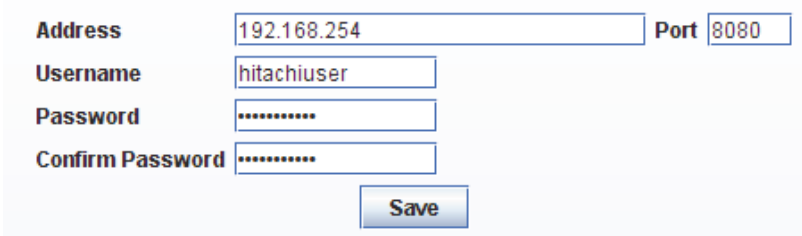
On unit selection, all the available units on CSNET WEB can be assigned to the current user. By click on configure, it will appear a dialog to specify which pattern describe the units for this user.

Unit sorting can also be configured.



3.2.2 Proxy settings

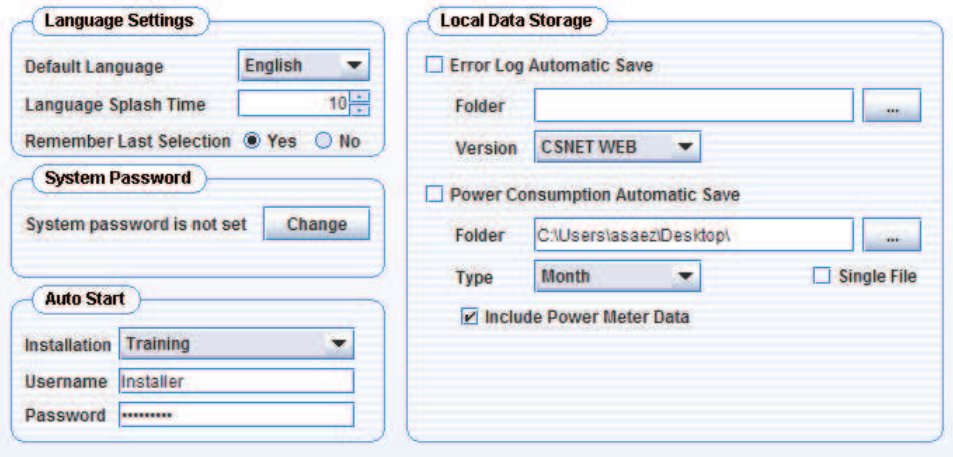
The “Proxy Settings” tab lets you configure the connection through a proxy if necessary. If you have any doubts about the data you need consult your network administrator.



3.2.3 Software settings

This tab lets you configure four kinds of data:

- **Language settings**: You can choose the default language to be used in the main screen. You can set the countdown time (in seconds) and make the program remembers the changes.
- **Local data storage**: The chapters *Visualization of alarms* and *Power consumption* will give more details about these settings.
- **System password**: By setting this password when any user wants to open Local computer configuration will be queried for password.
- **AutoStart**: Select desired installation, username and password that should automatically start when CSNET WEB client software is started.

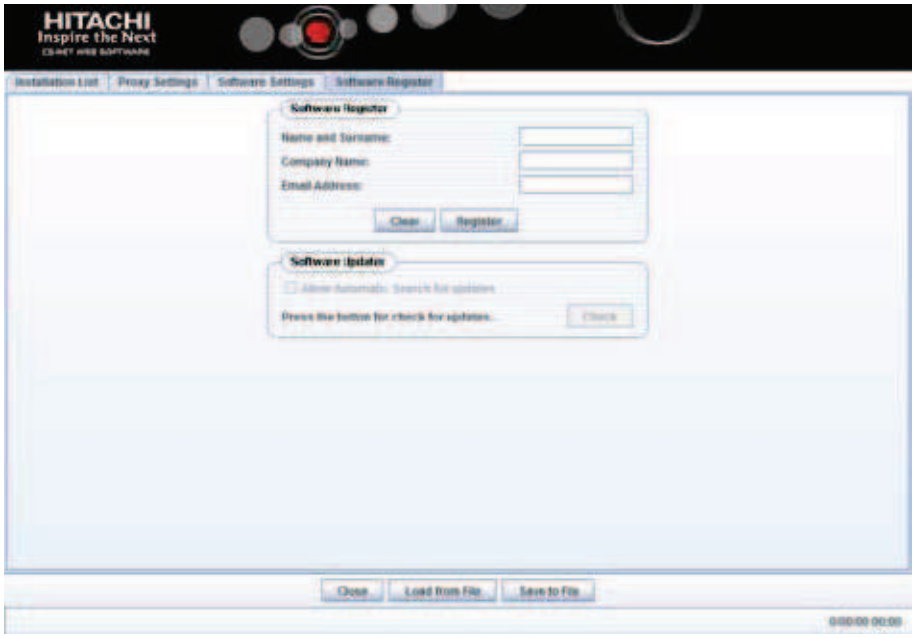


3.2.4 Software register

Software register tab let the user register its software due to be able of having access to the updates server.

After register the software, automatic search for updates can be activated and it can be checked for new client versions just by clicking the check button.

If there is an update it can be downloaded using same button, and after updates will be downloaded, CSNET WEB will ask for install and restart the software.



4. Operation and configuration of packaged units

Index

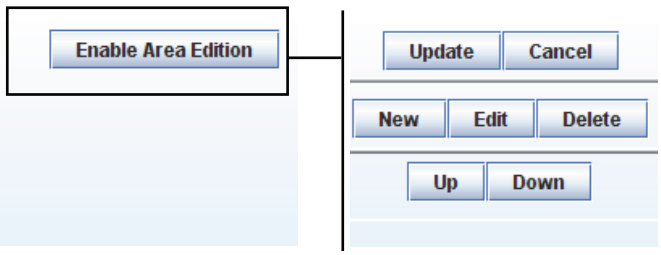
The following chapter will apply when the system has Packaged units. Remember that it is not possible to connect water chillers and Packaged units in the same H-LINK communication line.

1 **Area tree**: Installation tree with the different areas defined by the user.
2 **Units zone**: Lists of all the indoor units and chillers with a basic state information.
3 **Main options**: Gives access to the installation data view (Chiller and/or Package), the configuration of CSNET WEB, the Historical Data and the Power Consumption.
4 **HARC-WEB Status**: Shows the current state of four HARCWEB connections, software functions enabled and if there are automatic updates available.

4.1 Area tree

Enable Area Edition activates an area tree for this installation.

- **New**: Creates a new area.
- **Edit**: Edits the selected area in the area tree.
- **Delete**: Deletes the selected area.
- **Up**: Moves the selected area up, respecting its level.
- **Down**: Moves the selected area down, respecting its level.
- **Update**: Saves all the areas created and closes the Area Edition.
- **Cancel**: Closes the Area Edition without saving changes made.

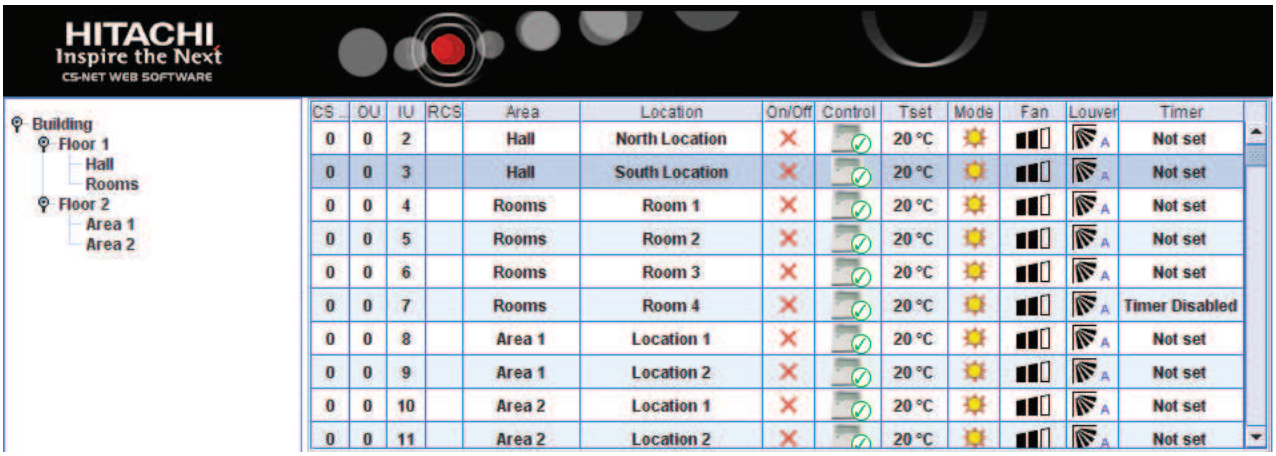


NOTE

The areas created contain indoor units. See the following chapter if you want to select to which area each of the units belongs.

4.2 Table of indoor units

The Table of indoor units is composed of a row for each indoor unit.



The meaning of each column is as follows:

Column	Location	Content / Symbol			
OU	Address of the outdoor unit or cooling circuit to which the indoor unit belongs	<number>			
IU	Address of the indoor unit	<number>			
RCS	Remote control number	<number>			
Area	Area to which the selected unit belongs	+<descriptive text>			
Location	Name of the room conditioned by the selected unit	<descriptive text>			
On/Off	Indicates the ON/OFF situation of each indoor unit	ON	OFF	Configured without RC	RC not found
					
Control	Indicates whether the indoor unit has a locked control parameter which cannot be changed from the remote control	Parameter locked		No parameter locked	
					
Tset	Setting temperature	<number>			
Mode	Operation mode of indoor unit	Cool	Heat	Dry	Fan	Automatic
						
Fan	Indoor unit fan level	Low	Medium	High		
						
Louver	Position of the baffle plate	On		Not available		
						
Timer	Timer used by the indoor unit	<descriptive text>				

4.3 Operation panel

The Operation Panel has the following access fields offering complete control of the units:

- Setting
- Timer
- Unit configuration
- System Status
- Auto Cool/Heat
- Cold Draft

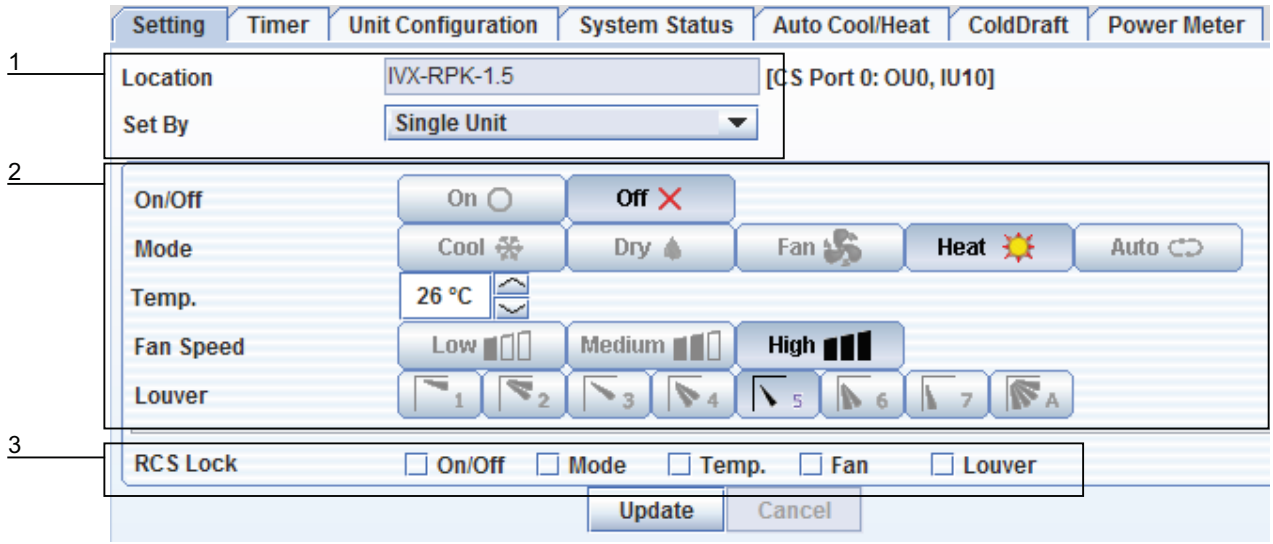
Each of these fields is explained below.

NOTE

Visibility of these fields depends on privilege level of the user.

4.3.1 Setting

This option shows the parameters which can be selected for each indoor unit.



After selecting the parameters to be adjusted, press **Update** to send the order to the units selected or **Cancel** to cancel the operation.

1 Select the unit. The unit selected in the table of indoor units is identified by the **Location** field. Using the **Set by** field, select the group of units whose parameters you want to adjust:
- **Unit**: The unit selected.
- **Outdoor**: All the indoor units which belong to the same cooling circuit.
- **Area**: All the units which are in the same area.z
- **All units**: All the units controlled by CSNET WEB.

2 Adjust parameters. Click with the mouse on the parameter you want to select. Select the temperature with the buttons "∧" or "∨". The temperature margin is:
- From 19ºC to 30ºC for cooling.
- From 17ºC to 30ºC for heating.

Select the fan speed and the position of the baffle plate by pushing the **Fan speed** and **Louver** buttons.

NOTE

Automatic mode cannot be set for units with the RAC adapter PSC-6RAD so that the option will not appear on screen when this type of units is selected.

3 Parameter lock. The parameters selected in RCS Lock will remain locked in the previous position when the option was activated. This means that they cannot be modified from the remote control.

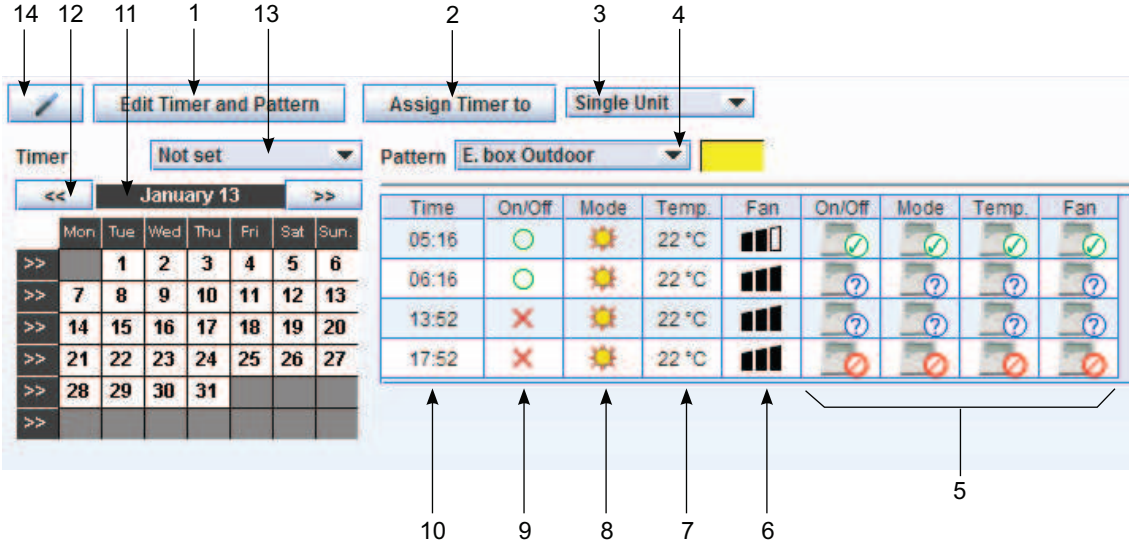
NOTE

ON/Off lock only locks in OFF. Unit always can be stopped from the remote control.

4.3.2 Timer

This option shows the operation times which can be chosen for each indoor unit.
The Timer shown corresponds to the unit chosen in the table of indoor units, as shown in the example.

The Timer is composed of:



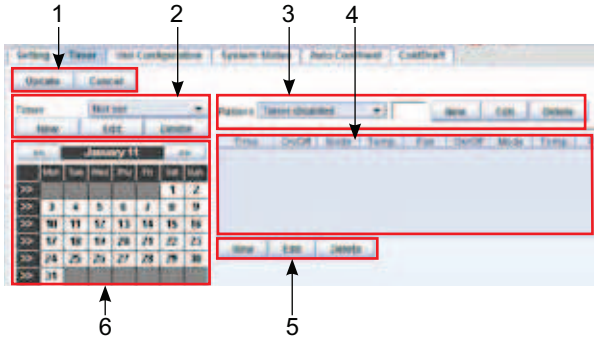
Edition and assignation	1	Button for editing the pattern and timer
	2	Button for assigning the timer to the units selected
	3	Field for selecting the units to which you want to assign the timer
Pattern	4	Selection of programmed pattern
	5	Parameter lock Lock / Unlock / Unchanged
	6	Programmed fan speed Lo / Me / Hi / Unchanged
	7	Setting temperature: ºC / Unchanged
	8	Programmed operation mode Cool / Heat / Dry / Fan / Automatic / Unchanged
	9	On/Off selection Off / On / Unchanged
	10	Programmed time
Timer	11	Information from selected month
	12	Field for selecting month and year you want to visualize
	13	Field to select programmed timer
Wizard	14	Open Wizard dialog for managing timers from a centralized and faster way

Access to programming

To create the pattern and timer push the **Edit Timer and Pattern** button:

With the following functions:

1. Area to update and close programming.
2. Area to create New, Edit and/or Delete programmed timer.
3. Area to create New, Edit and/or Delete pattern to be programmed.
4. Entries for the Daily Pattern you program.
5. Area to create New, Edit and/or Delete an entry of the programmed pattern.
6. Programmed annual timer.

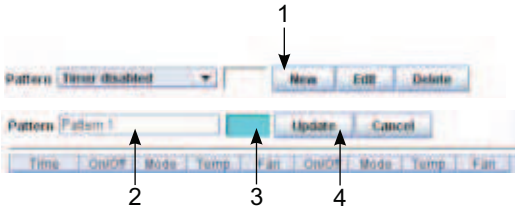


Programming of daily pattern

After accessing the Timer program zone, follow the instructions below. For more details of the programmable parameters, see the previous page.

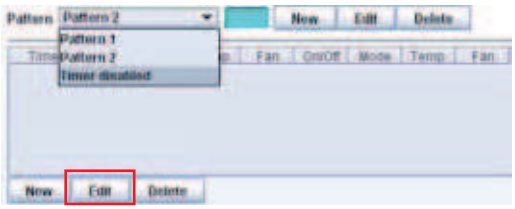
Creating a new pattern

1. Press the **New** button.
2. Enter the name of the new pattern in the box indicated: e.g. “**Pattern 1**”.
3. Select the colour using the palette selection by double clicking on it.
4. After completing this stage, press **Update** to program the time of the new pattern.



NOTE

After updating the pattern, the first pattern you programmed is shown. For the following steps, select once more the pattern you have just created.



Edition of an existing pattern

- Select an existing pattern using the field in the drop-down menu.
- Press the **Edit** button.
- Modify the colour of the selected pattern as indicated for creating a new pattern.
- Modify the daily program as indicated for daily programming.

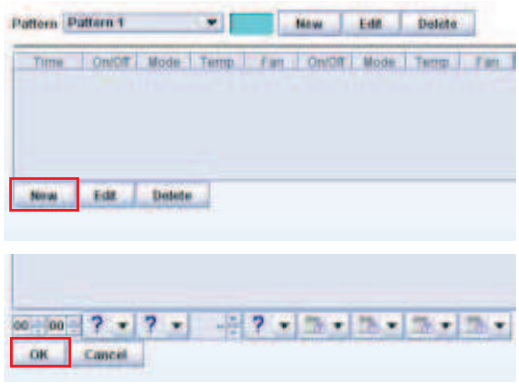
Deleting an existing pattern

- Select an existing pattern using the field in the drop-down menu.
- Press the **Delete** button.

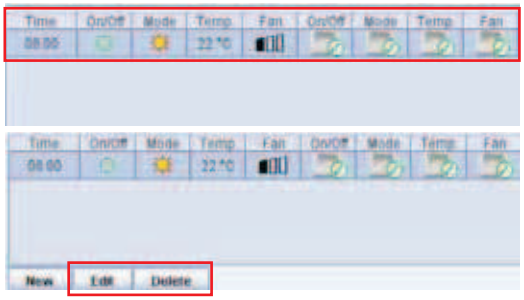
Daily programming

After creating and selecting the pattern you can begin to program each of the entries, indicating the conditions of work at each time of day.

- Press the button **New** to create an entry of the programmed pattern.
- Select the option you want to program in each field. Find the “Timer” sub-field.
- Select it, and press the **OK** button. The entry program which appears depends on the pattern selected.



- Press the **Edit** button to modify an entry which has been created and selected previously.
- Press the **Delete** button to delete an entry which has been created and selected previously.

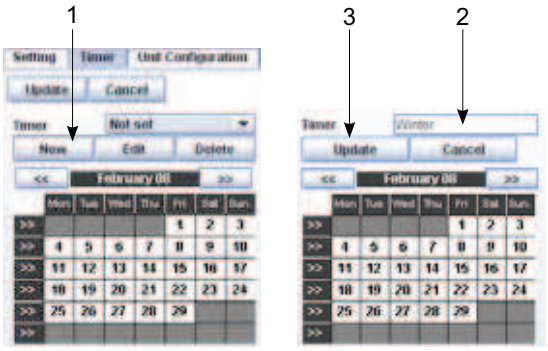


Timer programming

After accessing the Timer program zone, follow the instructions below.

Creating a new timer

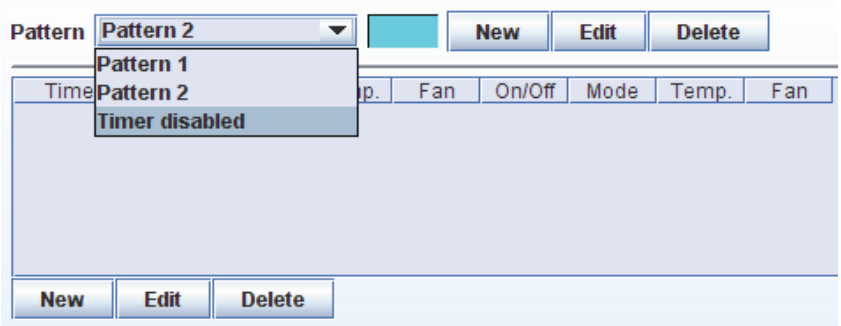
1. Press the **New** button.
2. Enter the name of the new timer in the box indicated: e.g. “**Winter**”.
3. Press **Update** to move to the program of the selected month.



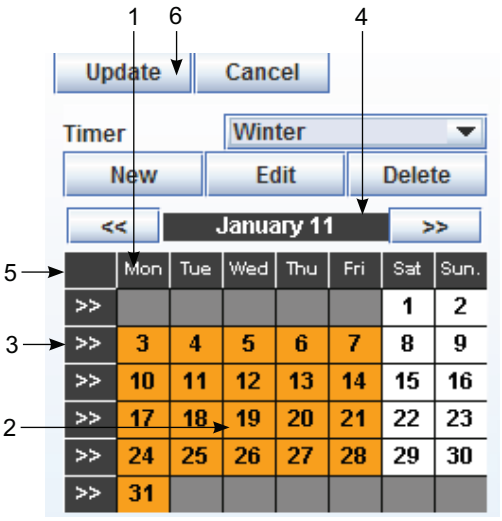
Monthly programming

Allots the daily pattern selected previously for each day of the month, as indicated below:

Select the daily patron using the drop-down menu.



1 By pressing the day of the week, the pattern selected previously is assigned to all the days of the month corresponding to the day of the week selected.
2 Pressing a particular day assigns the selected pattern only to this day.
3 Pressing the arrow >> assigns the selected pattern to all the days of the week.
4 Pressing the name of the month assigns the selected pattern to it.
5 Pressing the upper left button it will select all the working days of the month. This means all days excluding Saturdays and Sundays. Note that this button will only appear when it will be on timer edition mode.
6 After setting the timer, press the **Update** button to confirm the programming.

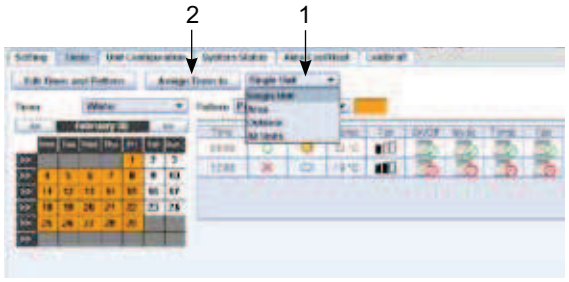


NOTE

Timer update will take few minutes, during this time, the edition of timer and pattern will be block and it will appear a waiting for timer update message.

Assigning the timer

After the Timer has been created, you can assign it to all the units which have to use it. Do this as follows:



Press the (1) field button from the drop-down menu to select the units to which you want to assign the timer. The list includes the following options:

- **Single Unit**: Select the unit marked in the table of indoor units.
- **Area**: Select all the units found in the same group as the unit marked in the table of indoor units.
- **Outdoor**: Select all the indoor units connected to the same outdoor unit as the unit marked in the table of indoor units.
- **All Units**: Select all the indoor units.

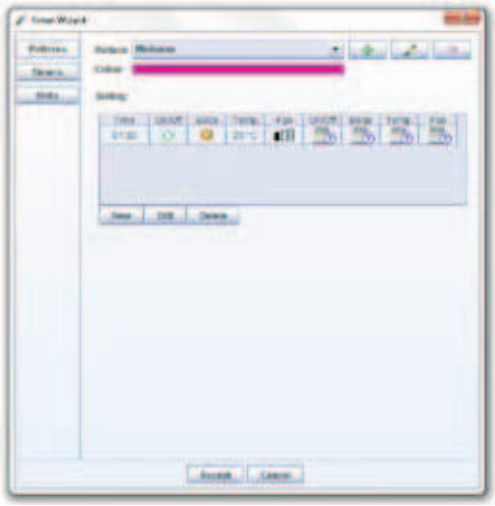
Press button (2) **Assign Timer to**: to assign the timer to the units selected.

◆ Timer wizard

Timer Wizard divides the configuration process in 3 parts:

Patterns

Create all the different patterns that will be application in a certain hour of a day.



Timers

Create different timers and assign to its days the selected pattern.

Assignation is done by selecting the desired pattern; specify the days of the week where it should be configured, which dates should apply and exception days.

Exceptions can be done by day, month, year or any combination of them. If some field of an exception is not set, it applies the exception for any value of this parameter.

Units

Assign the selected timer to the units on the table.

Multiple selection by using mouse drag or control button can be used.

4.3.3 Unit configuration

The unit settings show all the data of each of the units controlled by CSNET WEB.

The Timer shown corresponds to the unit chosen in the table of indoor units, as in the example.

The information given is as follows:

Location: Name of the room conditioned by this unit.

Area: Zone to which this unit belongs.

IU Type: Model of indoor unit (recognized by the system) (see Note 1).

IU Model: Exact model of the indoor unit (see Note 2).

Type: Model of the outdoor unit connected to this indoor unit (recognized by the system) (see note 3).

OU Model: Exact model of the outdoor unit connected to this indoor unit (see Note 2).

Is FX: If you mark the check box, this unit corresponds to a 3-tube unit (FXG or FXN).

Is R410A: If you mark the check box, the cooling system used is R410; if you do not mark it, the cooler is R407C (see Note 6).

Sec.Address: in set free of H-LINK (I) with more than 16 indoor units, we use a virtual address to indicate that this unit is a secondary unit of the previous unit.

OU Serial No: Serial number of the outdoor unit to which the indoor unit is connected (see Note 2).

IU Serial No: Serial Number of the indoor unit (see Note 2).

RCS Group: Remote control number used by more than one indoor unit including this one, for example 1. A second group should have a different number, etc. If any of the parameters within a group changes, all the groups which form it will adopt the specified value at the same time. This process is automatic and there is no need to select the unit group to change (see Note 4).

RCS Control: Sets the RCS control as master, slave or RCS not installed.

CH Box: Number of the CH (Cool/Heat) distribution box used by more than one indoor unit including this one. When the automatic cooling/heating operation has been chosen, a common number in this field has to be chosen to ensure that all these units change their operating mode simultaneously.

If the operation mode of one of the units in this group is changed, CSNET WEB will also change the mode of operation of the other units of the same group which no longer have a compatible operation mode (see Note 5).

Timer Disabled: Deactivate the timer setting option.

Cool Range: Sets the maximum and the minimum temperature values in cool mode.

Heat Range: Sets the maximum and the minimum temperature values in heat mode.

Is OU Group: Sets the cool and heat range for all the indoors of this outdoor unit

NOTE

1. If the indoor unit is RPC or RPK, CSNET WEB will display RPC(RPK), as they cannot be identified correctly.

2. The precise model should be entered to make necessary maintenance and repair work easier.

3. There following are possible types of outdoor units:

- *RAS-#.# (UTO): Utopia and Utopia Big.*
- *RAS-#.# (INV): Utopia Inverter.*
- *RAS-#.# (SF): Set-Free and Mini Set-Free.*

4. It is not possible for two or more units with a remote controller to function in different conditions. Only use the remote control Group within the same cooling system or CH Box. Do not use a single controller to control indoor units connected to different outdoor units or HC boxes.

5. The compatibility of the operation modes is as follows:

Operation mode	Compatible modes in the other units of the same group
Cool	Cool, Dry, Fan
Heat	Heat, Fan
Dry	Cool, Dry, Fan
Fan	Cool, Dry, Heat, Fan
Automatic cooling / heating	Automatic cooling / heating

6. This information will be used by CSNET WEB to calculate the control parameters of the cooling system, like TdSH.

4.3.4 System status

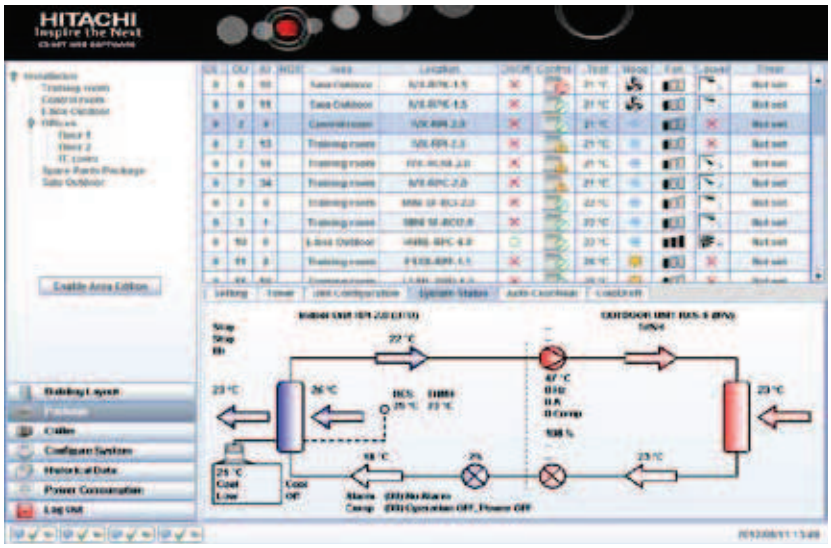
The system status field shows the operating conditions of each of the units controlled by CSNET WEB.

The system status shown corresponds to the same unit selected in the indoor unit table, as shown in the adjoining example.

◆ Description

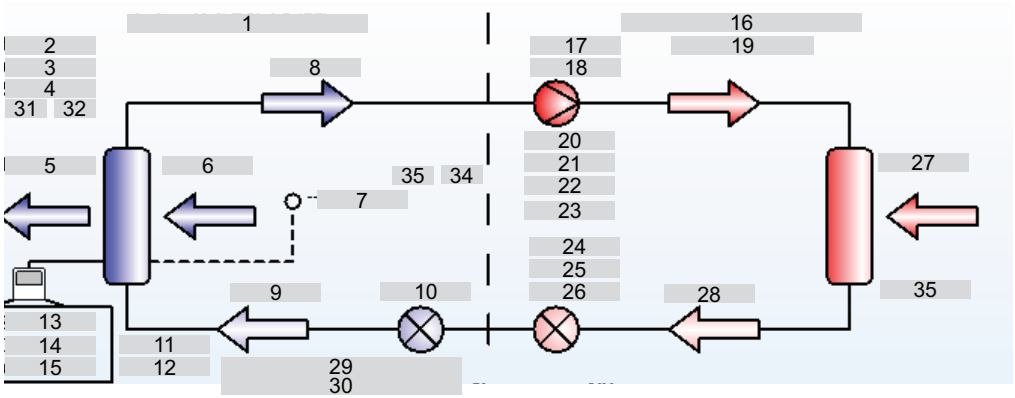
The information display is divided into 4 parts:

- Data of the indoor unit.
- Setting data of the remote control and/or the configuration field.
- Data of the outdoor unit.
- Alarm produced and reason for the compressor status.



◆ Explanation of the fields

Although all these parameters are available in the 3-tube systems (Set-Free FX), some are not in other systems. These are indicated in the table.



No.	Group	Description	Units	Utopia G	Utopia N	DC-Inverter	Mini Set-Free	Set-Free FS	Set-Free FX	DX-Kit	RAS units	KPI Active	KPI Passive
1	Indoor unit	Model of the indoor unit and its power	—	O	O	O	O	O	O	O	O	O	O
2		Thermo ON/OFF	—	O	O	O	O	O	O	O	O	O	—
3		OFF/ON	—	O	O	O	O	O	O	O	O	O	O
4		Filter time	h	O	O	O	O	O	O	O	—	O	O
5		Air outlet temperature	ºC	O	O	O	O	O	O	O	—	O	—
6		Air inlet temperature	ºC	O	O	O	O	O	O	O	O	O	—
7		Optional remote thermistor (RCS / THM4) (4)	ºC	O	O	O	O	O	O	O	O	O	—
8		Gas piping temperature	ºC	—	O	O	O	O	O	O	—	O	—
9		Liquid piping temperature	ºC	O	O	O	O	O	O	O	—	O	—
10		Expansion valve opening	%	—	O	O	O	O	O	O	—	O	—
11		Real operation mode	ºC		O	O	O	O	O	O	O	O	O
12		Real vent speed	—	O	O	O	O	O	O	O	O	O	O
13	Remote control	Setting temperature	—	O	O	O	O	O	O	O	O	O	O
14		Selected operation mode	—	O	O	O	O	O	O	O	O	O	O
15		Selected fan speed	—	O	O	O	O	O	O	O	O	O	O
16	Outdoor unit	Model of outdoor unit and its power	—	O	O	O	O	O	O	O	—	O	—
17		Discharge pressure	MPa	—	—	—	O	O	O	O	—	O	—
18		Suction pressure	MPa	—	—	—	O	O	O	O	—	O	—
19		Discharge gas overheating (TdSH)	ºC	—	—	—	O	O	O	O	—	O	—
20		Discharge gas temperature	ºC	O	O	O	O	O	O	O	—	O	—
21		Compressor frequency	Hz	—	—	O	O	O	O	O	—	O	—
22		Total consumption of compressors	A	O	O	O	O	O	O	O	—	O	—
23		Number of compressors operating	—	O	O	—	O	O	O	O	—	O	—
24		MV1 expansion valve opening	%	—	—	O	O	O	O	O	—	O	—
25		MV2 expansion valve opening	%	—	—	—	—	(1)	O	—	—	—	—
26		MV3 expansion valve opening/MVB	%	—	—	—	—	(2)	O	—	—	—	—
27		Ambient temperature	ºC	O	O	O	O	O	O	O	—	O	—
28		Evaporating temperature (Heating)	ºC	O	O	O	O	O	O	O	—	O	—
29	Alarms	Number and description of alarm	—	O	O	O	O	O	O	O	O	O	O
30		Last cause of compressor stop (3)	—	—	O	O	O	O	O	O	—	O	O
31	Others	THM1	ºC	—	—	—	—	—	—	O	—	—	—
32		THM2	ºC	—	—	—	—	—	—	O	—	—	—
33		PCB1 THM1 (RA)	ºC	—	—	—	—	—	—	—	—	O	O
34		PCB1 THM2 (OA)	ºC	—	—	—	—	—	—	—	—	O	O
35	Power Meter	Power Meter values	—	O	O	O	O	O	O	—	—	—	—

O = Available

— = Not available

NOTE

1. Not for FS units of up to 10 HP.

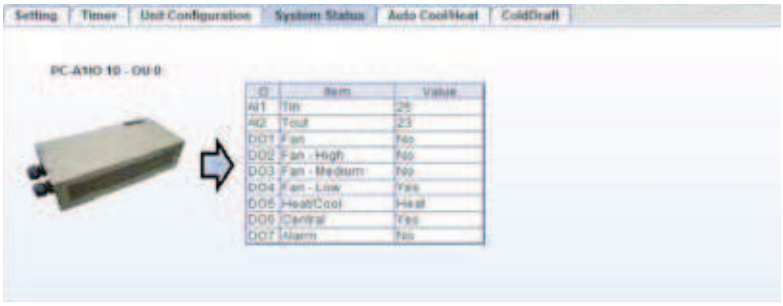
2. Not for FS units of up to 20 HP.

3. The value shown does not disappear until the cause of the compressor stop does not change.

4. THM4 is the remote thermistor. More information on the indoor unit documentation.

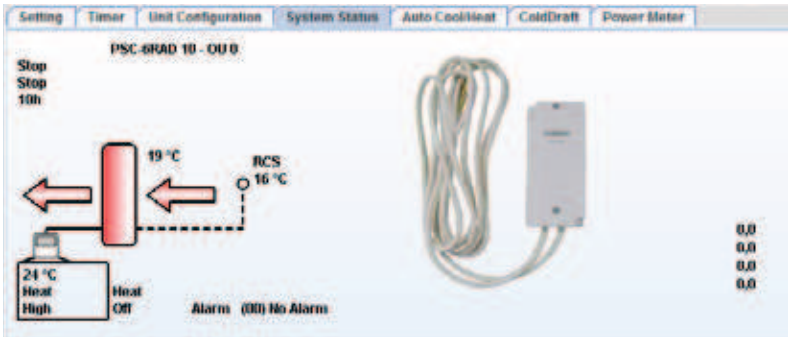
◆ PC-A1IO System status

PC-A1IO has an special system status layout, it shows the value of all the digital outputs and two analog inputs.



◆ RAD Units System Status

Its special view only shows the values that can be read when a PSC-6RAD adapter is connected.



◆ Alarms

The alarms shown in CSNET WEB are the same that can be found in the service manual of the outdoor unit in question.

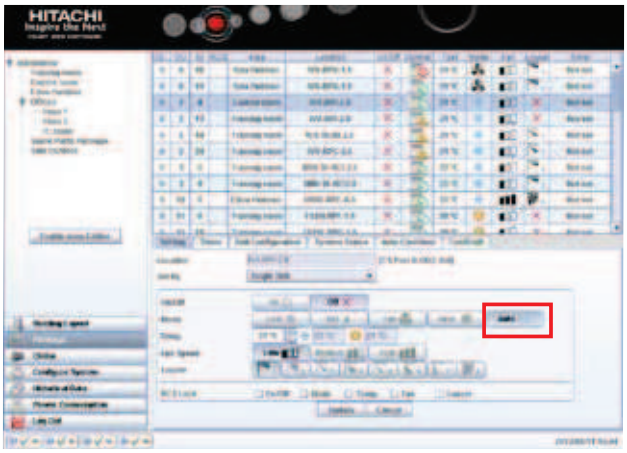
◆ Cause of compressor stop

The cause of the compressor stop shown in CSNET WEB is the same that can be found in the service manual of the outdoor unit in question.

4.3.5 Auto cool/heat

The Set-Free FS3/FSG/FSN, Mini Set-Free FSVG/FSVN, DC-Inverter HVRG/HVRN/HRN and Utopia HG/HVG/HN/HNV are 2-tube systems and are not designed to operate in the **automatic Cool/Heat** mode when more than one indoor unit is connected to the same outdoor unit, but only in the **cool** or **heat** mode. Thus all indoor units connected to the same outdoor unit should be changed from one mode to another at the same time. The same is applicable to the 3-tube Set-FREE FXG/FXN systems, for all indoor units connected to the same CH Box.

However, operation in the **automatic Cool/Heat** mode is available through CSNET WEB.



In temperate seasons, CSNET WEB calculates the main need of the indoor units for each of the outdoor units in the systems mentioned above, selects the mode needed for most of the units in the system and adjusts the remote controller accordingly.

With the aim of giving the system time to be established in a particular mode, its requirements are checked for at least 20 minutes after the last change carried out. This process is continuous for as long as the indoor units are set to **Auto**.

If the systems are correctly designed, i.e. if all the indoor units of the same outdoor 2-tube unit have similar cooling and heating demands, then it is possible to completely automate heating in the morning (for example), cooling in the afternoon and heating once more at night.

Users maintain local control over the temperature in the room by the remote control.

There are two ways in which **CSNET** can decide whether the operation mode should be established in AUTO.

◆ Description of the operation mode

In the automatic (Auto) Cool/Heat mode requested by the indoor units, CSNET WEB will check first whether the cooling circuit to which the unit is connected is 2 tube or 3 tube before deciding to change the operating mode.

Next, CSNET WEB will calculate the difference to decide the best operation mode at that moment.

NOTE

- *2-tube models:*

Set-Free FS3/FSG/FSN
Mini Set-Free FSVG/FSVN
DC-Inverter HVRG/HVRN/HRN
Utopia HG/HVG/HN/HNV
CH Box of FXG/FXN with a CH Box connected to various indoor units

- *3-tube models:*

FXG/FXN with an independent CH Box

The temperature difference is calculated as follows:

- 2 Tubes:

CSNET WEB takes into account all the indoor units which depend on the same cooling circuit. CSNET WEB then calculates in the following way:

Temp diff. (1) = Air inlet temperature (1) - corrected temperature (1)

Temp diff. (2) = Air inlet temperature (2) - corrected temperature (2)

….

Temp diff. (n) = Air inlet temperature (n) - corrected temperature (n)

Temp diff. = (Temp diff. (1) + Temp diff. (2) + ... + Temp diff. (n)) / n

Where:

Air inlet temp (i) = Air inlet temperature selected (consult the section *Description of Parameters* for more information).

Corrected temp (i) = Temperature shown in the remote control or selected by CSNET WEB (if the indoor unit does not have a remote control) (see the section *Description of Parameters* for more information).

Temp diff. (i) = Temperature difference between the air inlet temperature and the setting temperature of the indoor unit number “i”.

n = Number of indoor units connected to the same outdoor unit.

Temp diff. = Average of the temperature differences of all the indoor units.

- 3 Tubes

CSNET will only make this calculation for the indoor units in Auto mode. Thus CSNET makes independent calculations for each indoor unit:

Temp diff. = Air inlet temp. - Corrected temp.

Where:

Air inlet temp = Air inlet temperature selected (consult the section *Description of Parameters* for more information).

Corrected temp = Temperature shown in the remote control or selected by CSNET WEB (if the indoor unit does not have a remote control) (see the section *Description of Parameters* for more information).

Temp diff. = Temperature difference between the air inlet temperature and the setting temperature of the indoor unit.

After calculating the operation mode which the units should use, and taking into account the conditions established as indicated in *Description of Parameters*, CSNET WEB will send the order to all the affected units.

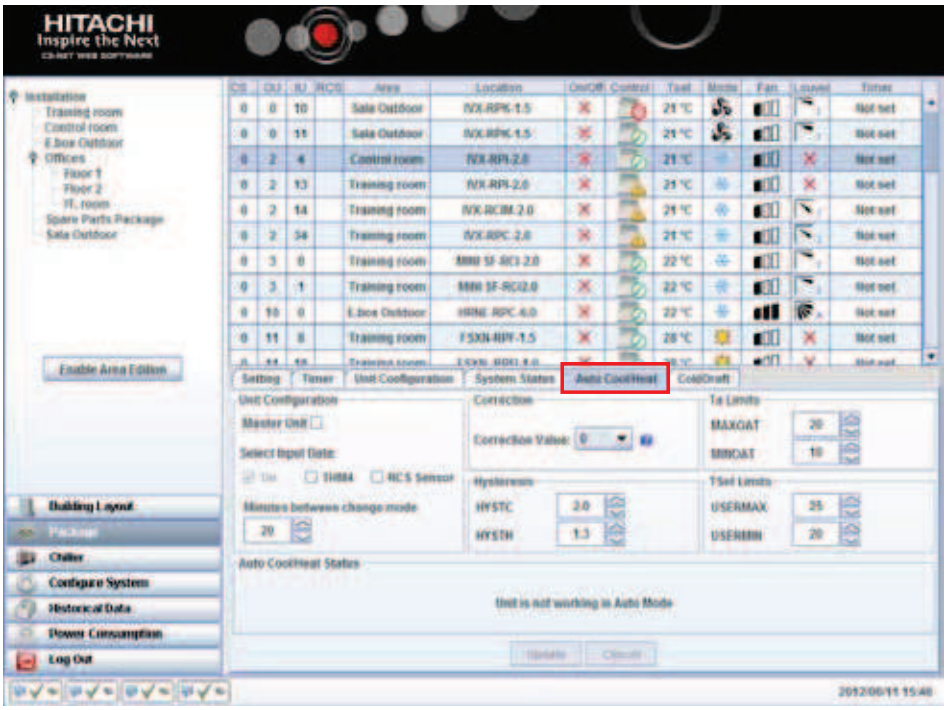
NOTE

If more than one indoor unit is connected to the same CH Box, CSNET treats this box as an outdoor 2-tube unit.

◆ Description of parameters

To use this option, you have to set the parameters shown in the **Auto Cool/Heat** operation panel. After that, if unit is working in **Auto Cool/Heat** mode, you can see the status of this operation on the status zone of the panel.

The **Auto Cool/Heat** panel shown corresponds to the cooling circuit of the indoor unit selected in the table of indoor units, as shown in the example.



You should adjust the following parameters:

Master unit: Field for selecting the method CSNET WEB will use to calculate the temperature difference.

- ☑ (Marked): CSNET WEB will only use this unit to calculate the temperature difference and decide the change, not taking into account the other units connected to the same 2-tube cooling circuit.
- ☐ (Not marked): CSNET WEB will use the average temperature difference of all the indoor units connected to the same 2-tube cooling circuit.

CAUTION

When this method is used (marked), the following outdoor unit option cannot be used: "control of indoor unit fan speed" (during operation with the thermostat deactivated in heat mode, the indoor fan stops for 6 minutes and operates for 2 minutes). If it is used, the decision of when to change will not always be correct (if it is measured during the deactivation cycle of 6 minutes).

Select input data: field for selecting what inlet temperature CSNET WEB should use to calculate the temperature difference if an optional remote temperature sensor is connected in THM4 of the PCB of the indoor unit or if there is RCS remote sensor.

When there are selected a combination of different sensor it will calculate the average between them.

When nothing is selected, it is forced to use the Tin value.

MINOAT: Minimum outdoor ambient temperature for cool operation.

- Preset adjustment: +10°C.
- 1°C steps.
- 0°C... 40 °C.margin.

MAXOAT: Maximum outdoor ambient temperature for heat operation.

- Preset adjustment: +20°C.
- 1°C steps.
- 0°C... 40°C margin.
- MAXOAT should be higher than MINOAT.
- MAXOAT should be lower than the dry bulb (DB) temperature equivalent to the margin of maximum outdoor ambient temperature for the heat mode:

  The margin of maximum outdoor ambient temperature for heat mode of the outdoor unit is 15.5 WB

  Equivalent dry bulb temperature:

  Relative humidity of 95% = 16 DB

  Relative humidity of 77% = 18 DB

  Relative humidity of 62% = 20 DB

  Relative humidity of 50% = 22 DB, etc.

USERMIN: Minimum Setting temperature. If the selected temperature is lower, CSNET WEB will use USERMIN as the value for the Setting temperature, changing this value as soon as the operation mode changes.

- Preset adjustment: +20°C.
- 1°C steps.
- 17°C... 30°C margin.

USERMAX: Maximum Setting temperature. If the selected temperature is higher, CSNET WEB will use USERMAX as the value for the Setting temperature, changing this value as soon as the operation mode changes.

- Preset adjustment: +25°C.
- 1°C steps.
- 17°C... 30°C margin.

HYSTC: Value of the temperature difference calculated to pass from heat to cool mode.

- Preset adjustment: + 2°C.
- 0.1°C steps.
- 1°C... 2°C margin.

HYSTH: Value of the temperature difference calculated to pass from cool to heat mode.

- Preset adjustment: 1.3°C.
- 0.1°C steps.
- 1°C... 2°C margin.

DELAY: The time which must elapse between the last change of operation mode to the next change.

- Preset adjustment: 20 min.
- 10 min steps.
- 20 min... 60 min margin.

CORRECTION: Temperature corrected on changing the operation mode, to ensure greater comfort..

- Preset adjustment: 0.
- 1ºC steps.
- Margin: 0, 1, 2.

The Setting temperature is adjusted using the following formula when the operation mode is changed, depending on the DIFF option selected:

Correction value	Change from cool to heat	Change from heat to cool
0	Corrected temp = Setting temp	Corrected temp = Setting temp
1	Corrected temp = Setting temp + 0	Corrected temp = Setting temp + 1
2	Corrected temp = Setting temp - 1	Corrected temp = Setting temp + 1

Where:

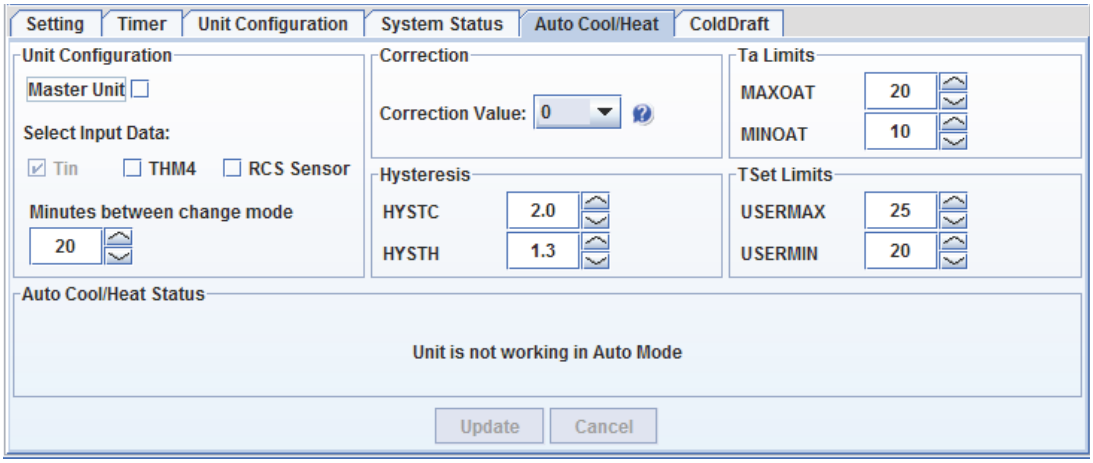
Corrected temperature: Temperature used to calculate the change of operation mode.

Setting temperature: Temperature selected by CSNET WEB or by the remote control of the indoor unit.

NOTE

The remote control and the CSNET WEB always show the corrected temperature (the result is the setting temperature).

After adjust previously parameters, if unit is working in Auto Cool/Heat mode, it will be displayed on the status zone which option is currently doing.



◆ Considerations for the use of the Auto Cool/Heat mode

When the **Auto Cool/Heat** is used, the difference of 4°C programmed in the heating mode of each indoor unit should be cancelled in all of them. Otherwise, there may be a conflict between the system program and the **CSNET WEB** program. (See the Service Manual of the indoor unit for details about cancelling this misadjustment using the optional function b1). However, if an optional remote sensor has been fitted in the rooms (one per indoor unit), the misadjustment is cancelled automatically (not available in the FSGM RPK series).

If an indoor unit is defined by **CSNET WEB** in **Auto Cool/Heat** mode, all the indoor units connected to the same outdoor Set-Free FS (or to the same CH Box in Set-Free FX systems) will change to the **Auto Cool/Heat** mode. This means that, for example if one of the indoor units was adjusted for heating at 17ºC and the outdoor Set-Free FS or Set-Free FX CH Box changes to cooling mode, according to the calculation of CSNET WEB, this indoor unit will begin to cool when it reaches 17°C. To prevent this kind of situation from occurring, take care when programming the **timer**.

For all the indoor units connected to a single outdoor Set-Free FS or Set-Free FX CH Box, the starting time in the morning for the first unit (see *Timer*) should serve as the reference time and conditions for all the other units in the same system. At night, the last indoor unit to change will be the reference point for all the other units of the system in question.

If a user selects a different **mode** with the remote control (PC-P1HE type) when the local mode is being used, it will later return to the **mode** calculated by **CSNET WEB**. Thus it is not recommended to use the mode selector of the remote controls during the **Auto Cool/Heat** operation of **CSNET WEB** in local mode. The temperature should only be regulated, if necessary, with the ⌃ (up) or ⌄ (down) buttons. CSNET WEB will then select and adjust the necessary (and possible) mode by outdoor unit (also in the LCD screen of the PC-P1HE remote control).

4.3.6 Cold draft

In VRF systems, when load is very low and only few units are working in a system, it is possible that discharge air temperature is reduced below comfort value. With this new option HITACHI improves comfort for these situations by setting unit to Fan Mode when discharge air temperature is below comfort temperature and set unit again to Cooling Mode when temperature will be again inside comfort range.

CAUTION

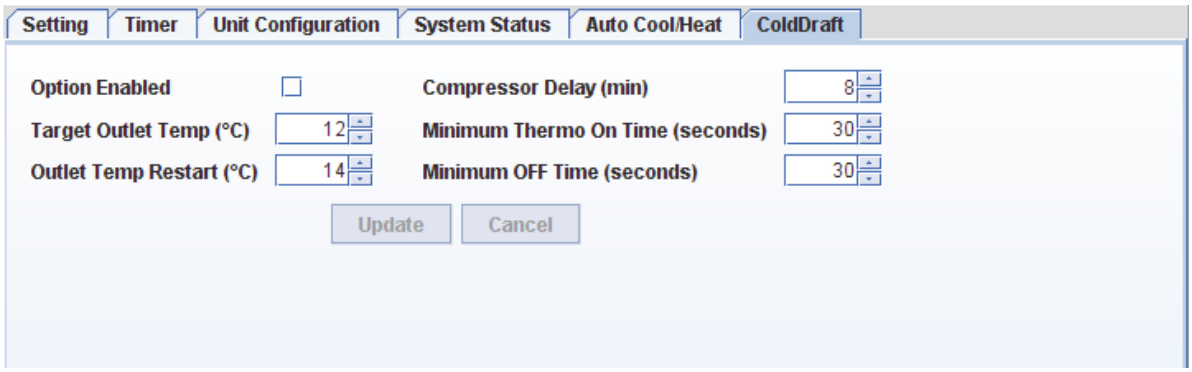
If one unit is configured to use cold draft function it should never be set in fan mode is considered the same as cooling mode Thermo-OFF and unit will be automatically changed to cooling mode.

Configurable parameters

- Option Enabled: Activate/not activate cold draft option in the selected indoor unit.
- Target Outlet Temp (ºC): Minimum outlet temperature that we accept in this room in order to force the Thermo OFF.
- Outlet temp Restart: Temperature that unit is finishing the forced Thermo OFF.
- Compressor Delay (min): Minimum enforced time between two compressor start up when start required by Cold Draft option.
- Minimum Thermo ON Time (seconds): Minimum time that should be in Thermo ON before accepting a new Thermo OFF.
- Minimum OFF time (seconds): Minimum time that unit should be Thermo OFF before accepting a new Thermo ON.

Considerations of cold draft

Cold draft option only can be visible for user if this has request privilege. This function should only be used in system where there are comfort problems and after problem study.



4.3.7 Power meter

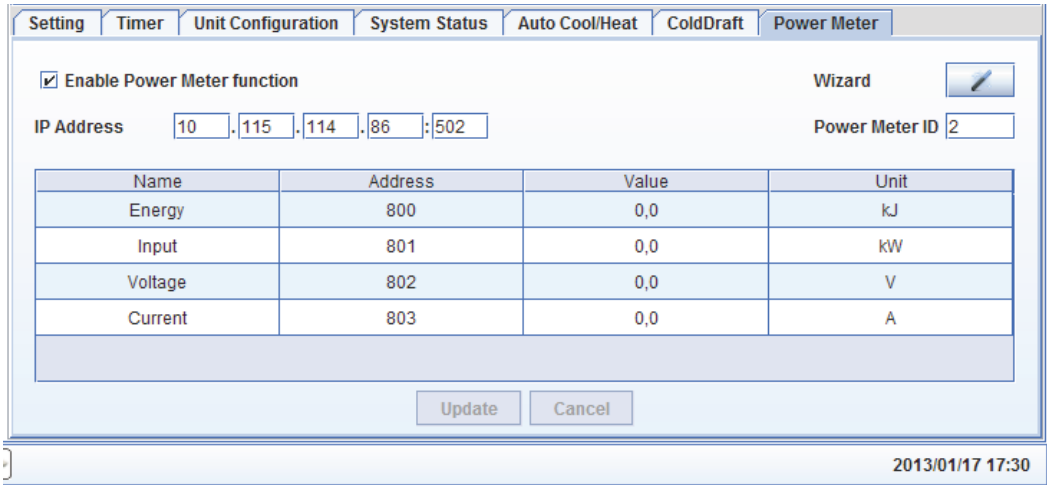
Power Meter tab lets the user configure a TCP-MODBUS power meter for each outdoor unit.

For each power meter device there should be entered the following parameters:

- IP Address: LAN address of the power meter.
- Power Meter ID: identifier to know which of the power meters is used.
- Registers: The Modbus Address and the measurement unit of each of the four variables available on the table should be configured by the user according to the specific power meter information.

CAUTION

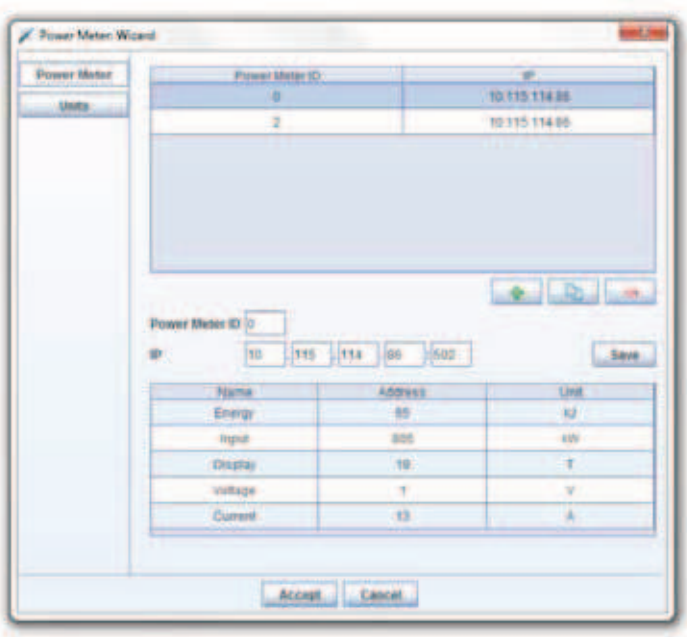
- *Suggested device tested by Hitachi is 7KM PAC3200 by Siemens.*
- *Ensure that your Modbus-TCP power meter register starts at 0. CSNET WEB considers it like this, so if it starts at 1, subtract 1 to each register address.*
- *If CSNET WEB software is off it will not get power data.*



Wizard button lets the user make this configuration for all the units from one place.

◆ Power Meter Wizard

On the first Screen user can add all the power meter devices. To ease the data entering, clone one with the copy button.

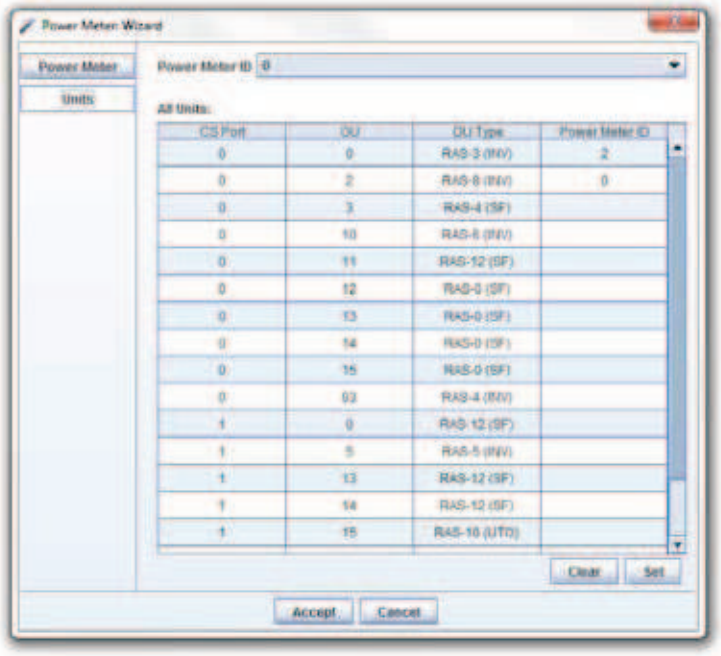


Select a power meter device on the table and configure its data.

- Power Meter ID: identifies the power meter.
- IP: Net address to communicate with the power meter device.
- Registers: The Modbus Address and the measurement unit of each of the four variables available on the table should be configured by the user according to the specific power meter information.

Units screen is used to set the power meter devices to each of the available outdoors.

Select the Power meter ID on the combo box, select the units on the table and press button “Set”. The device will be linked to the outdoor unit.



5. Operation and configuration of water chillers

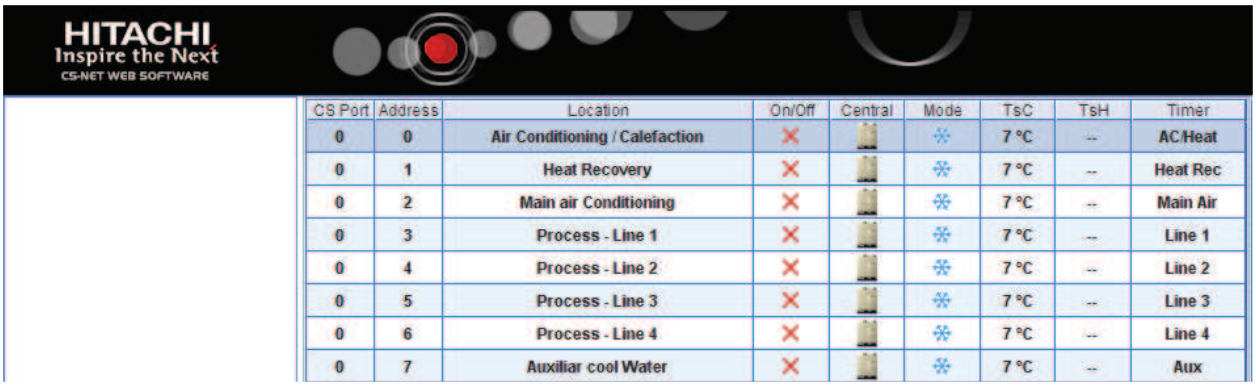
Index

The following chapter will apply when the system has water chillers. Remember that it is not possible to connect water chillers and Packaged units in the same H-LINK communication line.

1 **Notification panels**: This panel will show configuration parameters for the different options.
2 **Table of units**: List of all the units with basic information on their operating state.
3 **Operation panels:** Control area for the operation of the units.
4 **Configuration and display options**: Permits access to the configuration of the CSNET WEB and to historical data and power consumption files.
5 **HARC-WEB Status**: Connectable CSNET WEB Server status.

5.1 Table of units

The table of units has one row for each water chiller.



CS Port	Address	Location	On/Off	Central	Mode	TsC	TsH	Timer
0	0	Air Conditioning / Calefaction	✕			7 °C	--	AC/Heat
0	1	Heat Recovery	✕			7 °C	--	Heat Rec
0	2	Main air Conditioning	✕			7 °C	--	Main Air
0	3	Process - Line 1	✕			7 °C	--	Line 1
0	4	Process - Line 2	✕			7 °C	--	Line 2
0	5	Process - Line 3	✕			7 °C	--	Line 3
0	6	Process - Line 4	✕			7 °C	--	Line 4
0	7	Auxiliar cool Water	✕			7 °C	--	Aux

The meaning of each column is as follows:

Column	Item	Content / Symbol	
Address	Water chiller address	<number>	
Location	Name assigned to the water chiller, for example referring to the area in which it operates or its primary function	<descriptive text>	
On/Off	Indicates the On/Off situation of each water chiller	ON	OFF
		○	✕
Central	Indication showing whether the water chiller is configured for local or central control.	Central control	Local control
			
TsC	Setting temperature (water outlet temperature) for the chiller when in cooling mode.	<number in degrees centigrade>	
TsH	Setting temperature (water outlet temperature) for the chiller when in heating mode.	<number in degrees centigrade>	
Mode	Operation mode of water chiller	Cool	Heat
			
Timer	Timer used by this water chiller	<descriptive text>	

5.2 Operation panel

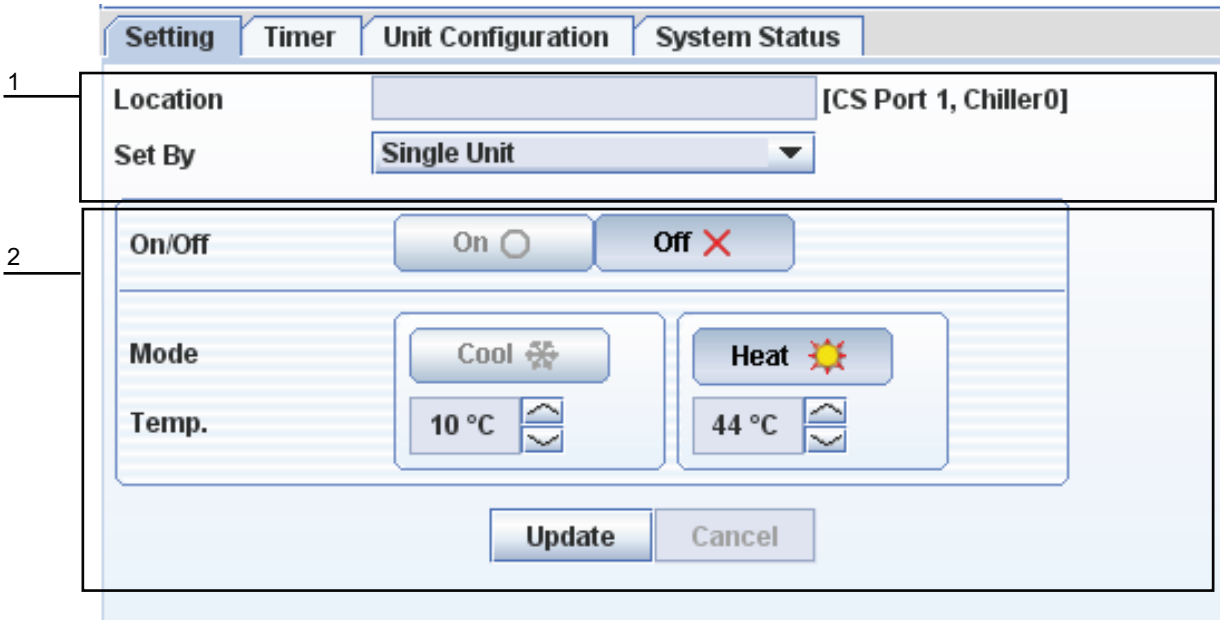
The operation panel has four access fields offering complete control of the units:

- Setting
- Timer
- Unit configuration
- System status

Each of these fields is explained below.

5.2.1 Setting

This option shows the parameters which can be selected for each unit.



After selecting the parameters to be adjusted, press **Update** to send the order to the units selected or **Cancel** to cancel the operation.

1 Select the unit

The unit selected in the table of units is identified by the **Location** field.

Using the **Set by** field, select the group of units whose parameters you want to adjust:

- Single Unit: The unit selected.
- All units: All the units controlled by CSNET-WEB.

2 Adjust parameters

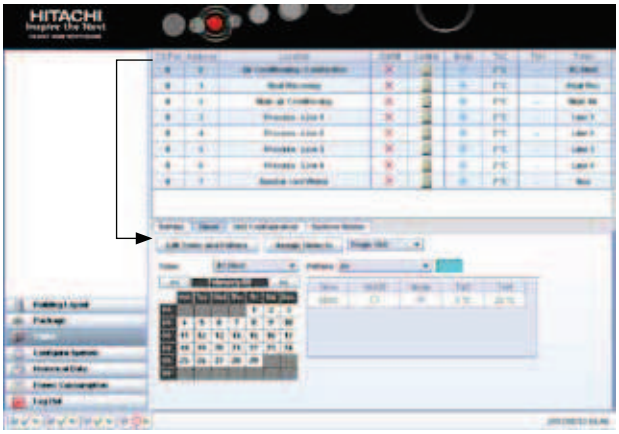
Click with the mouse on the parameter you want to select.

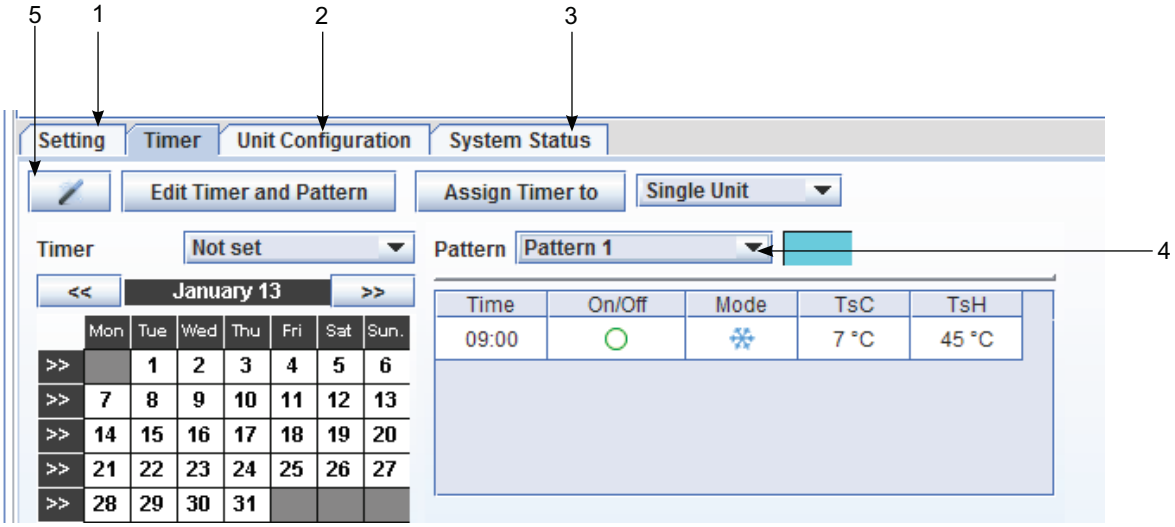
Select the temperature with the buttons "^" or "v".

5.2.2 Timer

This option shows the operation times which can be chosen for each unit.

The timer shown corresponds to the unit chosen in the table of units, as shown in the example.

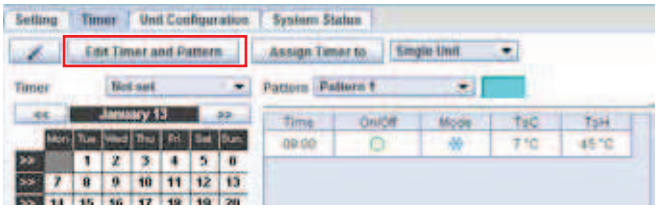


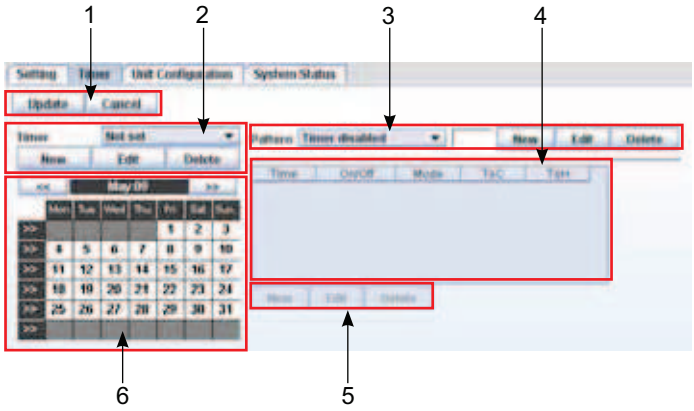


Edition and assignment	1	Button for editing the pattern and timer			
	2	Button for assigning the timer to the units selected			
	3	Field for selecting the units to which you want to assign the timer			
Pattern	4	Selecting the pre-programmed pattern			
	(Time)	Hour set			
	On / Off	ON / OFF selection			
		OFF	✗	ON	○
	(Mode)	Operation mode set			
		Cool	❄	Heat	☀
	(TsC)	Default temperature in cooling mode			
	(TsH)	Default temperature in heating mode			
Wizard	5	Timer wizard to make easier and centralize the timer configuration			

Access to programming

To create the pattern and timer push the **Edit Timer and Pattern** button:





With the following functions:

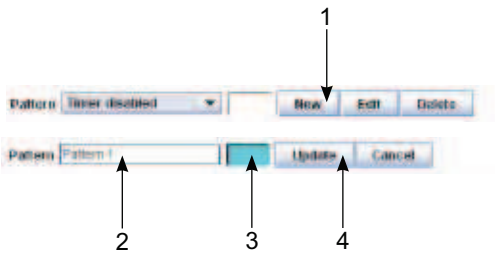
1 Area to update and close programming.
2 Area to create New, Edit and/or Delete programmed timer.
3 Area to create New, Edit and/or Delete pattern to be programmed.
4 Entries for the Daily Pattern you program.
5 Area to create New, Edit and/or Delete an entry of the programmed pattern.
6 Programmed annual timer.

Programming of daily pattern

After accessing the Timer program zone, follow the instructions below. For more details of the programmable parameters, see the previous page.

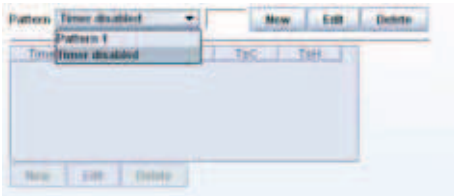
- Creating a new pattern:

1 Press the **New** button.
2 Enter the name of the new pattern in the box indicated: e.g. “**Pattern 1**”.
3 Select the colour using the palette selection by double clicking on it.
4 After completing this stage, press **Update** to program the time of the new pattern.



NOTE

After updating the pattern, the first pattern you programmed is shown. For the following steps, select once more the pattern you have just created.

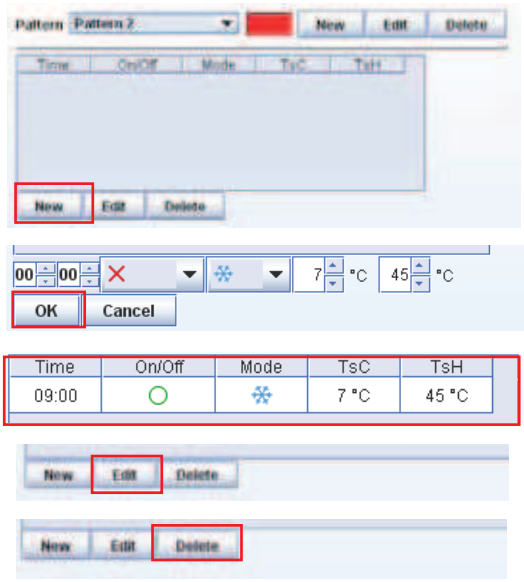


- Edition of an existing pattern:
  - Select an existing pattern using the field in the drop-down menu.
  - Press the **Edit** button.
  - Modify the colour of the selected pattern as indicated for creating a new pattern.
  - Modify the daily program as indicated for daily programming.
- Deleting an existing pattern:
  - Select an existing pattern using the field in the drop-down menu.
  - Press the **Delete** button.

- Daily programming:

After creating and selecting the pattern you can begin to program each of the entries, indicating the conditions of work at each time of day.

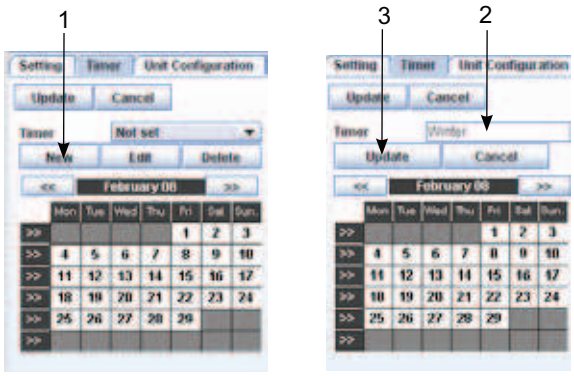
- Press the button **New** to move to the entry program mode.
- Select the option you want to program in each field. Find the “Timer” sub-field.
- Select it, and press the **OK** button. The entry program which appears depends on the pattern selected.
- Press the **Edit** button to modify an entry which has been created and selected previously.
- Press the **Delete** button to delete an entry which has been created and selected previously.



Timer programming

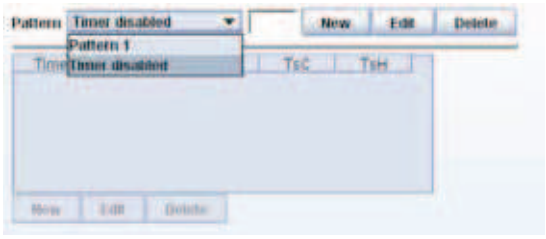
After accessing the Timer program zone, follow the instructions below.

- Creating a New Timer



1 Press the **New** button.
2 Enter the name of the new timer in the box indicated: e.g. "**Winter**".
3 Press **Update** to move to the program of the selected month.

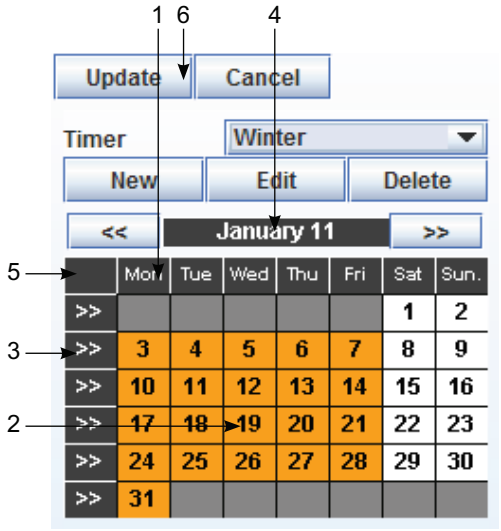
- Monthly programming



Allots the daily pattern selected previously for each day of the month, as indicated below:

- Select the daily patron using the drop-down menu.

1 By pressing the day of the week, the pattern selected previously is assigned to all the days of the month corresponding to the day of the week selected.
2 Pressing a particular day assigns the selected pattern only to this day.
3 Pressing the arrow >> assigns the selected pattern to all the days of the week.
4 Pressing the name of the month assigns the selected pattern to it.
5 Pressing the upper left button it will select all the working days of the month. This means all days excluding Saturdays and Sundays. Note that this button will only appear when it will be on timer edition mode.
6 After setting the timer, press the **Update** button to confirm the programming.



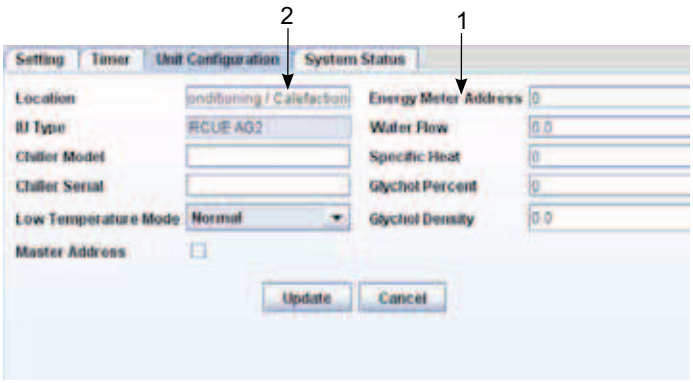
NOTE

Timer update will take few miunutes, during this time, the edition of timer and pattern will be block and it will appear a waiting for timer update message.

Assigning the timer

After the timer has been created, you can assign it to all the units which will use it. Do this as follows:

- Press the 1 field button from the drop-down menu to select the units to which you want to assign the timer. The list includes the following options:
  - **Single unit**: Select the unit marked in the table of units.
  - **All units**: Select all the units.
- Press button 2 **Assign Timer to**: to assign the timer to the units selected.

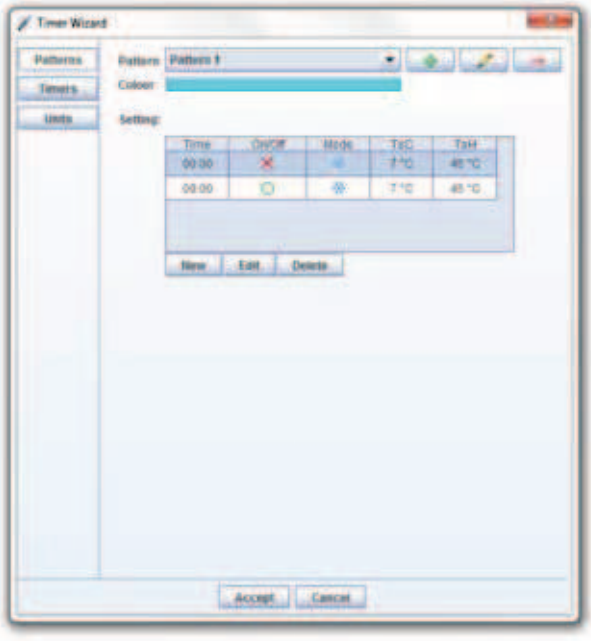


Timer Wizard

Timer Wizard divides the configuration process in 3 parts:

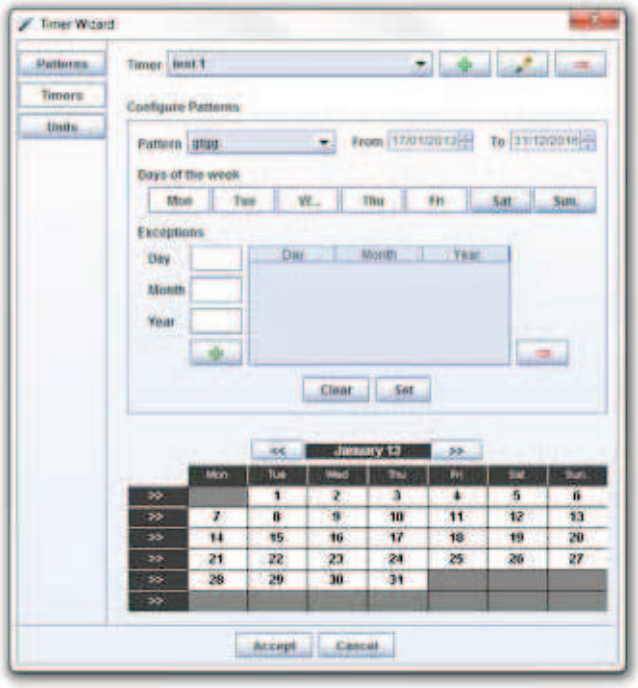
Patterns

Patterns menu creates all the different patterns that will be applied in a certain hour of a day.



Timers

Timers menu creates different timers and assign the patterns to each configured day.



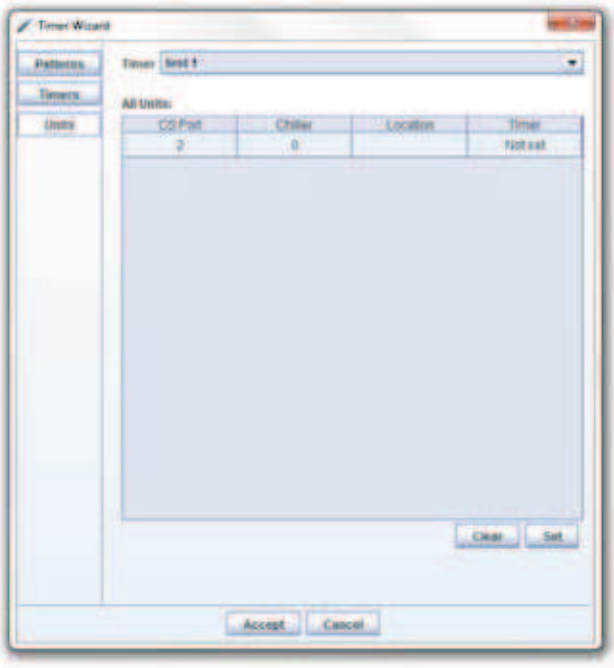
The assignation is done by selecting the desired pattern; specify the days of the week where it should be configured, which dates should apply and exception days.

Exceptions can be done by day, month, year or any combination of them. If some field of an exception is not set, it applies the exception for any value of this parameter.

- **Units**

Units menu assigns the selected timer to the chillers on the table.

Multiple selection by using mouse drag or control button can be used.



5.2.3 Unit settings

The unit settings show all the data for each of the units controlled by CSNET WEB.

The configuration shown corresponds to the unit chosen in the Table of Units, as in the example. The following information is given:

Location: Name assigned to the water chiller, for example referring to the area in which it operates or its primary function.

IU type: The type of unit detected by the system.

Chiller Model: The exact model to be entered by the user.

Chiller Serial: The series number to be introduced by the user.

Low Temperature Mode: The low-temperature mode may be: None, Type 1, Type 2 or Type 3. This is the mode indicated in the catalog for the chiller and which enables it to access a lower range of temperatures in cooling mode. In these modes, and following the indications in the technical catalog for the chiller, additives must be used in order to prevent the processed water from freezing.

Energy Meter Address: The address ModBus (from 1 to 32) of the power meter connected to the chiller. 0 (zero) or blank indicates that there is no power meter connected.

Water flow: Flow rate of water processed in the water chiller. This should be entered in m^3/h.

Specific heat: Value of the specific heat resulting from the mixture of water with the antifreeze additive. This should be entered in joules · kg^{-1} · K^{-1}.

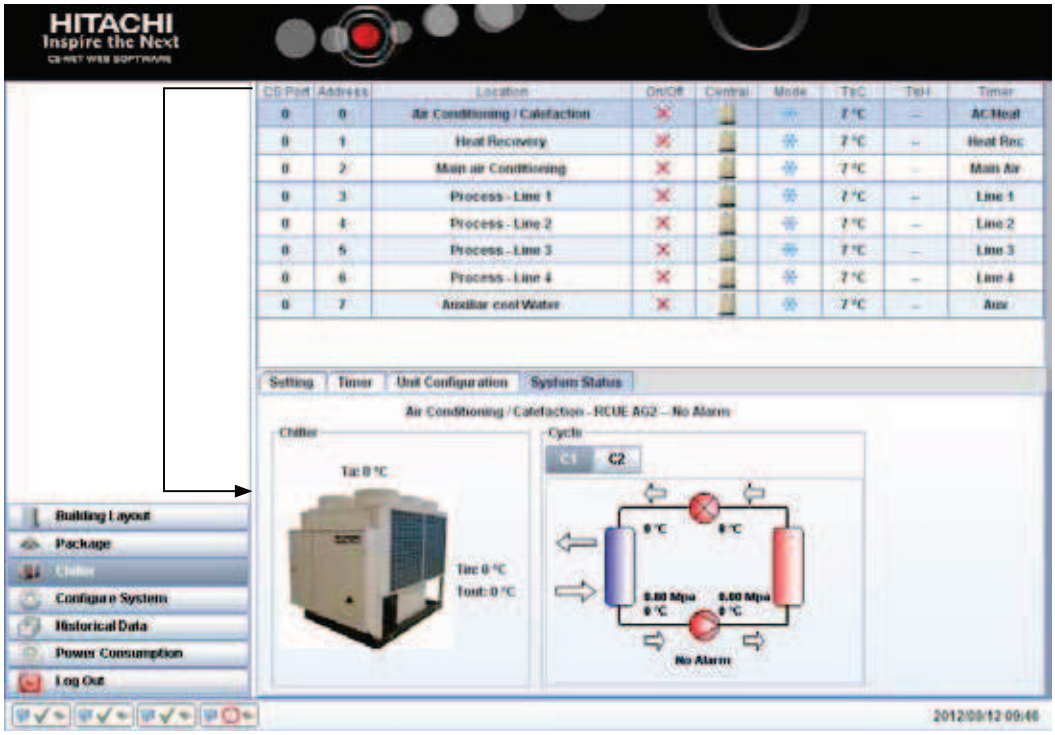
Glychol Percent: Percentage of anti-freeze added to water.

Glychol Density: Density of anti-freeze added to water.

5.2.4 System status

The System Status field shows the operating conditions of each of the units controlled by CSNET WEB.

The System Status shown corresponds to the same unit pre-selected in the Units table, as shown in the adjoining example.



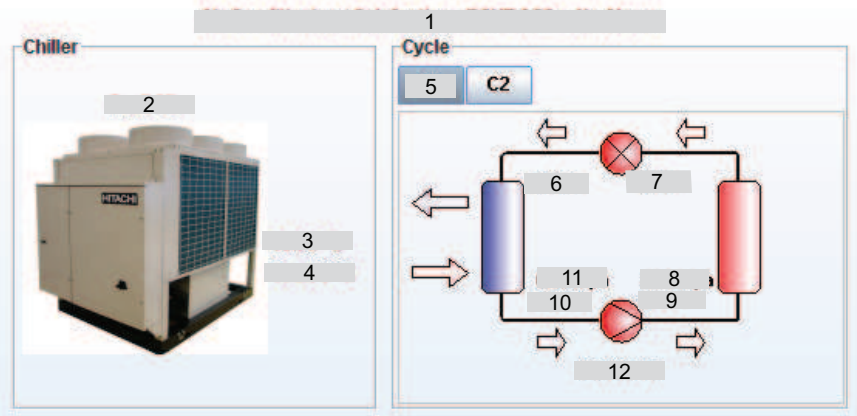
◆ Item

The information display is divided into 2 parts:

- General data for the unit
- Data for the cycle

Explanation of the fields

Although all these parameters are available in the 3-tube systems (Set-Free FX), some are not available in the other systems. These are indicated in the table.



No.	Group	Item	Units
1	Chillers	Unit type and general alarm status	—
2		Ambient temperature	ºC
3		Water inlet temperature	ºC
4		Water outlet temperature	ºC
5	Refrigerant cycle	Refrigerant circuit selected	—
6		Liquid temperature	ºC
7		Evaporation temperature	ºC
8		Discharge pressure	MPa
9		Discharge temperature	ºC
10		Suction temperature	%
11		Suction pressure	MPa
12		Cycle alarm	—

Alarms

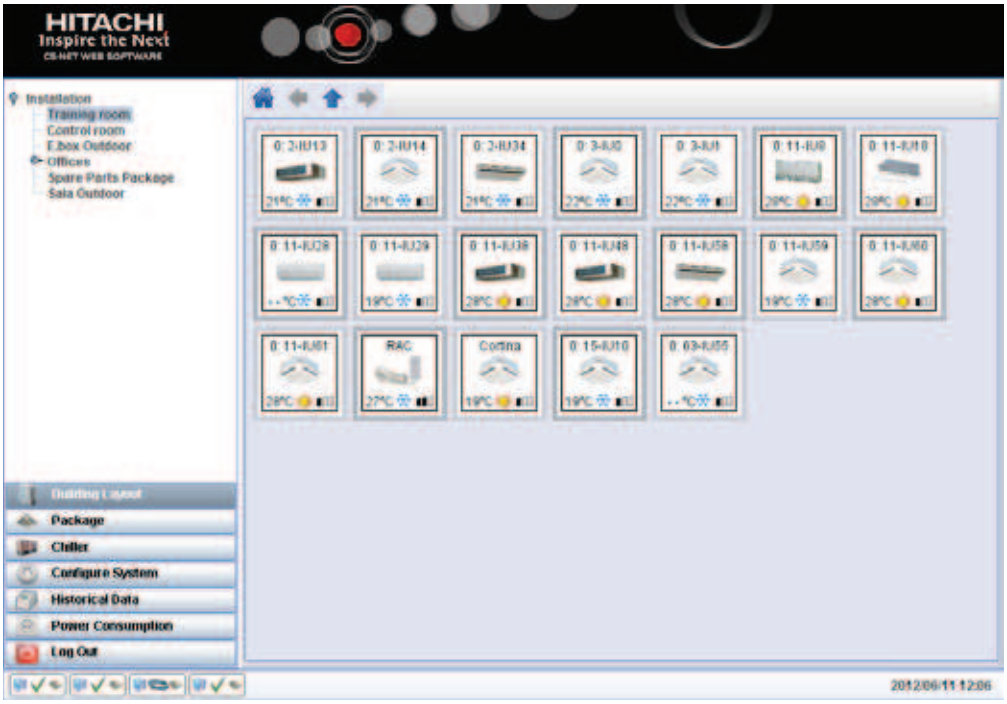
The same alarms can be found as in the technical catalog for the unit. For meaning, see this catalog.

6. Operation and configuration using Building Layout

Index

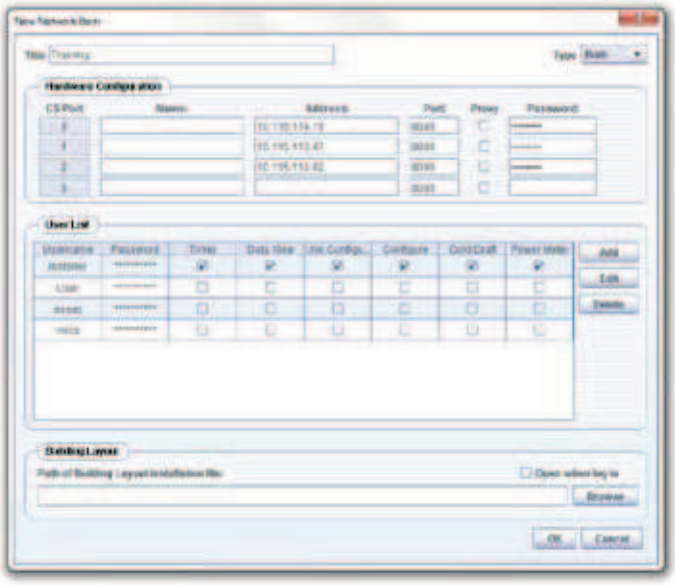
6.1 Operate with Building Layout

CSNET WEB automatically provides an intelligent layout created following the HARC tree distribution.



Otherwise, if there is an existing Building Layout file, that must be created using the editor, should be configured as the layout of our installation.

Inside the “local computer configuration” option when creating or editing an installation you can set the path of the building layout file.



Building layout can be configured as the default view by selecting the option “Open when log in”

The shape colour shows the state of the unit. This colour was set previously on the editor. Unit Icons has a little frame that indicates the same.

Icons give information of the Unit or Chiller.

The border has an interior shadow made that has the state colour.

To control a unit just click on its area or unit icon and start working with the virtual remote controller.

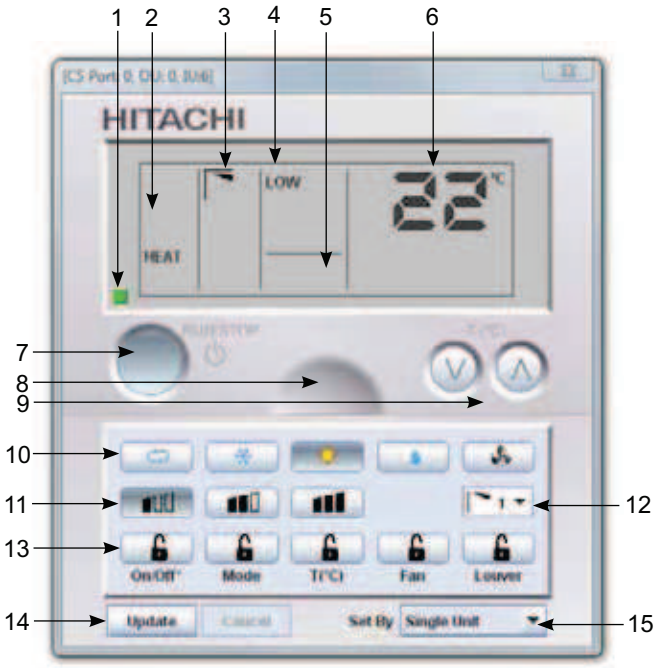
The remote controller is divided in two parts, the first one is the display zone that shows you the current values of the unit and the second one is the buttons zone.

Display zones are described next:

1 Indicates the Run / Stop situation and if the unit has an alarm.
2 Shows the unit operation mode.
3 Indicates the position of the baffle plate.
4 Shows the fan speed.
5 Display central is enabled if some central value is activated.
6 Display the unit temperature.

Button zones are described next:

7 Changes the value of Run/Stop.
8 Show or hide the remote controller cover.
9 Set the temperature value.
10 Changes the unit mode. From left to right: Auto, Cool, Heat, Dry and Fan.
11 Set fan speed.
12 Set the position of louver.
13 Parameter lock. These parameters will be locked on the remote controller.
14 Update will send the current state of the remote controller to the unit. Cancel will restore previously setting.
15 “Set by” options configure the current remote controller order to be sent to a single unit, an outdoor unit, a zone, a zone and its sub zones or to all units.



The Chiller Remote Controller has the same buttons than Chiller setting panel. The functions of these buttons are explained on the chiller *Operation panel*.

6.2 Customization and configuration of Building Layout

Building Layout option allows to use a schema of your installation, showing you the installation information in a more friendly view. It will make easy to manage your installation.

To create a Building layout file you must to start the Building Layout editor application. This application is provided in your CSNET WEB installation CD-ROM.

There are two concepts that you must know before start the Building layout creation:

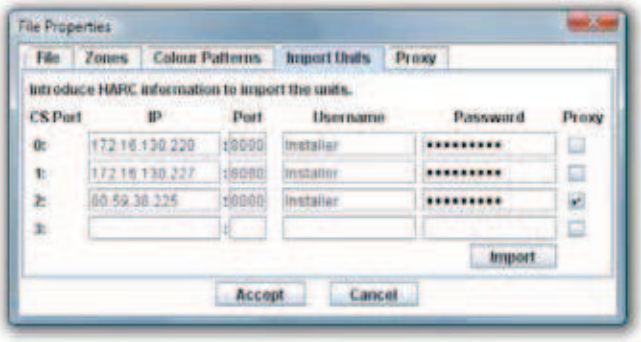
- Shape: marks the area of a unit or a zone.
- Zone: is a slide that contains different shapes.

Building Layout Editor has five zones:

1 Tree: shows you the installation topology and allow the fast movement of zones.
2 Menu Bar: has general options of actions that you can do.
3 Tool Bar: has navigation and zoom buttons.
4 Edition zone: interface to create the shapes inside a zone.
5 Status Bar: has information of state of program.

6.3 Import units from CSNET WEB

In order to make easy your layout creation you can import the current units of the CSNET WEB. To do this, you have to open the option file properties and select the units tab



On this tab you must enter the IP, port, user and password from one CSNET WEB to get the units existing on the data files.

If you need to pass through a proxy to connect with one CSNET WEB you must set the checkbox of column proxy and after go to the proxy tab and set the proxy configuration:

CAUTION

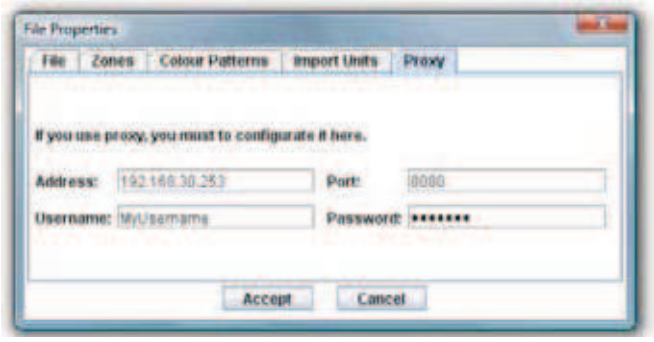
When you configure your installation on CSNET WEB you must use the same order of HARCS than here. If you change this order the port number of the units will be different and layout will consider these units as other ones

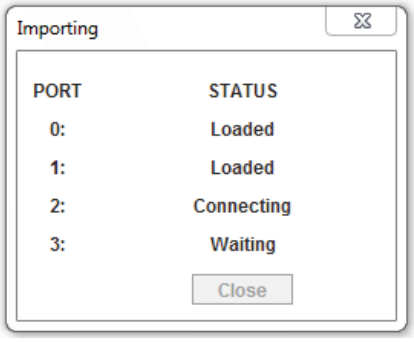
When you click import, Building Layout will use these files to load the unit's information and next window will appear

This dialog will show you the state of each import action.

After end the importation process, you can find the units on the shape dialog clicking on option load.

Making this you can forget to write manually the information of each unit, and you only have to select which unit is on a list.





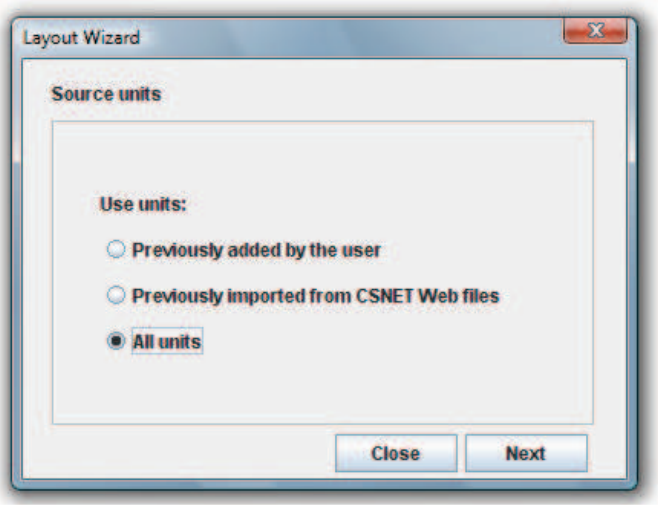
6.4 Create Building Layout file using wizard option

In order to make easy your layout creation you can import the current units of the CSNET WEB. To do this, you have to open the option file properties and select the units tab.

Before creating your layout you must select the units used by the wizard function.

Units added by the user means all units that user add entering values in shape edition.

Imported units are units that you can automatically import from CSNET WEB explained on the last point.



Next, you must to select how the wizard application will distribute your units.

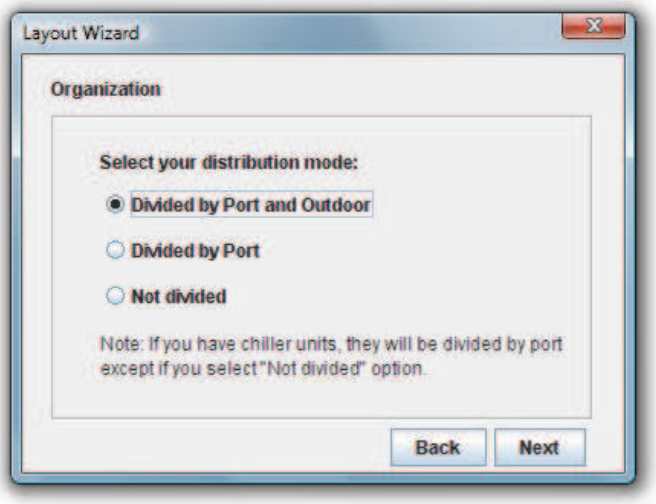
It will create a zone for each port or port and outdoor that exists, entering inside a shape for each unit.

Not divided option will enter all the units in the root zone.

NOTE

Chiller units will be divided by port except if you use the "not divided" option.

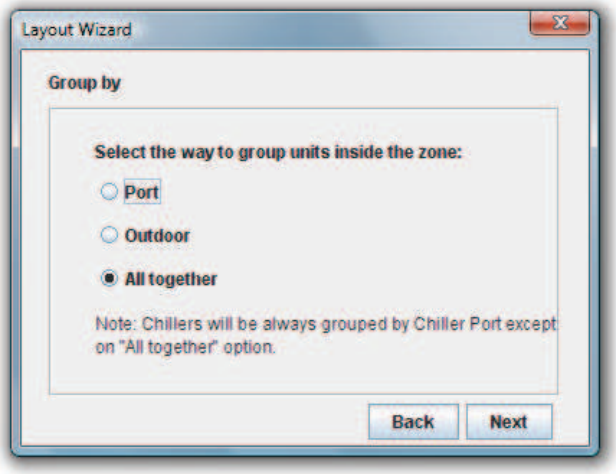
On next step you can specify the organisation of the units inside the zone.



You can group the units by port, by outdoor units or all in a same group.

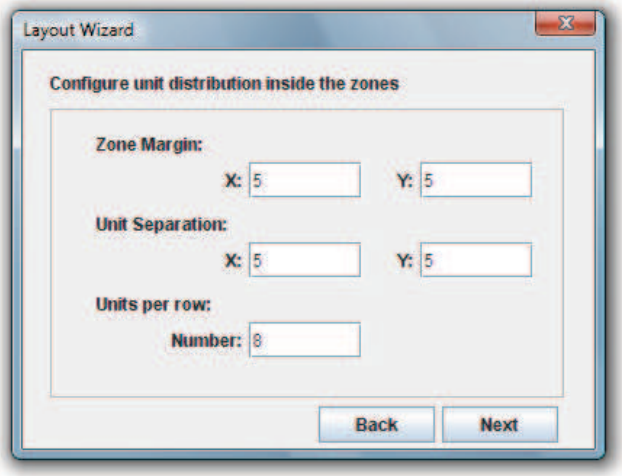
NOTE

- *If you distribute and group units by same option, on each zone will be only a unit or chiller.*
- *Chillers will be grouped by chiller port except in the "All together" option.*



You can choose the distribution of your units and shapes inside the zones:

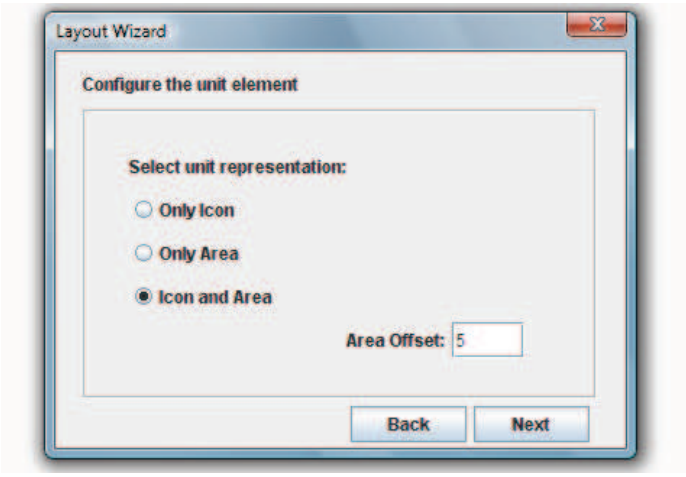
You can specify the margins with the zone, the separation between units and the number of units that you want to have on each row.



On next step you can decide how will be the units element:

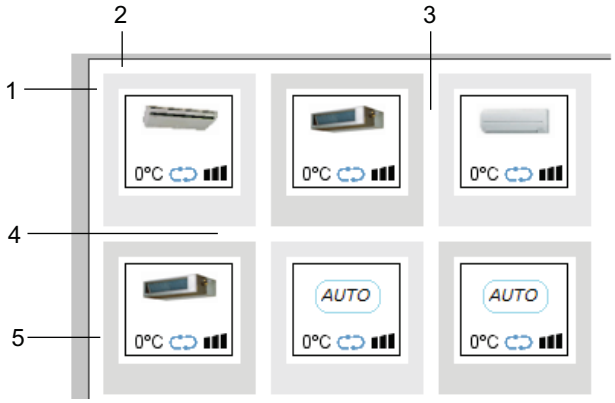
Units can be only the area as a square, only the unit icon or both.

Both modes will have an area with the icon over this area. You must specify an area offset.



On next image you can see an example, applying the entered values:

1 Zone Margin X
2 Zone Margin Y
3 Unit Separation Y
4 Unit Separation X
5 Area Offset



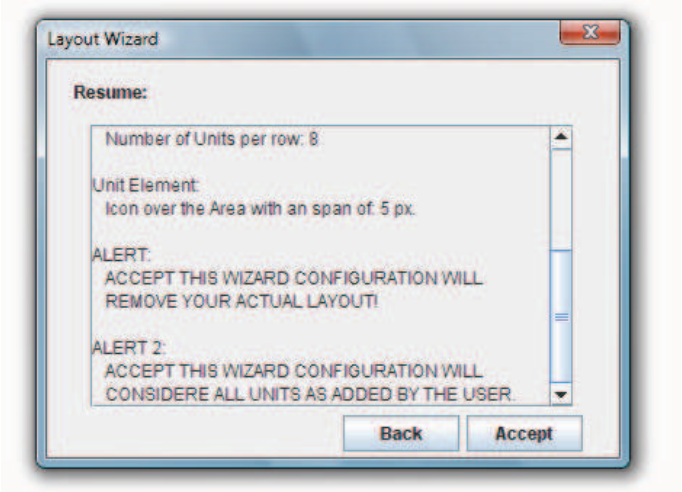
Finally, wizard dialog will show you a resume panel with a summary of your selected options and with two alerts.

ALERT 1:

Accept this wizard configuration will remove your actual layout.

ALERT 2:

Accept this wizard configuration will considere all units as added by the user.



6.5 Create Building Layout file

You can create your layout file without the wizard dialog, but it will take more time. There are 3 important steps:

- File configuration
- Create zones
- Create shapes

This points will be explained next.

6.5.1 File configuration

You can configure different properties of your layout file. These properties are:

- Zones size
- Background colour
- Colour patterns
- Units source

File tab shows you different information of the building layout file.

This information shows the path of your Building Layout file, the size in MB and the date of last modifications.

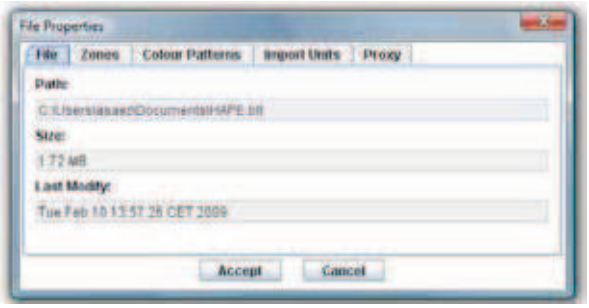
Zones size and background colour can be modified on zones tab inside the file properties dialog.

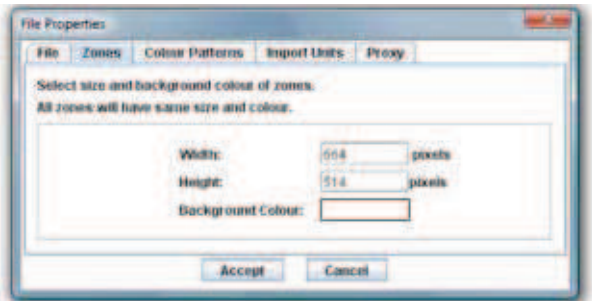
All zones will have same sizes to ban the possibility of irregular navigation on the viewer.

Minimum zone size is 400x400 pixels and maximum zone size is 2500x2500.

Background colour will be also the same in all zones.

Background colour could be useful if your background image has transparency or if you do not use background images.





Colour Patterns tab, allows you to modify the colours of the patterns.

The number of patterns is fixed by the application.

To change the colour of one pattern, you have to choose this pattern on combo box.

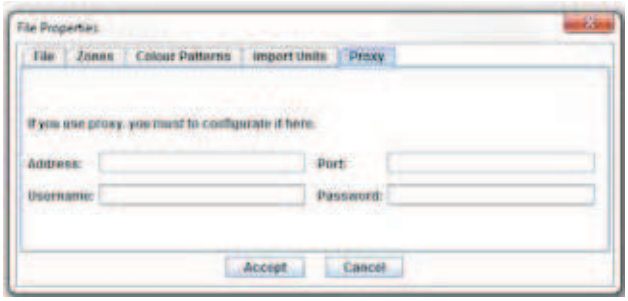
After this you will see current colours states (Inactive, Working and Alarm), to change one of them you must to click on the colour and a colour chooser dialog will appear.

Set this colour patterns is important to the finally view of the installation because it each installation will have the colour of his state and pattern set now in the edition process.

Import units tab allows you to import units.

Proxy tab let the user to type the proxy configurations in order to be able to connect to a CSNET WEB through the proxy.

Proxy connection is useful when Building Layout Software is importing the units from a CSNET WEB that is not directly connected on same LAN than the computer.



6.5.2 Layout tree

The layout tree shows you the topology of your installation. It is helpfully to find the zones of your installation and it is easy a very good tool to organise your installation.

Using the tree you can select which zone you want to see on the display zone.

Dragging a zone to another one this will be moved as a child of destination zone.

To specify concrete order we move zone to bottom of destination zone, a line will appear. On release mouse button original zone will go after destination zone.

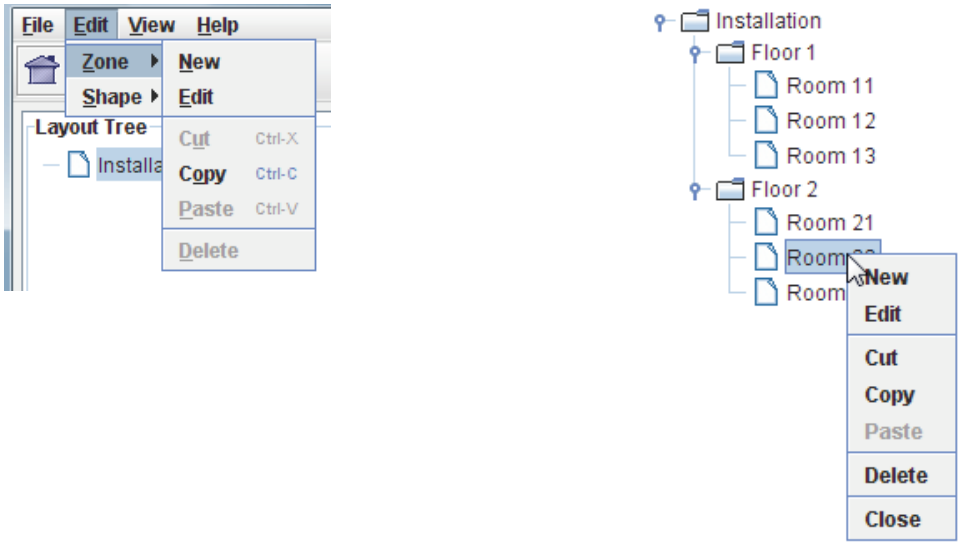
6.5.3 Create zones

You can find **Zone** in **Edit** menu. Zone options can also be found using the right button on a zone inside the installation tree.

A zone is a slide where we can add all shapes that we want. On a zone we can choose a background image and edit this.

Zone has different options:

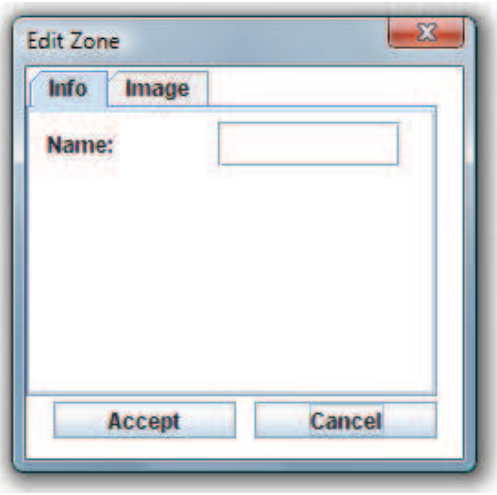
- **New:** create new zone. This zone will be child of selected zone on tree.
- **Edit:** modify selected zone.
- **Cut:** copy to clipboard selected zone. When we paste this zone will disappear from original parent.
- **Copy:** clone the zone to allow you to paste where you want.
- **Paste:** copy the zone stored on clipboard as a child of the selected zone. Remember that root zone is not allowed to be deleted.
- **Delete:** delete current zone. When you choose this option a dialog will appear where you can choose between delete all childrens from selected zone or move childrens to parent of the selected zone.

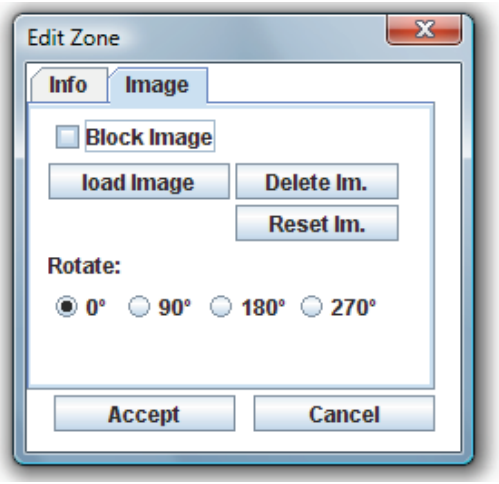


Creating new zone or editing an existing one will appear the zone dialog to set the information of the zone. Each zone must to have a specific information to identify the zone. The name of the zone must to be unique.

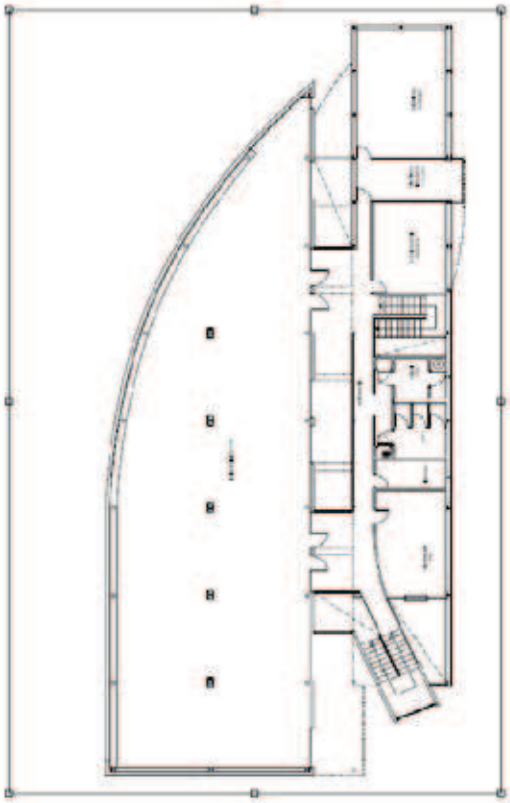
In each zone you can insert one background image. In the image tab are different buttons that allows you to modify the background image:

- **Block image**: block transformations to your image to ban the possibility of transform without want it.
- **Load image**: open file dialog to choose an image.
- **Delete image**: delete current background image.
- **Reset image**: restart all the transformations of the image.
- **Rotate**: rotate the current image.





When transforming an image, you will see transformation squares around the image. Each square transforms the image fixing the opposite one. Central square will shift the image.



6.5.4 Create shapes

A shape is a form that you can create in a zone. Each shape could link to a zone, a unit, a chiller or nothing. The shape options are on shape in menu, inside edit.

You can also find shape options clicking over a shape.

On shape Menu you can find different options:

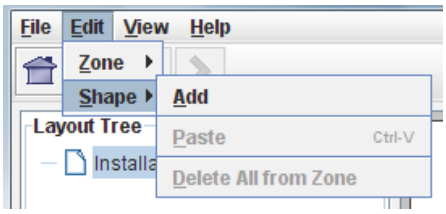
- **Add**: create new shape.
- **Paste**: paste a shape if there is one on the clipboard. You can also paste a shape clicking on one shape and selecting paste option in the popup menu or clicking on the destination point of your shape and selecting the paste option.
- **Delete All from Zone**: this option will delete all the shapes from selected zone.

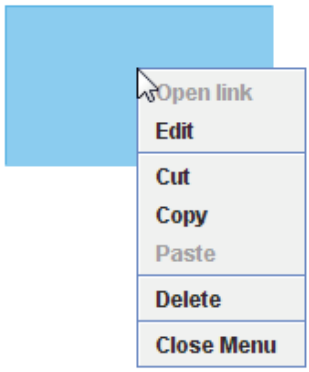
On the popup menu we have different options:

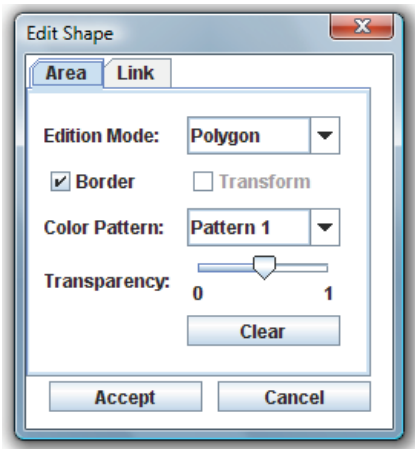
- **Open link**: open the linked zone of this shape.
- **Edit**: open the shape dialog to “Edit Shape” the select shape information.
- **Cut**: cut the selected shape that will be move when you paste it.
- **Copy**: copy the selected shape.
- **Paste**: paste the copied shape.
- **Delete**: erase the selected shape.

When you create or edit a shape will appear the next dialog where you can introduce the shape properties.

- **Edition Mode**: allows you to choose between Polygonal and rectangular mode. Each case has its edition properties explained next.
- **Border**: Activate or deactivate a border around your shape.
- **Transform**: if transform button is enabled you can not continue with the edition in normal way. You now can move the polygon or work with points. Note that icon will follow the shape only if they are in contact.
- **Color Pattern**: select the colour pattern of current shape.
- **Transparency**: set transparency value for your current shape.
- **Clear**: this button will erase current shape.







The two different edition modes have different behaviour during the shape creation.

Polygon Creation:

Adding a polygon consist on clicking in each limiting point of the desired shape. A line will indicate you where the next point will be add.

Rectangle creation:

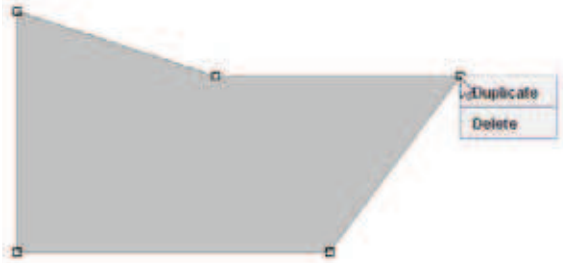
Rectangular shapes creation is easy, you only have to click with the mouse and drag selecting the area you are creating.

The two different edition modes have different behaviour during the shape edition.

Polygon Edition:

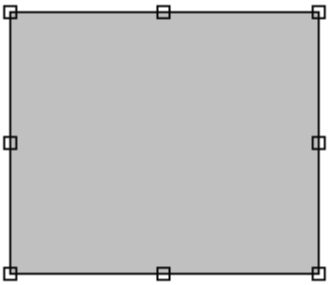
Editing a polygon can be done in two different ways:

- You can move the polygon by clicking inside the area of your shape and dragging it to the new position.
- You can edit a single point. You can drag one point and also, if you make double click on square that marks this point, a new popup menu will appear. In this popup menu you can choose between delete or duplicate the point.



Rectangle Edition:

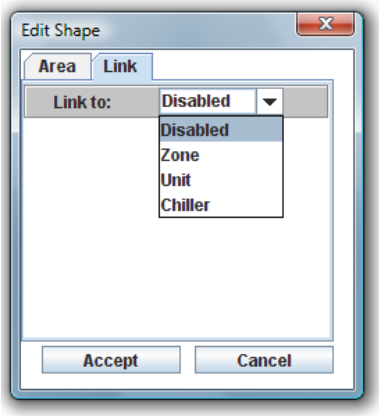
- Central squares will move the rectangle.
- Corner squares will expand or reduce rectangle fixing opposite corner square.
- Between corner squares will move contiguous corners fixing the opposites ones.
- Using shift button you transform keeping previous proportions of the image.

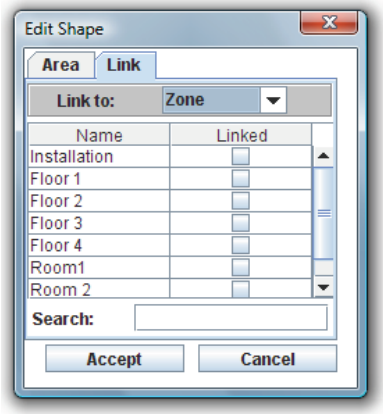


To link a shape you must select the tab link on the shape dialog and chose the link type.

If you want to link to a zone you must select which will be the destination zone. To do this, you must o use the zones table.

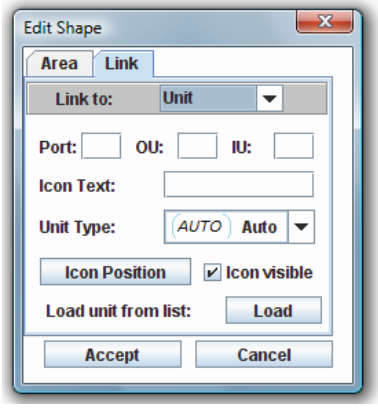
You can search for a zone using search file.

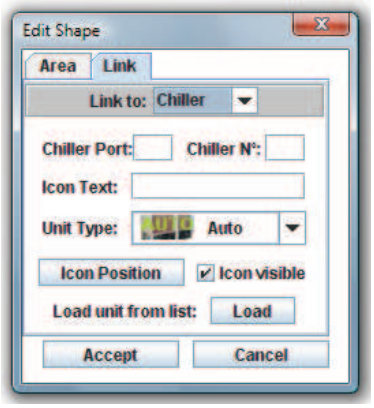




If you want to link to a Unit or a Chiller, you must complete all the information fields.

In both links you can select what kind of Unit or Chillers is it. If you select Auto option CSNET WEB will automatically set the kind of Unit or Chiller.

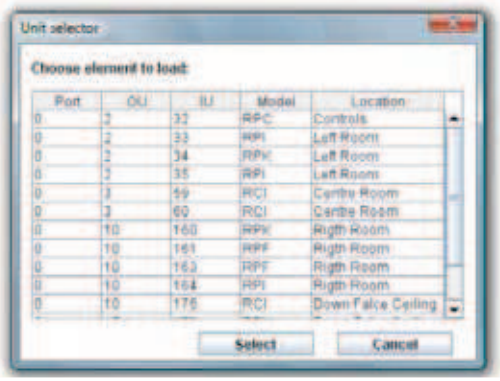




During the edition you will see:

Icon for Packaged units	Icon for Chiller units
	

To make easier your work, if you have imported configuration files of CSNET WEB as previously explained, you can load the fields selecting load button. Unit selector dialog will appear:



Select the unit you want to load and press select button. Chiller has another dialog with exactly the same functions to select a previously loaded Chiller.

7. Configuration and display options

Index

7.1 Installation

To configure the system, access the historical data and power consumption files you should access the bottom left of the CSNET WEB window, where the following buttons are located:

- Building Layout
- Package
- Chiller
- Configure system
- Historical data
- Power consumption
- Log Out

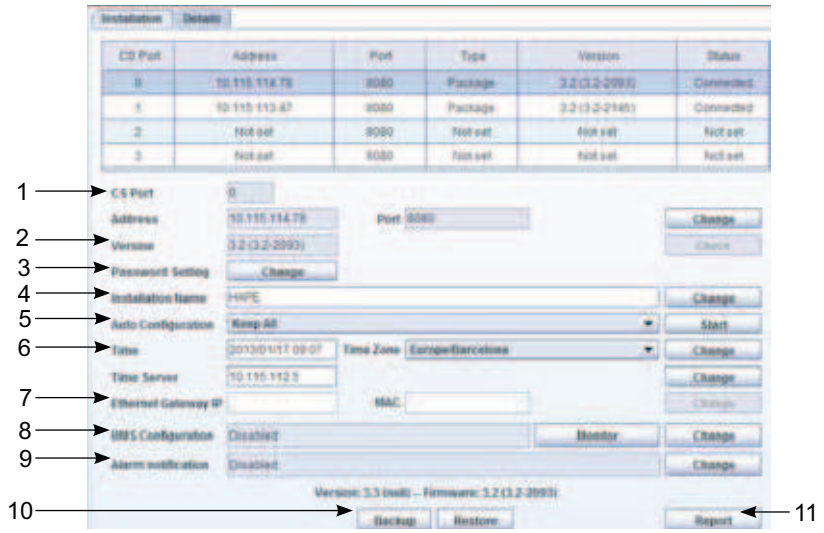
NOTE

These options are only available if the user has entered as Installer.

7.2 Configure System

The CSNET WEB configuration has the following sections:

1 Network settings
2 Version and updates
3 Change password
4 Installation name
5 Auto configuration
6 Time configuration
7 Ethernet gateway
8 BMS configuration
9 Alarm notification
10 Backup copy
11 Configuration report



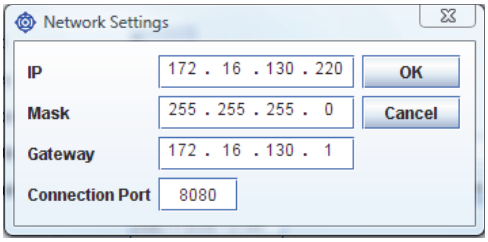
7.2.1 Network settings

CAUTION

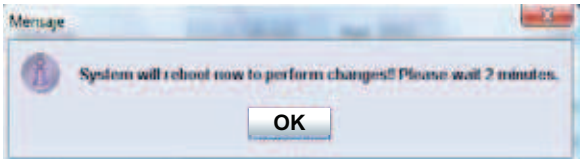
- *If this is the first time that CSNET WEB is being run in this installation, we recommend using the CD supplied with the interface, as explained in section Configuring the hardware.*
- *The network settings specify the parameters for configuring CSNET WEB to be able to communicate with the rest of the network. These parameters are essential, and a bad configuration may cause conflicts in the local area network. This is why we recommend that for making these settings you get in touch with the network administrator where CSNET WEB will be installed.*

To enter and/or modify the network configuration click on **Change** button in **Network settings** section and follow these steps:

1 Enter the IP address. The IP address consists of four numbers which must be between 0 and 255.
2 Enter the Mask. As in the case of the IP address, the four numbers must be between 0 and 255.
3 Enter the IP address of the Gateway. Again, the numbers for these four fields follow the same rule as the IP address and Mask. If you do not have a Gateway, the field should contain an IP address within the margins of the specified network.

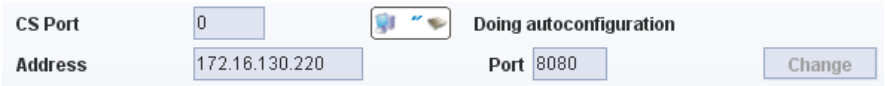


4 Click on the **OK** button situated in the upper right (by the IP line). A message will appear as in the example:



5 When you press the **OK** button, changed CSNET WEB will restart and therefore communication with it will be lost by approximately 2 minutes.

If harc is doing autoconfiguration, it will not be able to modify settings from that pane. User must wait for the end of auto-configuration.



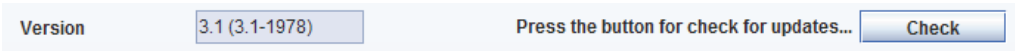
7.2.2 Version and updates

Version and updates gives the information to the user about which software is installed on the HARC.

If the internet connection is properly configured, it can download updates for the HARC and install them just by clicking the button.

CAUTION

HARC cannot be updated through a proxy.

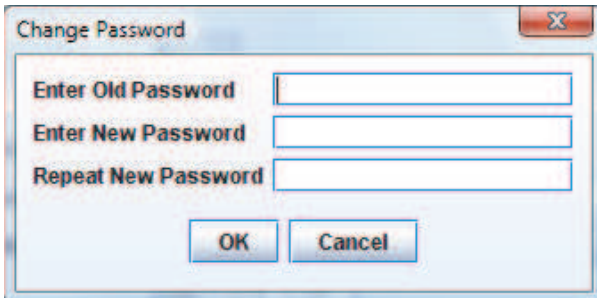


7.2.3 Change password

The **Change** button beside Password setting opens the Change password panel.

To change your password:

- Enter the installer password. (The default factory password is “**Installer**”).
- Enter the new password.
- Repeat the new password to confirm it.
- Click the “**OK**” button to validate the changes and return to system configuration window.



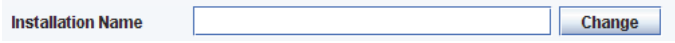
NOTE

Only Installer password may be changed for CSNET WEB Server. User password will no longer be used for CSNET WEB Server.

7.2.4 Installation name

The name of the installation is the title of the main window. This lets you identify where CSNET WEB is connected.

To change the name of the installation first enter the name you want and then click on the **Change** button by the “Installation Name” line.



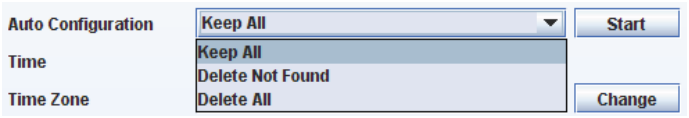
This takes you to the main window, where you can see that the title of the main page has changed.

7.2.5 Auto configuration

When the system is started for the first time, it recognizes all the machines connected to H-Link. With time, the air conditioning installation may undergo changes which have certain repercussions on CSNET WEB. If the system detects machines which have been added after CSNET WEB was installed, or that machines have been removed from the H-Link, the Auto Configuration function lets you recognize all the machines again.

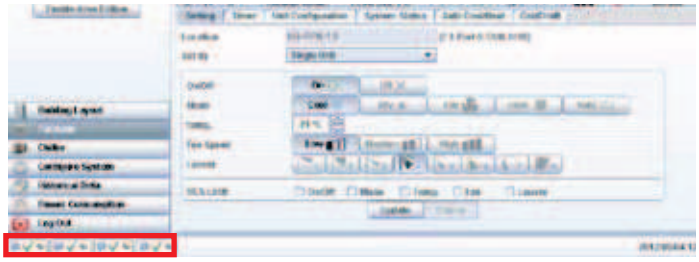
There are three Auto Configuration options:

- **Keep All**: Only the machines found are added. The other machines in the table of indoor units are kept as they were.
- **Delete Not Found**: If there are machines in the table of indoor units which are not present in the H-Link, CSNET WEB will delete these machines. All the machines which were not present in the table of indoor units but in the H-Link will be added.
- **Delete all**: All the machines in the table of indoor units will be deleted, and CSNET WEB will again detect all the machines connected to H-Link. Once they are added, you have to remember that the configuration has to be carried out again.



To carry out Auto Configuration:

- Select the option required in the **Auto Configuration** selection table.
- Press the **Start** button at the right of the menu.
- If you return to the main window, you will see the progress as a percentage (%) in the bottom left of the screen.

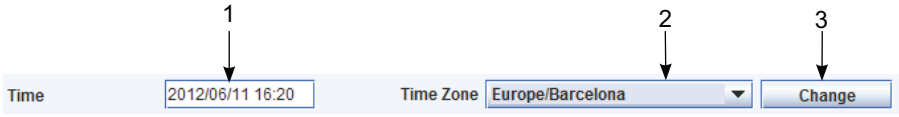


7.2.6 Time configuration

The time configuration is used to synchronize CSNET WEB with your time zone. It is very important that this configuration is correct for the timer to work correctly.

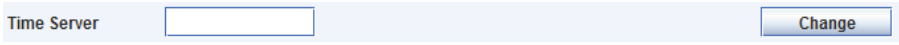
To carry out time configuration:

1. Enter the date and time. It is very important to follow the yyyy/mm/dd hh:mm format, as follows: four figures for the year, a slash "/", two figures for the month, a slash "/", two figures for the day, a space " ", two figures for the hour in 24-hour format, a colon ":" and two figures for the minutes.
2. Select the time zone. This is very important as CSNET WEB needs to know precisely the time zone in order to identify time changes and how many hours to change.
3. When you have finished, click the **Change** button, which is in the bottom right of the window. When you press the button a message appears and the application closes.
4. Wait for a couple of minutes and restart CSNET WEB.



CSNET WEB allow to set a time server that will automatically set the correct date and time.

If you have a server with time and date SNTP service enable, you must set the IP of that server on the Time Server field.



7.2.7 Ethernet gateway

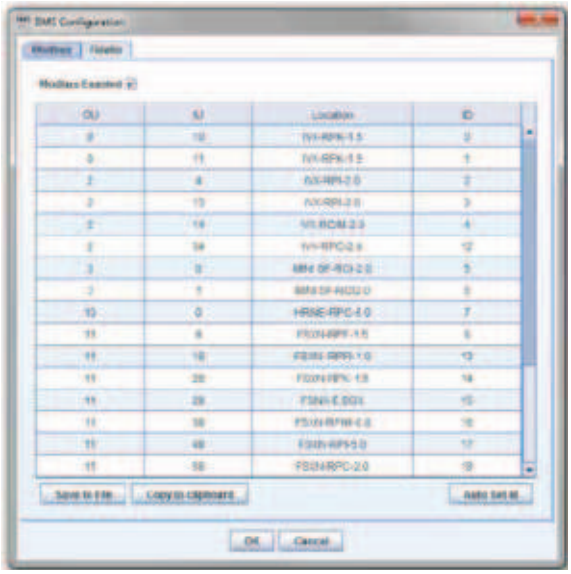
You can change the IP and MAC values of your Getaway here by clicking the button **Change.**

7.2.8 BMS configuration

◆ Modbus Configuration

CSNET WEB allows to configure the BMS system by setting the ID for each indoor unit. This configuration will link the BMS with the H-LINK.

To open the BMS configuration click on the change button. After clicking the button a dialog will appear and you could start to set the configuration.



BMS Configuration for Packaged

In this dialog you can enable the BMS to activate this option, and after this, set in each row the unit information.

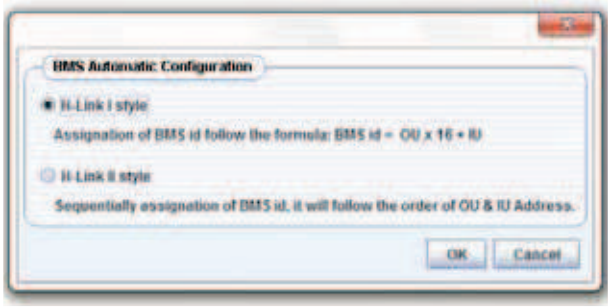
- OU is the outdoor unit number.
- IU is the indoor unit number.
- Location is the location field of the unit. This field is only editable from the unit setting tab.
- ID field is automatically set and is not modifiable.

CSNETWEB automatically assigns an ID for each found unit. You can change this ID on the table.

The ID field can not be repeated, if it will occurs, CSNET WEB will ask you to change the repeated ID.

In case of Packaged, “Auto Set Id” button will be available. This button open a new window when user could automatically assign the ID to the units. This assignation could be done in two ways:

- H-LINK I: BMS ID = OU x 16 + IU.
- H-LINK II: BMS ID is assigned following the order of OU & IU.

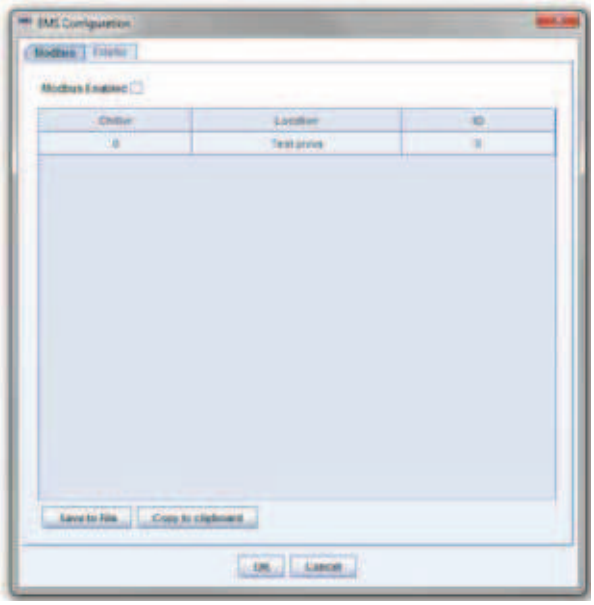


BMS Configuration for Chiller

In case of chiller dialog it will not be configurable, but on that dialog you can see which is the Modbus ID for each chiller. This ID will be same value than Chiller address.

The information shown in the table is:

- Chiller is address of the Chiller.
- Location is the location field of the unit. This field is only editable from the unit setting tab.
- ID field is the Modbus ID that is automatically assigned by CSNET WEB.



Export buttons

Save to file button writes in a selected comma-separated values file the content of the table.

Copy to clipboard button will set in your clipboard the content of the table, separating the information by tabs.

In both cases the information of the table is ready to create an easy view of the information and an easier exportation to other programs like Excel.

Available data for Packaged

The available data for CSNET WEB for Packaged is:

Address (Note 1)	Name	Description	Read/Write
0	EXIST	0: Not exist 1: Exist	Read
1	SYSTEM_ADDRESS	H-LINK 1: 0~15 H-LINK 2: 0~63	Read
2	UNIT_ADDRESS		
3	SET_ONOFF	ON/OFF setting order: 0: Stop 1: Run	Read/Write
4	SET_MODE	Mode setting order: 0: Cool 1: Dry 2: Fan 3: Heat 4: Auto	Read/Write
5	SET_FAN	Fan setting order: 0: Low 1: Medium 2: High	Read/Write
6	SET_TSET	Setting temperature 17ºC ~ 30ºC	Read/Write
7	SET_LOUVER	Louver setting 0 ~ 8 (8 is Auto)	Read/Write
8	SET_CENTRAL	Central Setting: Bit 0: ON/OFF (always can be stopped) Bit 1: Mode Bit 2: Setting temperature Bit 3: Fan	Read/Write
9	READ_ONOFF	ON/OFF read: 0: OFF 1: ON	Read
10	READ_MODE	Mode read: 0: Cool 1: Dry 2: Fan 3: Heat 4: Auto	Read
11	READ_FAN	Fan read 0: Low 1: Medium 2: High	Read
12	READ_TSET	Setting temperature read (17ºC to 30ºC)	Read
13	READ_LOUVER	Louver read 0 ~ 8 (8 is Auto)	Read
14	RCS_GROUP	Remote controller group 0 ~ 255	Read
15	TIN	Inlet temperature (Note 2)	Read
16	TOUT	Outlet temperature (Note 2)	Read
17	TGAS	Gas pipe temperature (Note 2)	Read
18	TLIQUID	Liquid pipe temperature (Note 2)	Read
19	ERROR_CODE	Alarm code	Read
20	STOP_CAUSE	Compressor stop cause	Read
21	VALVE_OPEN	Indoor unit expansion valve opening	Read

Address (Note 1)	Name	Description	Read/Write
22	OPER_CONDITION	Unit operation condition 0: OFF 1: Thermo OFF 2: Thermo ON 3: Alarm	Read
23	DEFROST	Defrost	Read
24	AMBIENT_TEMP	Ambient temperature (Note 2)	Read
25	POWER_GROUP	Power meter group	Read
26	TIMER_DISABLED	Timer disabled 0: Disabled 1: Enabled	Read/Write
27	OPTIONS	Options setting	Read
28	POWER	Calculated power consumption	Read
29 ~ 31	RESERVED	Reserved for future use	Not used

NOTE

1. *Offset position is: 20000 + N*32 + Address as shown in table, where N is unit address. Unit address as set in CSNET WEB BMS configuration dialog. Be careful because we are using address 0 as first register and in Mobdus could be used number 1 as first value. In that case, it will be necessary to add 1 to the adress calculation.*
2. *These numbers refer to signed 16-bit value using 2-complement format for negative values.*
3. *In case that the installation will use more than one CSNET WEB, it will use different device Ids, using Virtual Ids. Refere to the configuration of your BMS to Ethernet adapter to know how it works.*
4. *Register number 10 is used for general alarm status.*

Available data for Chiller

The available data for CSNET WEB for Chiller is:

Address (Note 1)	Name	Description	Read/Write/Coil (Note 2)
0	TYPE	Unit type: 2: Chiller	Read
1	SYSTEM_ADDRESS	System address: 0 ~ 15 in H-LINK 1	Read
2	SET_ONOFF	ON/OFF setting order: 0: Stop 1: Run	Read/Write/Coil
3	SET_MODE	Mode setting order: 0: Cool 1: Heat	Read/Write/Coil
4	SET_TSET	Setting temperature (Depends on mode and chiller type)	Read/Write
5	SET_CENTRAL	Central setting: 0: Local 1: Remote	Read/Coil
6	READ_ONOFF	ON/OFF read: 0: OFF 1: ON	Read/Coil
7	READ_MODE	Mode read: 0: Cool 1: Heat	Read
8	READ_TSET	Setting temperature read	Read
9	WATER INLET	Inlet temperature (Note 3)	Read
10	WATER OUTLET	Outlet temperature (Note 3)	Read
11	ERROR_CODE	Alarm code	Read
12	OPER_CONDITION	Unit operation condition: 0: OFF 1: Thermo OFF 2: Thermo ON 3: Alarm	Read
13	DEFROST	Defrost	Read
14	AMBIENT_TEMP	Ambient temperature (Note 3)	Read
15	POWER_GROUP	Power meter group	Read/Coil
16	TIMER_DISABLED	Timer disabled	Read/Write/Coil
17	OPTIONS	Options setting	Read
18 ~ 31	RESERVED	Reserved for future use	Not used

NOTE

1. *Register address is: 40000 + N*32 + Address as shown in table, where N is Chiller address. Be careful because we are using address 0 as first register and in Mobdus could be used number 1 as first value. In that case, it will be necessary to add 1 to the adress calculation.*
2. *These numbers refer to signed 16-bit value using 2-complement format for negative values.*
3. *In case that the installation will use more than one CSNET WEB, it will use different device Ids, using Virtual Ids. Referee to the configuration of your BMS to Ethernet adapter to know how it works.*

General alarms code list

(ERROR:CODE:CH: address 15)

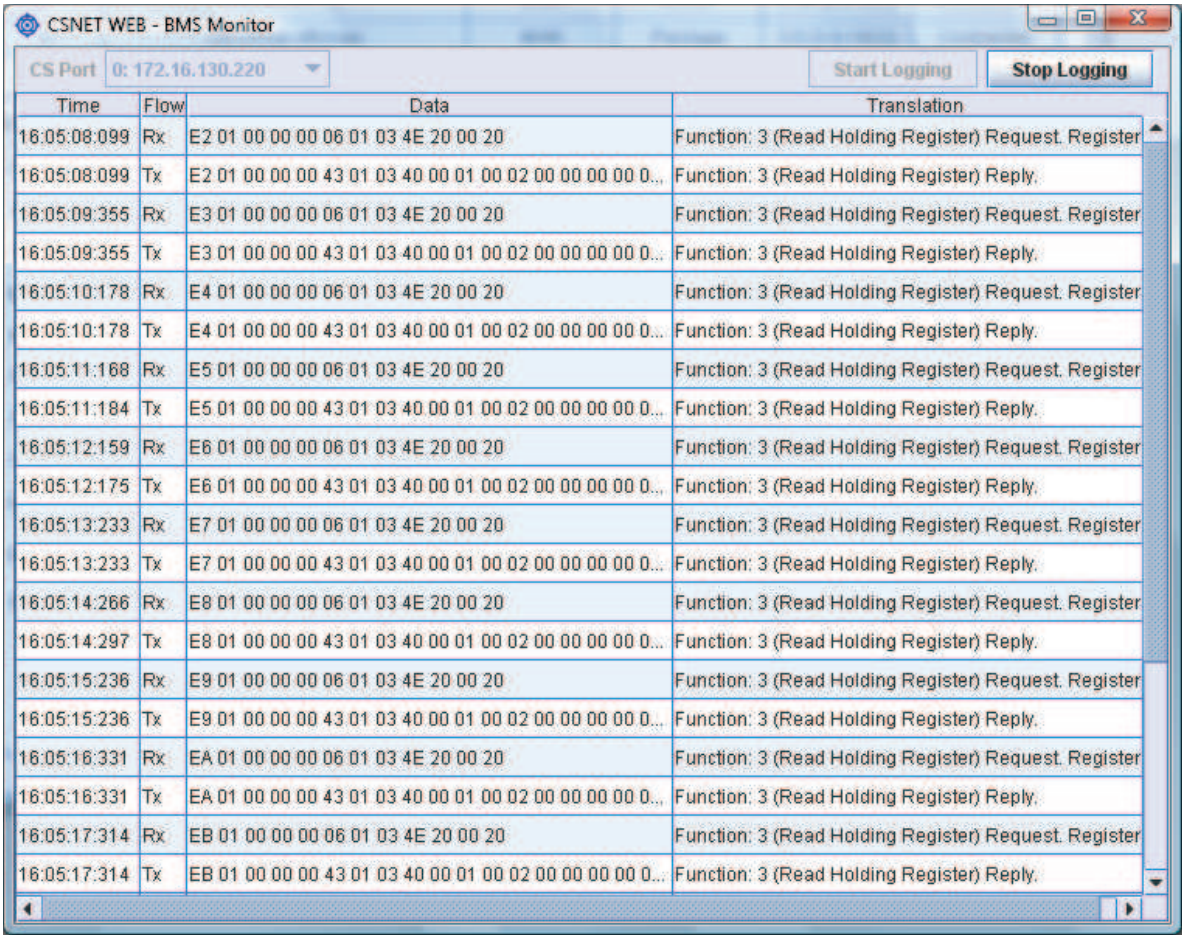
Chiller alarm		Description	HC-A32MB value
7SEG1	7SEG2		
11	11	Failure of water inlet temperature thermistor	20
12	12	Failure of water outlet temperature thermistor (only for single cycle unit)	21
22	22	Failure of ambient temperature thermistor (open/short)	24
SP	SP	No feedback signal from water pump	26
13	13	Activation of freeze protection control (only for single cycle unit)	27
6C	6C	Alarm of water failure (differential pressure switch or flow switch option)- Condenser	28
6E	6E	Alarm of water failure (differential pressure switch or flow switch option)- Evaporator	29
14	14	Activation of thermostat for excessively high water temperature (only for single cycle units)	30
AP	AP	Activation of additional protection device	31
05	05	Phase abnormally	32
CP	CP	Error communication between control PCB's (PCBC1, PCBC2)	33
03	03	Error communication between Chiller and remote controller (H-LINK)	34 - (A/W/CL) G(1) 35 - (A/W/CL)G2
EU	EU	Error communication between expansion valve PCB and control PCB	36
40	40	Incorrect operation	40~45, 47, 47, 54

BMS Monitor

Pressing **Monitor** button, it will be open the following windows, where the user could select which CSNET WEB will be monitored. After select it, must be started the logging.

During the logging process, CSNET WEB will register all the Modbus communications that it will receive, and it will be showed on the table.

The following table shows when the message have been received, if it is transmitted (Tx) or received (Rx), the data bytes of the message, and a translation for a best understanding of the user.



Time	Flow	Data	Translation
16:05:08:099	Rx	E2 01 00 00 00 06 01 03 4E 20 00 20	Function: 3 (Read Holding Register) Request. Register
16:05:08:099	Tx	E2 01 00 00 00 43 01 03 40 00 01 00 02 00 00 00 00 0...	Function: 3 (Read Holding Register) Reply.
16:05:09:355	Rx	E3 01 00 00 00 06 01 03 4E 20 00 20	Function: 3 (Read Holding Register) Request. Register
16:05:09:355	Tx	E3 01 00 00 00 43 01 03 40 00 01 00 02 00 00 00 00 0...	Function: 3 (Read Holding Register) Reply.
16:05:10:178	Rx	E4 01 00 00 00 06 01 03 4E 20 00 20	Function: 3 (Read Holding Register) Request. Register
16:05:10:178	Tx	E4 01 00 00 00 43 01 03 40 00 01 00 02 00 00 00 00 0...	Function: 3 (Read Holding Register) Reply.
16:05:11:168	Rx	E5 01 00 00 00 06 01 03 4E 20 00 20	Function: 3 (Read Holding Register) Request. Register
16:05:11:184	Tx	E5 01 00 00 00 43 01 03 40 00 01 00 02 00 00 00 00 0...	Function: 3 (Read Holding Register) Reply.
16:05:12:159	Rx	E6 01 00 00 00 06 01 03 4E 20 00 20	Function: 3 (Read Holding Register) Request. Register
16:05:12:175	Tx	E6 01 00 00 00 43 01 03 40 00 01 00 02 00 00 00 00 0...	Function: 3 (Read Holding Register) Reply.
16:05:13:233	Rx	E7 01 00 00 00 06 01 03 4E 20 00 20	Function: 3 (Read Holding Register) Request. Register
16:05:13:233	Tx	E7 01 00 00 00 43 01 03 40 00 01 00 02 00 00 00 00 0...	Function: 3 (Read Holding Register) Reply.
16:05:14:266	Rx	E8 01 00 00 00 06 01 03 4E 20 00 20	Function: 3 (Read Holding Register) Request. Register
16:05:14:297	Tx	E8 01 00 00 00 43 01 03 40 00 01 00 02 00 00 00 00 0...	Function: 3 (Read Holding Register) Reply.
16:05:15:236	Rx	E9 01 00 00 00 06 01 03 4E 20 00 20	Function: 3 (Read Holding Register) Request. Register
16:05:15:236	Tx	E9 01 00 00 00 43 01 03 40 00 01 00 02 00 00 00 00 0...	Function: 3 (Read Holding Register) Reply.
16:05:16:331	Rx	EA 01 00 00 00 06 01 03 4E 20 00 20	Function: 3 (Read Holding Register) Request. Register
16:05:16:331	Tx	EA 01 00 00 00 43 01 03 40 00 01 00 02 00 00 00 00 0...	Function: 3 (Read Holding Register) Reply.
16:05:17:314	Rx	EB 01 00 00 00 06 01 03 4E 20 00 20	Function: 3 (Read Holding Register) Request. Register
16:05:17:314	Tx	EB 01 00 00 00 43 01 03 40 00 01 00 02 00 00 00 00 0...	Function: 3 (Read Holding Register) Reply.

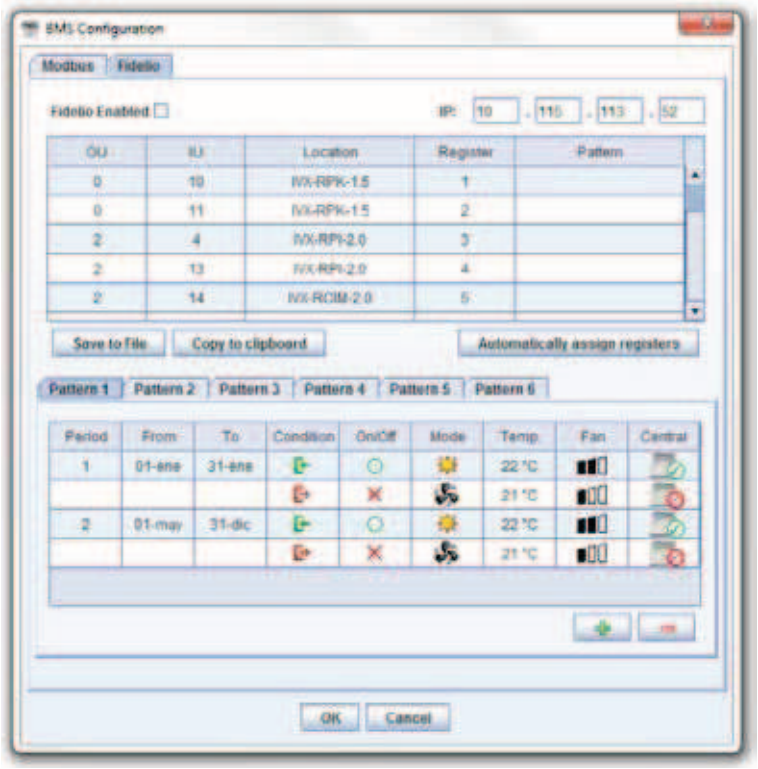
◆ Fidelio Configuration

CSNET WEB is compatible with a Hitachi H-LINK to Fidelio Gateway.

Each unit can be linked to a Fidelio register to know if there is a check in or check out condition on that room.

For each unit can be assigned a pattern similar to the timer one that describes a condition for check in and another for check out. It also can be specified the data period where that patterns applies.

To activate the Fidelio compatibility it must be selected the check box and specified an accessible IP for the Hitachi Fidelio gateway.



CAUTION

Actions configured on the Fidelio dialog are managed from the CSNET WEB client software, so it is necessary to have the computer program running to use the Fidelio compatibility.

NOTE

The compatibility with Fidelio protocol was tested with IBOX-MBS-FIDELIO_IP of INTESIS. Hitachi ensures the compatibility with this and others devices working exactly as the same. To use others devices please contact Hitachi to ensure compatibility.

7.2.9 Alarm notification

CSNET WEB is ready to notify alarms to the users. These alarms are notified by e-mail. To configure these notifications you must open the alarm notification dialog.

Clicking on the **Change** button the dialog will be open and you could start to set the configuration. The configuration is divided in diferent parts:

- **Alarm notification**: allows enable or disable alarm notification function and select between execute this server on the CSNET WEB HARC or in the computer.
- **Account details**: settings about the SMTP server.
- **Notify settings**: configuration about the receivers and the period of the notifications.

The selection between CSNET WEB Interface and Computer identifies which element will execute the mail alarm function, and in each case it will have different specifications.

The differences between the configurations are:

- Computer

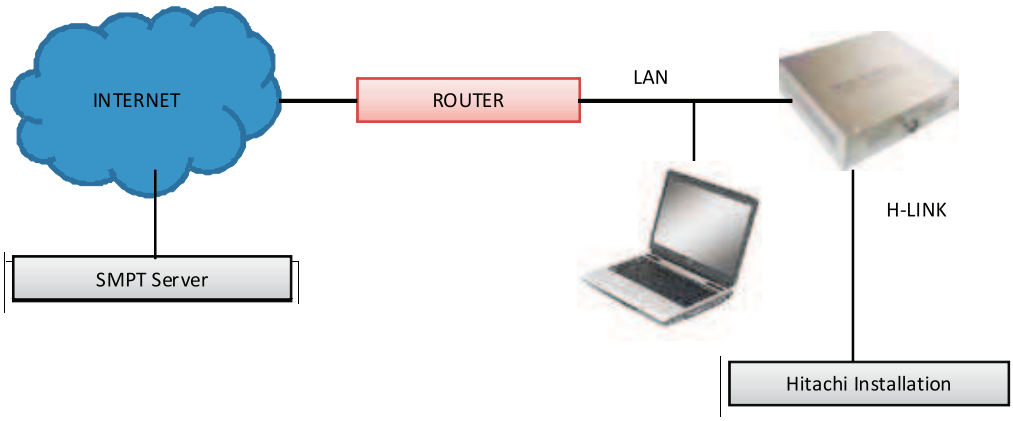
a. Configuring the mail alarms on the computer is used when CSNET WEB is on a LAN net that does not pass through a proxy to connect to Internet.

b. The mail alarms are being sent from the computer when CSNET WEB software is running, so that the software cannot be closed.

c. That connection allows the use of already existing SMTP servers on the Internet, such as Gmail, Yahoo or others. These are encrypted connections, so they can be used.

d. The e-mail sent has the location information column as it is managed from the computer and it is powerfull than CSNET WEB interface.

e. SMTP server can be encrypted. Gmail, Yahoo or similar.



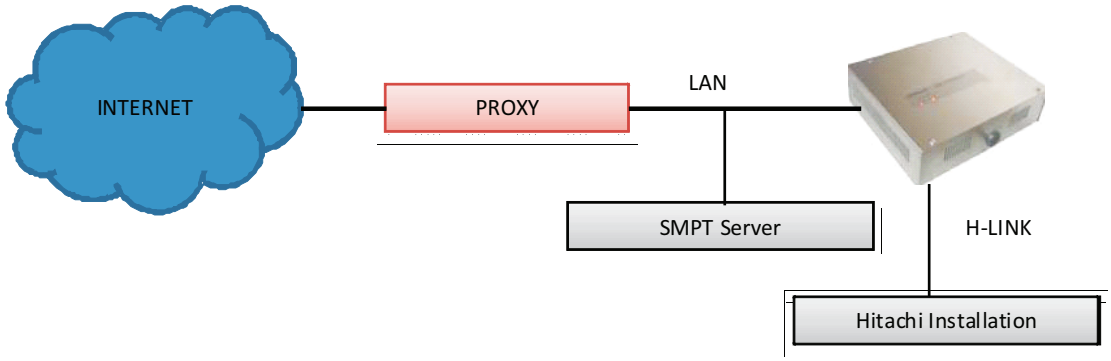
- CSNET WEB Interface:

a. Configuring the mail alarms on the CSNET WEB Interface is used when CSNET WEB is on a LAN that uses proxy to connect to Internet.

b. CSNET WEB device will send the alarm mails using this SMPT server.

c. It is required to have a SMPT server on the same LAN than CSNET WEB.

d. CSNET WEB Interface cannot connect to a SMTP encrypted server.



The account details need to specify the next fields:

- **Name**: installation name.
- **E-mail**: account installation mail.
- **Delivery Server address**: mail server address.
- **Server Port**: mail server port.
- **Username**: mail username.
- **Password**: mail password.

Notify settings configures who will receive the notifications and what will be the interval of these notifications.

- **Notify interval**: you can set a notification interval of 1, 2, 6, 12 hours or 1 day.
- **Notify E-Mail address**: sets the name and the e-mail address of the different receivers.

On **OK** button the configuration will be saved and sent to the CSNET WEB, this operation is not immediately. When CSNET WEB will receive and process this information you could see this on the alarm configuration field.

In case of alarm, CSNET WEB will send an e-mail with the following contents:

From CSNET WEB Interface:

CSNET WEB Alarm detected
(x,y) Alarm: #
(x,y) Alarm: #
(x,y) Alarm: #
(x,y) Alarm: #

From Computer:

OU	IU	Location	Alarm
X	Y	L	#
X	Y	L	#

In both cases, each parameter is:

X: Outdoor unit number

Y: Indoor unit number

#: Alarm code

L: Location (just from client)

7.2.10 Backup copy

This option lets you make a backup copy of the CSNET WEB parameters. The **Backup** button saves the configuration in the file you choose of the computer from which you accessed the system.

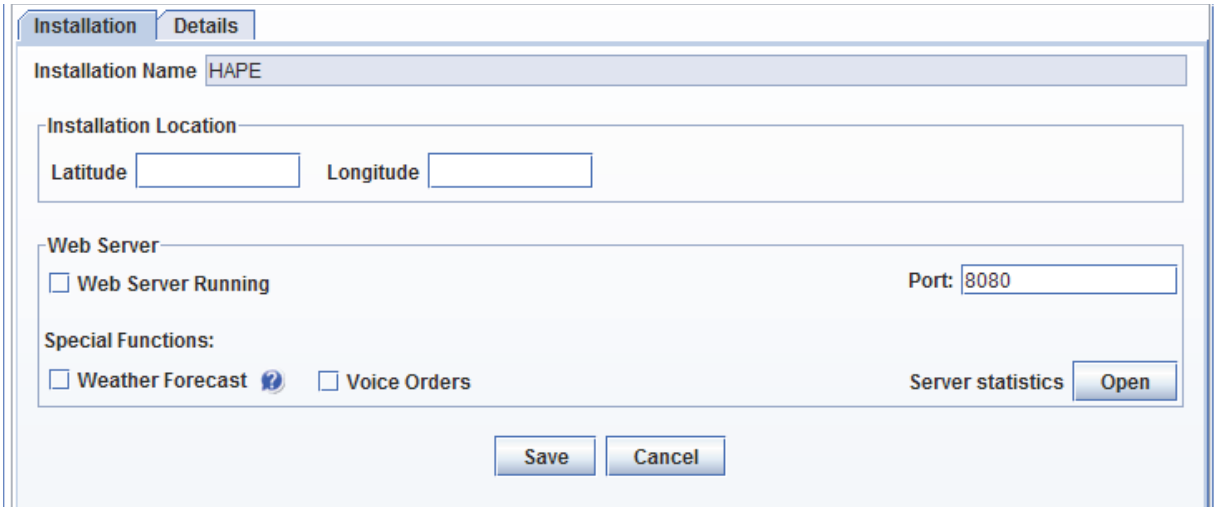
The **Restore** button re-establishes the configuration stored in the file you have specified.

7.2.11 Configuration report

Configuration report prints on a text file all the settings that CSNET WEB has.

The purpose of that is in case of wrong behavior of the functions, report the state and help to understand if there is something not well configured.

7.2.12 Web server



Installation menu refers to the data related to the general installation.

- Installation Location is used by web server functions. The location indicates where in the world is the Hitachi air conditioning installation.
- Web Server configuration activates the software as a web server that lets the user to configure the units through a web.
  User can be connected to the software by using a web browser just by typing the IP of the computer that has the CSNET WEB Software running.
  CSNET WEB Software should keep running in order to be able to connect.
  Check Web connection chapter for further information.

7.3 Historical data

CSNET WEB automatically stores an operating record for all the units in the system. These data can be downloaded locally or displayed (both from the data previously stored locally and the data obtained from the system).

- Displaying historical data
- Downloading historical data

7.3.1 Displaying historical data

CSNET WEB allows you to save a history of data from all the machines connected to the H-Link.

It also displays the information in two different formats:

- Data in the form of a table, which can be exported in text format; and
- Data in graph format, which can be used to generate graphics for display.

To obtain historical data:

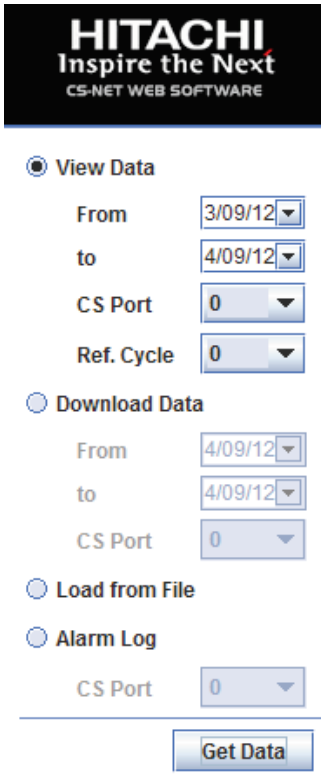
1 Select **View data.**
2 Select starting date (from).
3 Select end date (to).
4 Select unit to display.
5 Press the **Get data** button.

To download data to disk:

1 Select **Download data.**
2 Select starting date (from).
3 Select end date (to).
4 Press the **Get data** button.

To get data from file:

1 Select **Load from file.**
2 Press the **Get data** button.



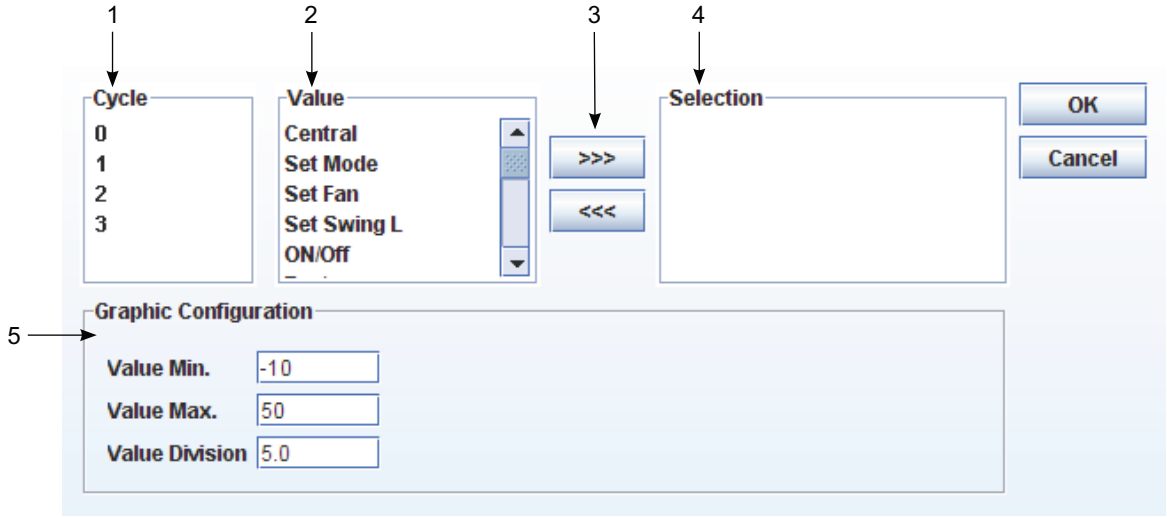
Data can only be displayed in periods of one day, although they may be downloaded for greater time ranges. Select the day to be displayed in the “Day” field.

◆ Operation of the graph

To change the display to graph mode, select the **Graph** tab on the display panel.

Select the configuration of the graph pressing on **Configure...**.

The graph configuration window has several fields:



1 **Selecting the unit**: In the case of Packaged units, the indoor unit address, and for water chillers, the address of the cycle to be displayed.
2 **Value**: Contains the different values that can be displayed for the unit or cycle. See section on *Values table* for an explanation of each parameter.
3 **Selection buttons**: Permit the addition or the elimination of a series (unit + value) of the display.
4 **Selection**: Series to display.
5 **Graph configuration**: Permits the configuration of the graph display. The “Value min” field permits the selection of the minimum on the Y axis and the “Value max” field permits the selection of the maximum on the Y axis.

To generate a graph:

- Select the unit (indoor unit or cycle) you wish to add to the series.
- Select the value for the unit you wish to add.
- Press the “>>>” button to add the selection to the series list.
- Repeat steps 1 to 3 to add the different series required on the list. To delete a selected series, select the series list and press the “>>>” button.
- Configure the graph as required.
- Press “OK” to update and return to CSNET WEB.

Use the lower scroll bar to select the day. Change the day in the **Day** field.

The **Export** button permits the capture of a graphic in JPG format. The **Print** button permits the graph to be printed.

7.3.2 Values table

◆ Packaged units

Identifier of the type of file:

<Type=Version; 3 or 2>

Temporary identification and module:

<Year> <Month> <Day> <Hour> <Minutes>

<CS Port> <OU Number> <IU Number>

Adjustment of the indoor unit (CSNET WEB):

Central:	<Central=1/Local=0>
Set Mode:	<Adjustment of the operation mode: FAN=0, COOL=1, DRY.=2, HEAT=3, AUTO=4>
Set Fan:	<Adjust the fan speed (not Utopia): LOW=2, MEDIUM=3, HIGH=4>
Set Swing L:	(Swing Louver)<Adjust swing louver: Position = 0-6, AUTO=7>
ON/OFF:	<On=1/off=0 adjustment>
Tset:	<Setting temperature in ºC>

Communication:

Alarm:	<Error code>
Comp.Stopped:	<Cause of compressor stop>
Valid:	<Valid data>
	Bit 0=1 (value 1): The data read from the indoor unit are valid except for the opening of the expansion valve and operating state
	Bit 0=1 (value 2): (not Utopia): The data of the expansion valve opening of the indoor unit are valid
	Bit 0=1 (value 4): (not Utopia): The data on the operating condition of the indoor unit are valid
	Bit 3=1 (value 8): (not Utopia): The data on the outdoor unit are valid, the total should be 15 for SET FREE and 1 for UTOPIA

Readings for the indoor unit:

Mode:	<IU: Reading of the operating mode (not Utopia): : FAN=0, COOL=1, DRY=2, HEAT=3>
Fan:	<IU: Reading of the fan speed (not Utopia): : STOP=0, SLOW=1, LOW=2, MEDIUM=3, HIGH=4>
Status:	<IU: Reading of the operating condition: STOP=0, THERMO ON=1. THERMO OFF=2, ALARM=3>
Swing L:	<IU: Reading of the swing louver: POSITION=0-6, AUTO=7, NOT AVAILABLE=8>
IU Hz:	<IU: Reading of the required frequency>
Ti:	<IU: Reading of air inlet temperature in ºC>
To:	<IU: Reading of air outlet temperature in ºC>
DT °C:	<IU: Reading of the absolute value of the inlet-outlet temperature in ºC>
Tg:	<IU: Reading of gas piping temperature in ºC>
TL:	<IU: Reading of liquid piping temperature in ºC>
Trem:	<IU: Reading of the thermistor temperature in ºC> *1
Tset Read:	<IU: Reading of setting temperature in ºC>
iE:	<IU: Reading of % opening of the expansion valve > (% x 1000 in version 2)

Readings for the outdoor unit:

Pulse:	<OU: Impulses of the expansion valve of the IU requested>
Ou Mode:	<OU: Operation mode: HEAT=0, COOL=1, DRY=2, STOP=3>
Ta:	<OU: Ambient temperature in ºC>
Td:	<OU: Discharge gas temperature in ºC>
Te:	<OU: Evaporation temperature in ºC>
Nº Comp:	<OU: Number of compressors in operation>
Pd:	<OU: Pressure of discharge gas (not Utopia)>
Ps:	<OU: Suction pressure (not Utopia)>
Amps:	<OU: Value of total compressor consumption, a stepped series is used for FX units>
Hz:	<OU: Frequency of compressor in Hz (not Utopia)>
oE1:	<OU: % opening of the expansion valve 1 (not Utopia)> (% x 1000 in version 2)
oE2:	<OU: % opening of the expansion valve 2 (not Utopia)> (% x 1000 in version 2)
oE3/oEb:	<OU: % opening of the expansion valve 3 or b (only set-free 3 tubes)> (% x 1000 in version 2)

◆ Water chillers

File type identifier:

<Type=C1>

Temporary identification and module:

<Year><Month><Day><Hour><Minute>

<Chiller number>

Chiller setting:

ON/OFF:	<Set On=1/Off=0>
Mode:	<Setting operation mode: COOLING=0, HEATING=1>
Central:	<Local=0/Central=1>
TsC:	<Default temperature for cooling mode>
TsH:	<Default temperature for heating mode>
dF:	<Neutral band temperature>

Chiller reading:

CEL:	<Chiller water inlet temperature>
CoL:	<Chiller water outlet temperature>
Ta:	<Ambient temperature around chiller>
Alarm code:	<Chiller alarm code>
Alarm status	<Chiller alarm status>
Cycle alarm status:	<Refrigeration cycle alarm status>
No.Comp:	<Total number of compressors in the unit>

Refrigerant cycle reading:

Cycle:	<Refrigerant cycle address>
Comp On:	<Compressor status: on=1/off=0>
Alarm cycle:	<Refrigerant cycle alarm code>
Ts:	<Temperature of suction gas in refrigerant cycle>
Td:	<Temperature of gas discharge in refrigerant cycle>
TE1:	<Evaporator temp 1>, equal to CxTr
TE2:	<Evaporator temp 2>
Tr1:	<Return temp 1>, equal to COLx on the 7-segment display
Tr2:	<Return temp 2>, equal to CxTe on the 7-segment display
Pd:	<Gas discharge pressure in refrigerant cycle>, correct value multiplying by 0.2 for bar or for 0.02 for MPa
Ps:	<Gas suction pressure in refrigerant cycle>, correct value multiplying by 0.1 for bar or for 0.01 for MPa

NOTE

In case of Water Cool 1:

Pd: <Gas discharge pressure in refrigerant cycle>, correct value multiplying by 1 for bar or for 0,1 for MPa.

Ps: <Gas suction pressure in refrigerant cycle>, correct value multiplying by 1 for bar or for 0,1 for MPa.

7.3.3 Download of historical data

Download the historical data as follows:

- Select **Download Data** in the left part of the screen.
- Select the date from which you want to download the historical data.
- Press the **Get Data** button.

A window will appear letting you select the folder in which to save the files.

◆ File format

When the historical data are downloaded, one file is written per outdoor unit. The file name will be **hvv00nn,** where:

- **vv** is the version selected:

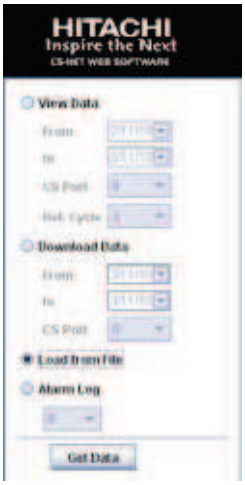
  02 earlier version (CSNET v8)

  03 new version (CSNET WEB)

- **nn** is the number of the outdoor unit.

7.3.4 Load from file

CSNET WEB allows to display data from a previously saved file. Load data is done by clicking **Get Data** button and selecting the corresponding file. When data loading is finished, this data are normally displayed.



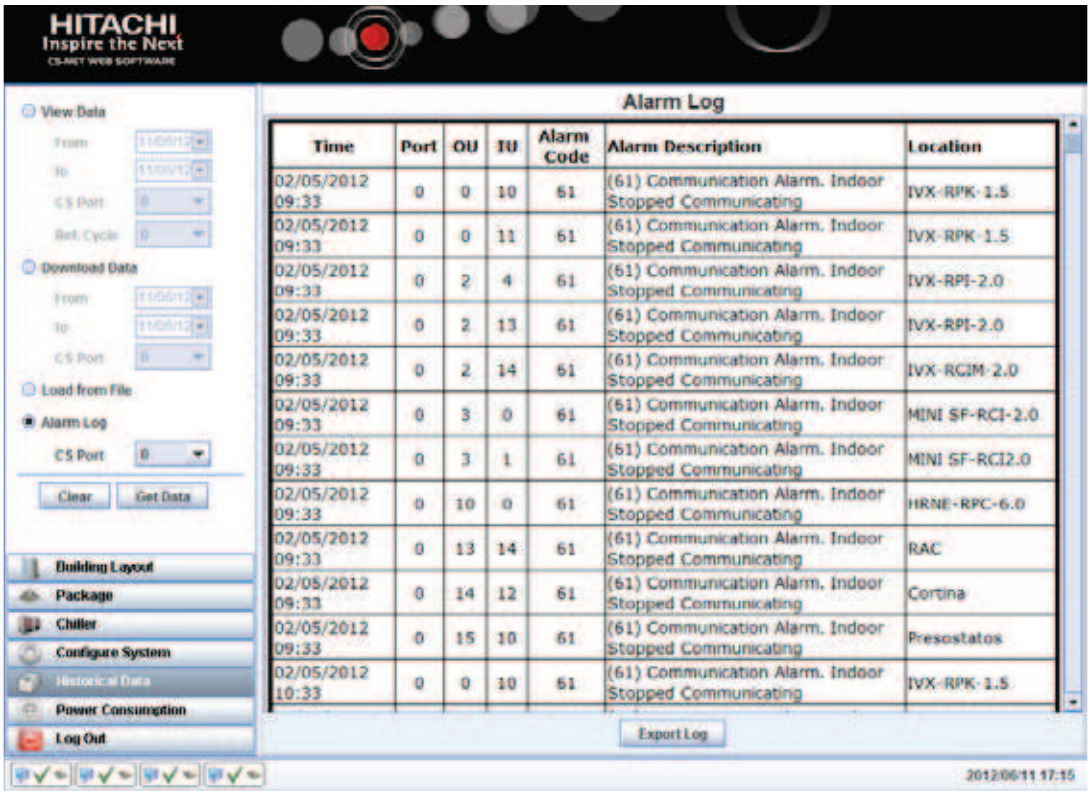
7.3.5 Visualization of alarms

CSNET WEB also saves the most important alarm events occurred during the lifetime of the installation.

Clear button erase the alarm history.

To visualize the alarms, click on the **Alarm Log** tab, and next press the **Export log** button, which is in the centre bottom of the window. This may take several seconds. When the operation is over, a table as in the example will appear.

The format of the table is the same as the format of the file which is described below.



◆ Autosave configuration

The chapter *Local software configuration* shows how to access the software settings. The alarm log function also allows you to keep an updated copy of the log in your computer.

To activate this option:

- Mark the selection box.
- Indicate the folder in which you want to save the file. The button to the right of the text window opens the navigation window so that you can select the folder.
- Select the file version (see the next point *File format*).

The resulting file (errYY.txt, where YY are the two figures indicating the year) is updated every minute.

◆ File format

The CSNET and CSNET WEB versions contain the same data. An option to choose the version has been added to ensure future compatibility.

The alarm file format is as follows:

	Port	OU	IU	Alarm code	Description	Alarm
1.9.2006 14:20	0	10	2	11	(11) IU Sensor: Inlet air thermistor	FSN 2
1.9.2006 14:31	0	10	2	11	(11) IU Sensor: Inlet air thermistor	FSN 2
1.9.2006 14:45	0	10	2	11	(11) IU Sensor: Inlet air thermistor	FSN 2
1.9.2006 14:53	0	10	2	11	(11) IU Sensor: Inlet air thermistor	FSN 2
5.9.2006 8:39	0	10	2	11	(11) IU Sensor: Inlet air thermistor	FSN 2
5.9.2006 9:0	0	10	2	11	(11) IU Sensor: Inlet air thermistor	FSN 2
5.9.2006 9:51	0	2	0	61	(61) Communication error. Indoor unit no longer communicates	Utopia Big 1
5.9.2006 9:51	0	2	1	61	(61) Communication error. Indoor unit no longer communicates	Utopia Big 2
5.9.2006 9:51	0	2	2	61	(61) Communication error. Indoor unit no longer communicates	Utopia Big 3

7.4 Power consumption

CSNET WEB saves and calculates the percentage of energy consumption of each indoor unit compared to the outdoor units, so that the user can consult the level of consumption at any time.

The window is divided into three parts:

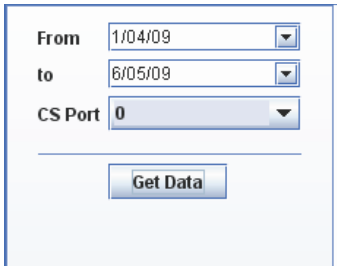
1 The upper part allows you to choose the options you want to consult.
2 The central part shows the results of the consultation.
3 The bottom part offers options of saving the results and exiting.

To carry out a consultation:

1 Indicate the starting and finishing dates for which CSNET WEB will carry out the calculations. These dates can be chosen in the timer which appears by clicking on the arrow to the right of the date.
2 Click on the **Get data** button.
3 The results of the consultation will appear in the central part as a table.
4 To save the results of the consultation click on the **Save to File** button.

7.4.1 Packaged

To get the data of power consumption for Packaged units, enter the date interval and click the **Get Data** button.



A table will appear with different information.

Meaning of the table fields:

OU: number of the outdoor unit. Number between parenthesis indicates that booth outdoors are the same and we are using the virtual address to differentiate it.

IU: number of the indoor unit.

Location: description of the machine. This value corresponds to the description field of the configuration of indoor unit.

%OU: indoor unit consumption percentage in relation to its outdoor unit power consumption.

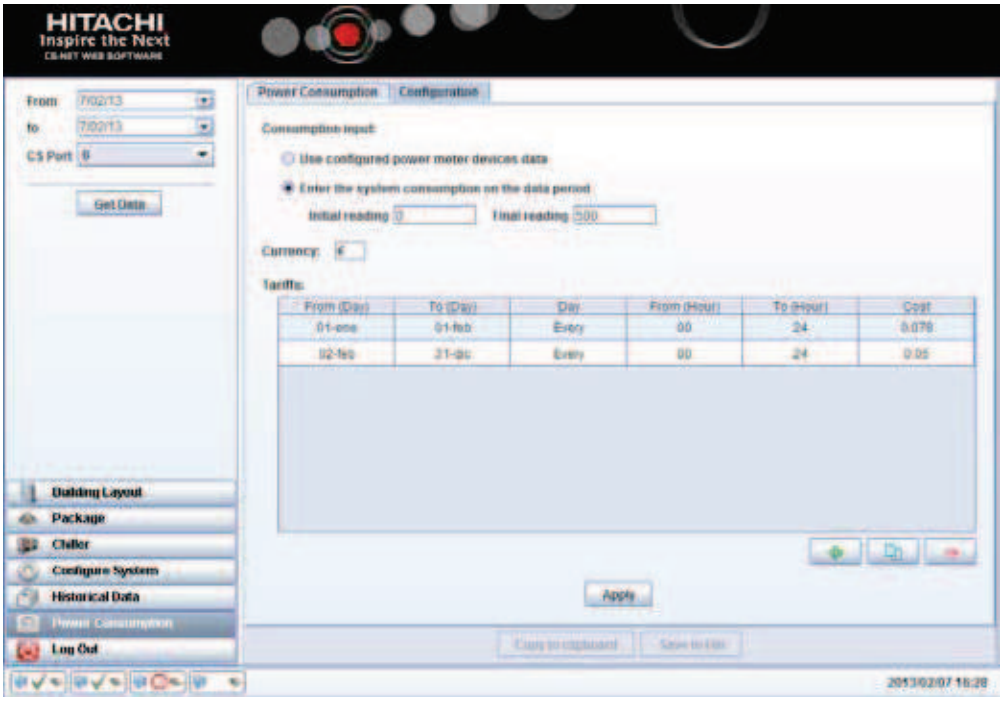
%System: indoor unit consumption percentage in relation to all the installation power consumption.

Energy: When power meter devices are connected, CSNET WEB is able to show the energy consumed by the unit.

Cost: cost related to the energy consumed based on configured tariffs prices.

Configuration

The cost calculated for each indoor unit is based on tariffs specified on the CSNET WEB.



There are two different systems to define the source of the consumed energy:

- **Use configured power meter devices data:** in case of having power meter devices related to the units, the energy consumed per each indoor unit will be calculated based on the information provided by these devices.
- **Enter the system consumption on the data period:** in case of entering manually the consumption of the system in the desired period, user enters the input reading data at the beginning and at the end of the period.

Current currency can also be specified.

The tariff table lets the user to set different time periods within a day with a related cost.

NOTE

The unit of measurement of the cost of a tariff period is the same than the input data reading. In case of using power meter device, the unit of measurement should be the same than the specified on the power meter device configuration.

7.4.2 Chiller

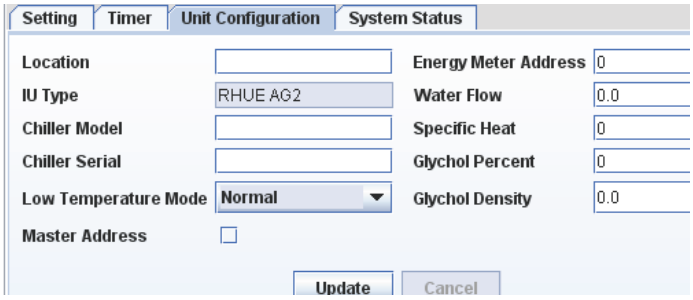
The power consumption option for Chiller works using the power meter accessory.

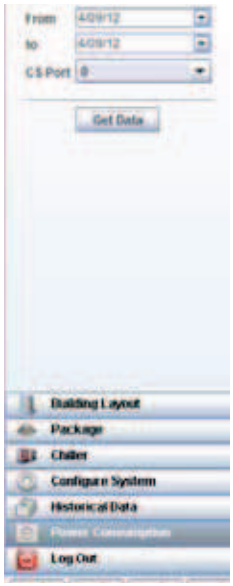
Hardware configuration is explained in the Power meter installation manual.

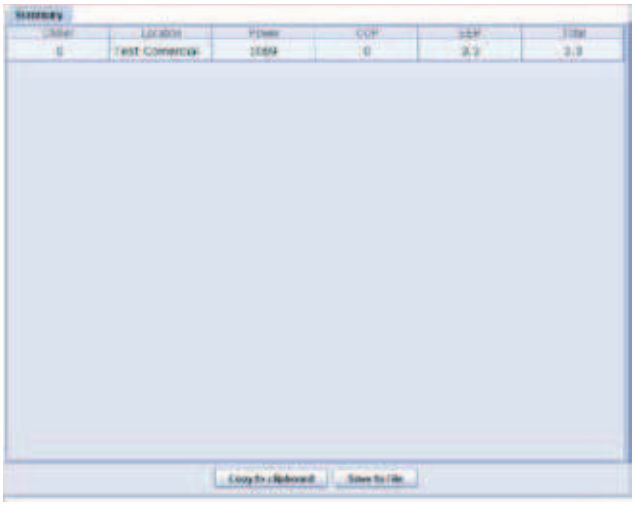
After set the Gateway IP and MAC following the instructions the explanation of how to configure the Power meter on the CSNET WEB in the *Configuration and display options* chapter, you can use the power consumption option as normal.

First step is configuring the Chiller in order to get the power consumption data. The meaning of the values is explained in the chapter *Unit settings.*

After update the configuration. You can download the power consumption data by clicking on its menu button. After clicking the button you must enter the date interval to download de data. Clicking on **Get Data** button, the power consumption information will appear on the table.







Meaning of the table fields:

Chiller: number of the water Chiller.

Location: description of the machine. This value corresponds the description field of the configuration of water Chiller.

Power: Energy consumed in the period.

COP: Coefficient of Performance (energy efficiency for heating mode).

EER: Energy Efficiency Ratio (energy efficiency for cooling mode).

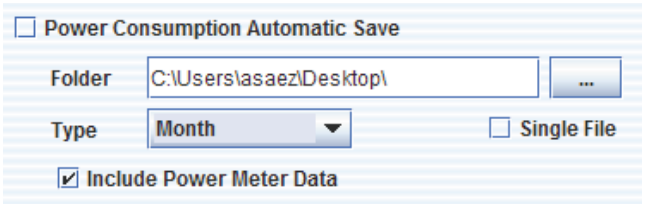
Total: Energy efficiency through the unit (weighting of the heating and cooling modes based on their consumption and capacity).

7.4.3 Autosave configuration

The chapter *Local software configuration* shows how to access the software settings. The power consumption function allows you to generate automatically a detailed report of the daily consumption of the installation.

To activate this option:

- Mark the selection box.
- Indicate the folder in which you want to save the file. The button to the right of the text window opens the navigation window so that you can select the folder.
- Select the type of power consumption:
  - **Month:** Each day stores on a monthly file the values accumulatd for the units since the first day of the month.
  - **Day:** Each day stores on a monthly file the values of the power consumption of the current day.



- Selecting single file option it will also store in the folder a unique file with the power consumption. This file will have the power consumption of each day registered.
- Including power meter data adds a column with energy values.

The autosave operates every day at 00:00. It stores a monthly file with the monthly accumulated or the daily power consumption.

If the single day option is activated, it will also store the daily power consumption in the single file.

File name is m1_YYYYMM.txt and m1_CH_YYYYMM.txt in case of chiller. In both cases YYYY means the year and MM the month.

For the single file, the name is **power_log.txt** for Package and **ch_power_log.txt** for chiller.

7.4.4 File format

The file format saved has different columns separated by the tab character. The meaning of those columns for the packaged file is:

Year	Month	Day	CS Port	OU	IU	Location	%OU	%System

In case of including power meter data, the file format is:

Year	Month	Day	CS Port	OU	IU	Location	%OU	%System	Energy

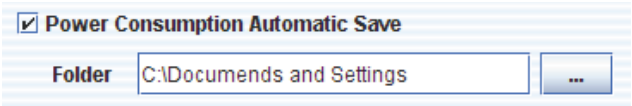
The meaning of those columns for chiller files is:

Year	Month	Day	CS Port	Chiller	Location	Power	COP	EER	Total

In the case of manual saving, a row is added at the beginning with the meaning of each field, but this does not occur when automatically saving.

The automatic save must be selected from the *Local software configuration* section as explained earlier.

The **Save to file** button permits the data to be manually saved.



8. Troubleshooting

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8.1 Alarm signals

When at least one unit is in a situation of alarm this will be indicated physically in the interface by a flashing ERROR on the LED.

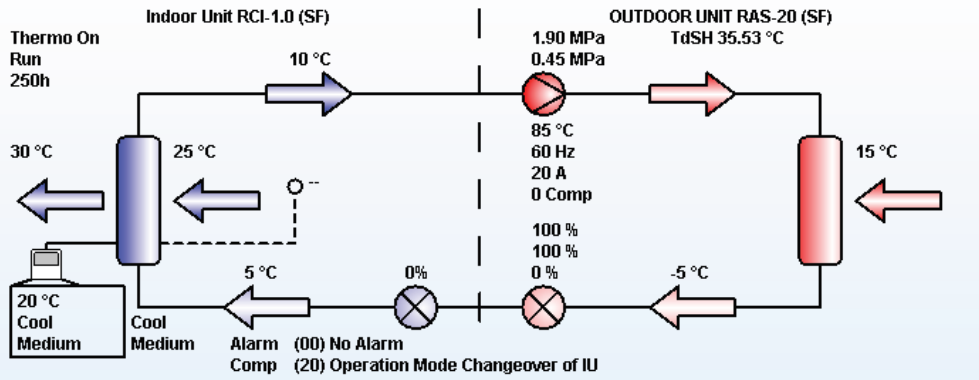
If all the units are in a situation of alarm this represents a serious error of communications and the flashing will be more rapid.

The CSNET WEB software lets you detect which units are in a situation of alarm, as these units will be marked in red in the main window. At the same time, each of the areas which contains units in a situation of alarm will be marked in red.

8.2 Unit alarms

The CSNET WEB software lets you identify the error code of the units. This code appears in the System Status window and corresponds to the error code indicated in the service manual of the unit in question.

New alarm codes have been added specifically for CSNET WEB to indicate that communication with one of the units has been broken.



The error codes of communication with CSNET WEB are as follows:

Code	Description
60	The outdoor unit has not communicated with CSNET WEB for more than 10 minutes
61	The indoor unit has not communicated with CSNET WEB for more than 10 minutes
62	The outdoor unit has not communicated with CSNET WEB since it was last started
63	The indoor unit has not communicated with CSNET WEB since it was last started

8.3 System options

CSNET WEB offers a variety of options letting you know its status at all times. These options are only accessible from the hardware itself.

To activate a function:

- Remove the four screws in the upper part of the hardware.
- Locate the “**Option**” Dip-Switch.
- Make sure that all the pins are “**OFF**”.
- Put the pin of the function required into the **ON** position.
- Put the pin 1 to **ON** to activate the function.

When you have configured the Dip-Switch, the seven-segment display shows different characters according to the function established. The values appear as rolling text.

To deactivate the function and return to rest mode:

In the “**Option**” Dip-Switch put all the pins to **OFF**, leaving the 1 pin until last.

The table with all the functions and their description is shown below.

◆ Table of functions

Pins	Function	Description
All OFF	Rest	Indicates the type of installation (PA Packaged or CH chiller) If there is an alarm it shows the alarm code and the units with this alarm.
2	Restore the network configuration	Restore the IP address Mask and Gateway to the initial values of: IP: 192.168.0.3 Mask: 255.255.255.0 Gateway: 192.168.0.1
3	Restore passwords	Set the “User” password to “User” and the “Installer” password to “Installer”.
4	Restore configuration	Deletes the configuration of the installation and restores the passwords as in the previous point.
5	Notification of the IP address	Shows the IP address and the CSNET WEB port.
6	Information on units	Shows the number of indoor and outdoor units recognized by CSNET WEB.
7	Central Station compatibility	It enables the compatibility with central stations. CSNET WEB has always priority so if a unit is set as central, Central Station will not be able to modify the state of the unit. The same happens with remote sensor not configured option. **CAUTION** *All units should be controlled by a Central Station, otherwise it will appear a communication alarm.*
8	Set Packaged or Chiller units	Set if units are Chiller or Packaged. Value 0 means that units are Packaged and value 1 means that units are Chillers.

9. Web connections

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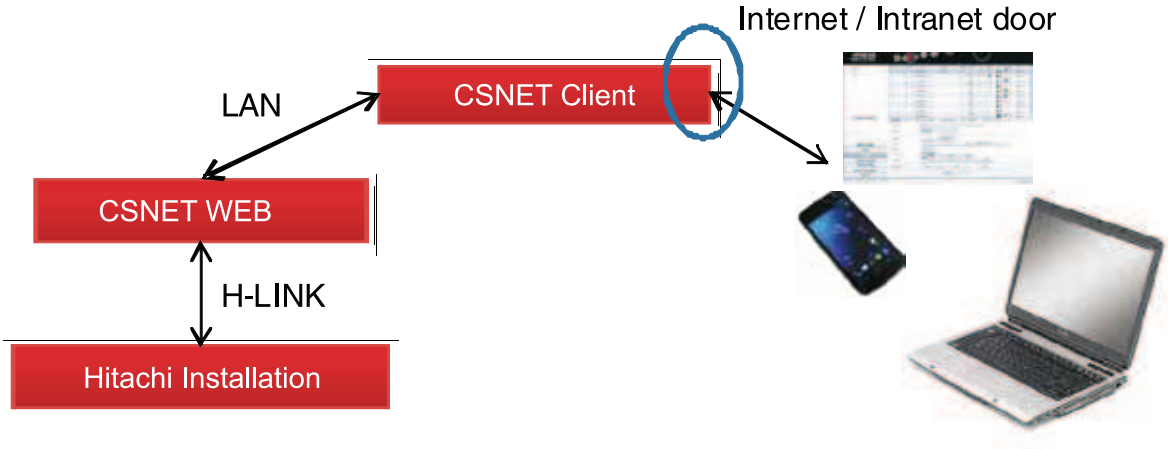
9.1 Connection Security

Web connection was requested several times to be able to:

- To use CSNET WEB without installing the software
- To connect from a smartphone

PC software must be running as the server job is done by the software.

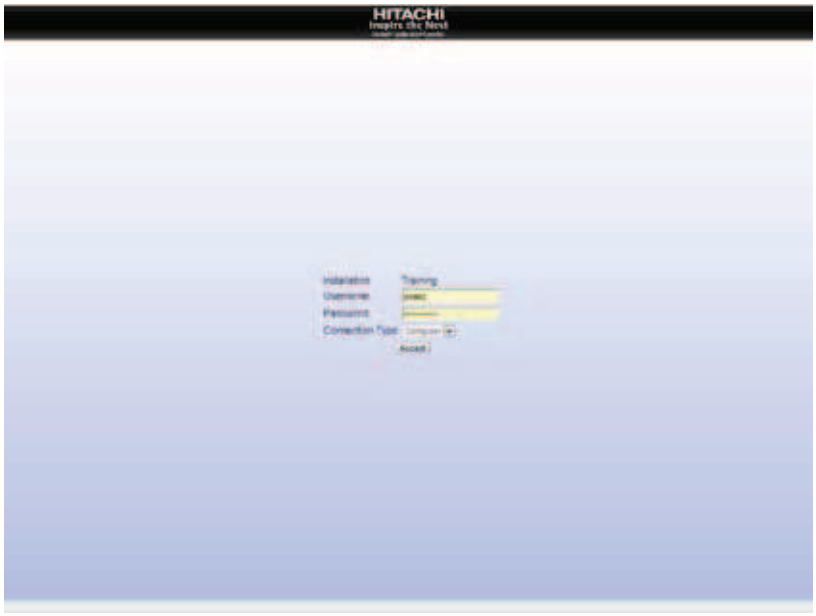
The web server is the door to the Hitachi installation so it has been prepared to keep that door completely safe.



Level		Explanation
1	User Password	The connection done by the user requires a password. The password is stored on the server from the user list dialog, so it is never sent by the client and this means that it cannot be copied. The connection done by the user is also protected.
2	Units allowed	Any user will have a list of allowed / banned units to manage. This means that if one user loses its password, the accessible units will be only the ones that appear on the list.
3	Server activation	To be able to connect to the server it is strictly necessary to have the server option activated. The option is not activated by default and all the software that does not use the new function, will be completely unreachable from outside. In case of suspicious behavior, the option can be deactivated and the system will become again closed to external connections.

9.2 Web Access

Once the client software has been activated as web server, user can connect to the IP of the computer. The Login screen will be showed:

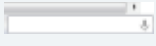


Connection can be done as mobile or desktop. It changes few things, but it tries to fit better to the browser.

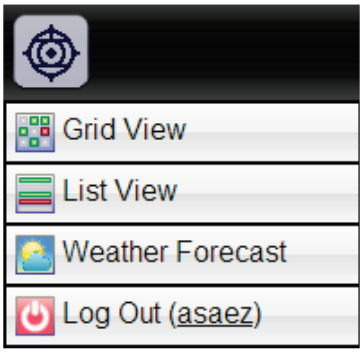
9.3 Interface structure

After user login, only the available units will be showed.

Screen has 3 common points:

	Item	Icon
1	Menu Button	
2	Status bar: show info from the harcs connected.	
3	Smart orders: let the user introduce orders. If browser allow voice input, the orders can be speaked	

The menu contains the following items:



9.4 Views

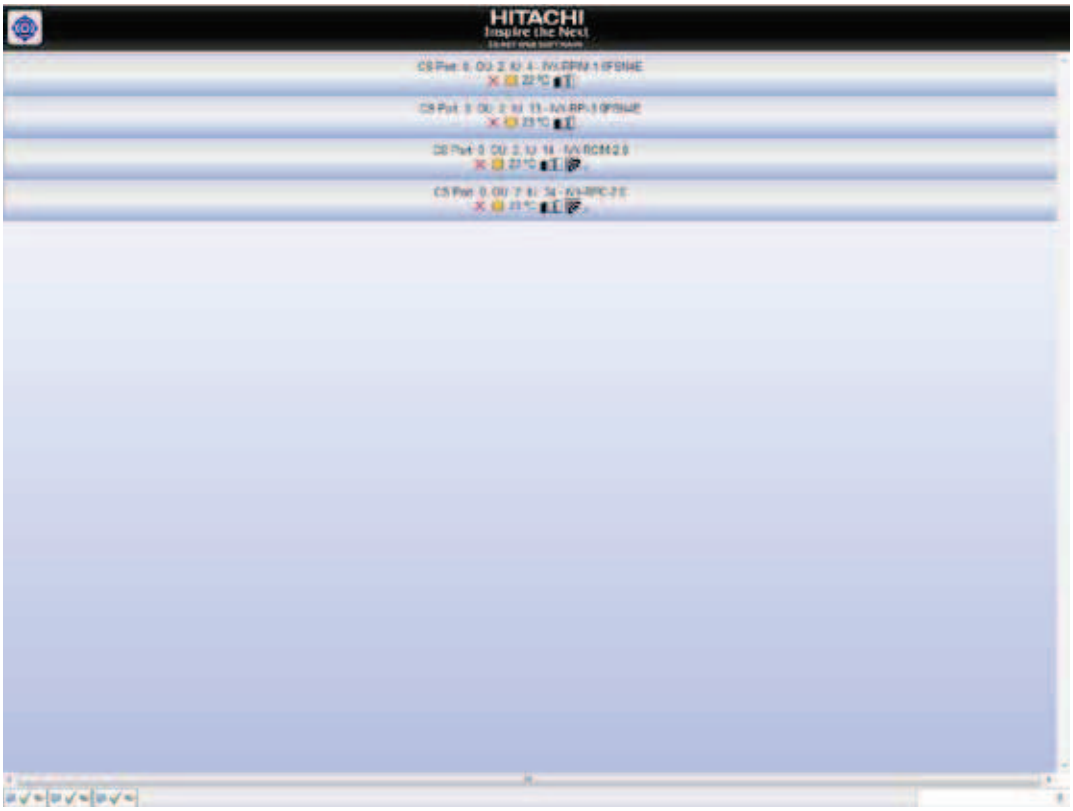
There are two type of views to display the units:

1 Grid View

Grid view looks like auto building layout view.

2 List View

List view shows units on a list to use better the screen space.



9.5 Weather Forecast

Weather forecast shows the forecast of the following 3 days and the current one.

NOTE

- *It requires internet connection.*
- *Weather forecast can be activated if user requires the information.*

9.6 Unit Setting

Unit setting order is set from the following screen.

It works like CSNET WEB setting panel.

The configurable items are:

- On/Off
- Temperature
- Mode
- Fan
- Louver
- Central lock items

9.7 Smart Orders

Smart orders lets user say or type what its orders and CSNET WEB will apply them.

Those are the available orders:

- Smart Orders

Action	Destination	Example
I want	cold heat air	I want heat
I have	cold heat air	I have cold

- Navigation actions

Action	Destination	Example
open	Location Port OU IU	open Location 2
see	Location Port OU IU	see 0 2 4
matrix	-	see matrix
list	-	list
weather	-	Weather Forecast
go back	-	go back
exit	-	exit
help	-	help

- Setting actions

Action	Value	Destination	Example
turn on	-	Location Port OU IU all (just the action applies to current opened unit)	turn on all
turn off	-	Location Port OU IU all (just the action applies to current opened unit)	turn off 0 2 4
temperature	-	Location Port OU IU all (just the action applies to current opened unit)	temperature 25 Location 2
mode	cold dry fan heat auto	Location Port OU IU all (just the action applies to current opened unit)	mode cold
fan	low medium high	Location Port OU IU all (just the action applies to current opened unit)	fan medium Location 2

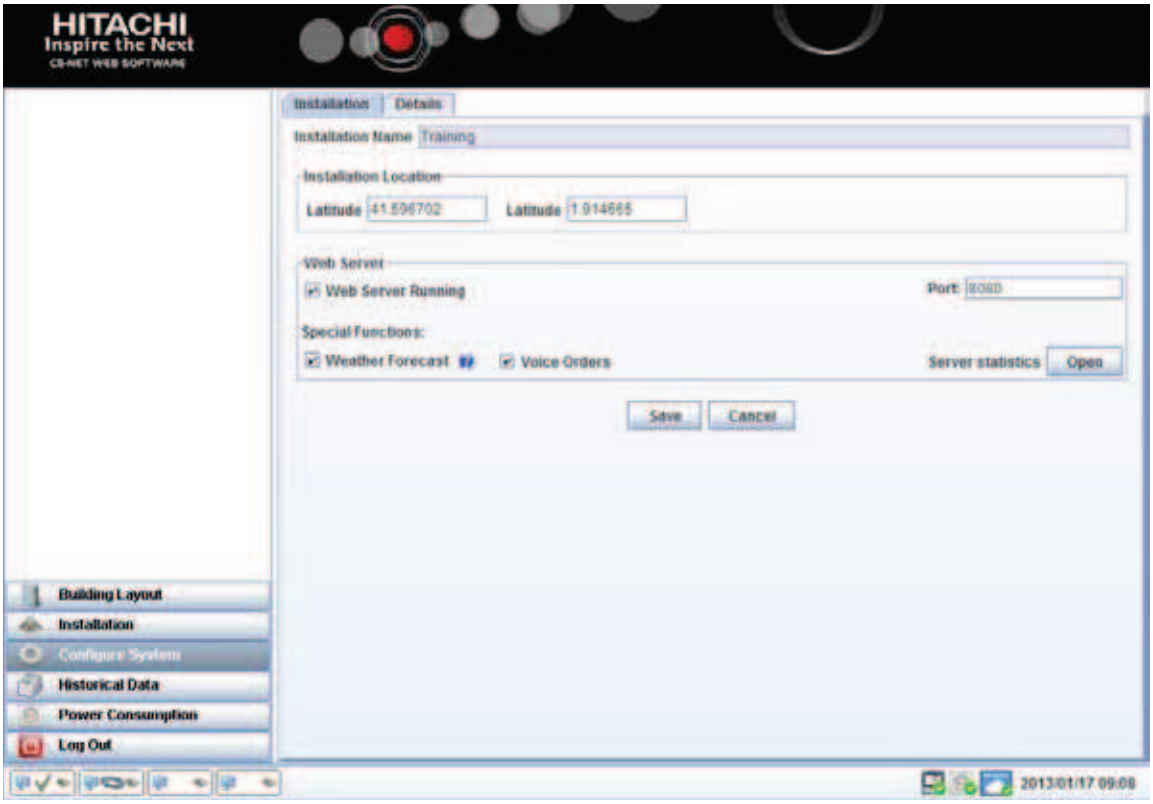
NOTE

Orders are sent as text but in case that your web browser allows voice inputs, those orders can be entered by saying this orders in the CSNET WEB server language.

9.8 Web server configuration

Web server is configured on the “configure system” panel.

A tab has been added to have the whole installation data that affects to the 4 harcs.



User can set if server is running or not and also the connection port.

It can be also configured if weather forecast and voice orders will appear on the menu or not.

Latitude and Longitude are used for weather.

The user stats of connections are shown by opening the Server statics. Then, the connection number and the last connection time can be checked.

10. RCS Web

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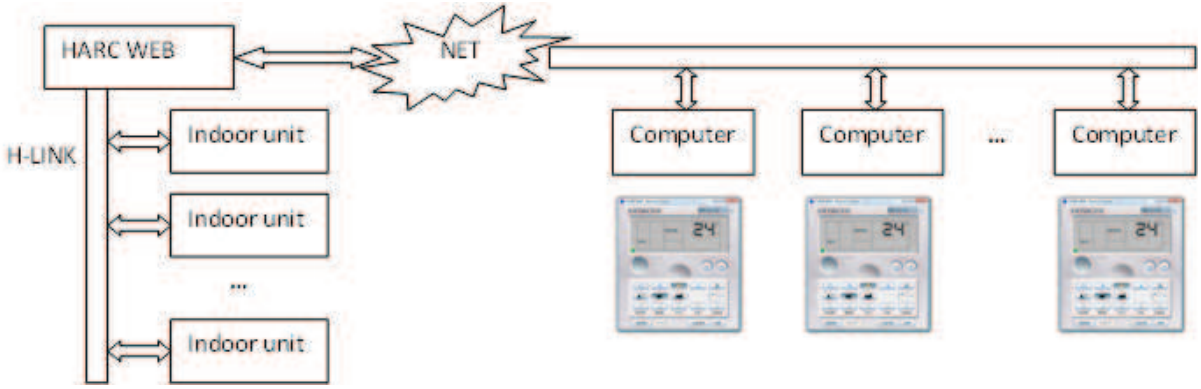
10.1 Introduction

RCS Web software takes the idea to simplify CSNET WEB, and use only the remote controller created for the Building Layout.

The main idea is install that software on the computers of users who no need to manage all the CNET WEB options. They will have only the same access that using the remote controller but from their computer.



NOTE

- *It is available only for Packaged.*
- *User will manage with this interface only the indoor units that Installer allows him to manage.*

RCS Web interface looks like a virtual remote controller that wants to simplify and improve the user experience controlling the units.

10.2 Local software configuration

After start the software it will appear the main window. There, due to configure the software it must to be selected the configure button.

To configure the installation will be needed the Installer password, by default “Installer” as the username and password.

NOTE

If installer set to white text its username and password it will be not asked.

Installer configuration allows to configure the following items:

- Installation: set HARCS where RCS Web will connect.
- Unit filter: configure units that user could see.
- User: set username, password and privileges of the user.
- Proxy: configure proxy data if needed.
- Installer password: change the password to connect to the configuration.

10.2.1 Installation

On the installation panel it will be able to configure 4 HARCs. Exactly as the CSNET WEB.

Each of these 4 HARCS will be specified using the IP and port.

Username and password of these HARCS will be configured from CSNET WEB. By default they will be “Installer” as username and password.

Marking the proxy checkbox it will use the proxy to connect with this HARC.

10.2.2 Unit filter

Unit filter is the screen where the Installer can configure the units that user could control.

The list of units will be defined setting the allowed units or the list of banned units.

NOTE

If it is introduced on the login window the installer password, it will log on the RCS Web in having all the units available, not only the configured here.

10.2.3 User settings

User window let configure the username and password of the user profile.

There are 2 check boxes due to manage the privileges of the user.

One will allow user to change central settings, and the other allow to appear the alarm message on the system tray.

10.2.4 Proxy settings

Proxy window is used to configure a proxy connection. Just like on the CSNET WEB software.

Proxy server will be specified using address and port.

To autenthicate the conection to the proxy it will be necessary the username and password to acced to the proxy server.

10.2.5 Changing installer password

Installer Password window allow changing or erasing the installer username and password.

Setting fields without texts will not ask for the Installer password acceding to the local software configuration.

10.3 Operation with RCS Web software

The main window opened is the login window. On that window, user could introduce his username and password to log into the system.

On that window there are small user configurations that are:

- **Default Language**: it allows switching the language that the software will use when it will be started. Available languages are English, Español, Català, Italiano, Français, Deutsch, Nederlan, Portugues, Czech and Russian.
- **Remember password**: systems remember the last username and password configured due to avoid the retyping of these items.
- **Automatic login on startup**: if system reminds the password, it will automatically connect when software is started.

NOTE

- *If software is moved into the start-up menu of windows it will be started when computer will be switched on.*
- *Marking automatic login on start-up, this window will not be shown.*

The installation lists shows the configured CSNET WEBS and if there are connected or not. The state of connection will switch only when user will start login in.

10.3.1 Virtual remote control

Once the user is connected, it will appear an interface that looks like a remote control.

This interface is equivalent to the building layout one with few improvements that helps to be a central control.

The controllable things will be Run/Stop, setting temperature, mode, fan, louver and central. They are exactly as the Building layout remote control. It is possible to find more information on *Building Layout* chapter.

In case of central it will be enabled only if installer gives privileges to the user to control this, and when one central value is activated the buttons corresponding to that lockage will be disabled.

Log out will return to the login window, and exit will close the application.

10.3.2 Units list and state

The combo box on the upper part will be used to select between units if there are more than one. The displayed text will be the location field stored on the HARC. If this text does not exist, it will write “Unit: [X,Y,Z]” knowing that values as the slot, outdoor address and indoor address of the unit.

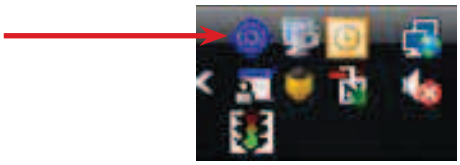
Different colors on the combo box will give information about if unit is running or not, and if there is a unit with an alarm.

The colors meaning is explained on the following table:

Color	Meaning
Green	Running
Black	Stopped
Red	Alarm

10.3.3 Use of system tray

If user close the window using the cross button, application will still run setting an icon on the system tray.



Clicking twice over the system tray icon will open the application. Using right button of the mouse over it will open a little menu that will allow to the user between close completely the application or open it.

10.4 Troubleshooting

User will normally have the application closed on the system tray, because it will not be always managing things. But having that icon there will be so useful due to the alarm notification.

When an alarm occurs system tray icon will switch to red color and it will be like this until alarm will be disappeared. Alarm displaying message should be activated on the user configuration.

First time than alarm occurs it will appear a system notification showing that this alarm has been appeared with the alarm code and unit address.

Alarms could also be watched on the alarm led of the virtual remote control or on the units list.

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