



EN

## CLOSE CONTROL TELECOM UNIT

|              |                                      |    |              |   |    |
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The products describes in this manual, in relation to its advanced level of technology, requires setup / configuration / programming / commissioning to be able to operate in the best possible way for the specific application. The failure to complete such operations, which are required / indicated in the user manual, may cause the final product to malfunction; CLIMA VENETA accepts no liability in such cases. Only qualified personnel may install or carry out technical service on the product. The customer must only use the product in the manner described in the documentation relating to the product.

The following symbols are used in this publication and inside the unit:

**U**  
User

**I**  
Installer

**A**  
Assistance

**WARNING** = for actions that require special care and suitable preparation

**PROHIBITED** = for actions that absolutely MUST NOT be performed

**Specialist personnel (electrician)**

Person with in-depth knowledge and experience such as to be able to recognise risks and avoid dangers that may derive from electricity (IEV 826-09-01).

The necessity to guarantee the functionality of the system and the communication with different equipment for exchanging information in order to level the management and optimizing consumption, they are the targets that CLIMA VETA has in order to search the better connectivity solution for his conditioning units:

#### ENERGY OBJECTIVES:

reduction in energy consumption and energy waste; optimum management of comfort in the controlled environment; improved operating efficiency of the systems.

#### MANAGEMENT OBJECTIVES:

optimisation of preventive maintenance; management of faults and alarms in real time; reduction in physical intervention times; possibility to reduce the number of personnel physically supervising the systems; improvement in the quality of service provided.

**BMSs** are management systems that incorporate all the technological functions of a building, including the access control systems, security, fire detection, lighting, intelligent elevators and air-conditioning.

Consequently there are important benefits due to the simple and efficient management of the single control station, a reduction in running costs, the possibility to perform global statistical analysis on the data, and the identification of and immediate reaction to faults and alarms.

The development of these systems has meant that control systems made by different companies often need to be connected together, and consequently not only is a common electrical standard required, but also a common language, or communication protocol.

The connection of the conditioning units into networks means that one single supervisory station can manage the parameters and information required to identify the status of the devices present and the parameters corresponding to the applications or the processes being controlled. The data collected (temperature graphs, fault signals, service requests), which can be displayed by the user simply and quickly, are saved and can be made available to other functions. They can consequently modify the control parameters, modify or force the operating modes. When required, it is the system itself that alerts the appropriate service centre.

The remote control gives the possibility to access the installation from a location other than that where the supervised system is situated.

Normally, telephone lines are used, as they represent a stable and economic means of communication, above all when combined with the use of the Internet (TCP/IP protocol).

The use of the Internet with control and supervisory systems allows the user to access the information relating to the control system from any place with an Internet connection.

In addition, as one remote station can connect to different

sites, the operating costs of the remote control service can be shared between the different systems controlled.

A private digital line can be used to connect directly to the installation where the supervised system is located: this guarantees a more stable connection, however it requires a dedicated line and therefore higher operating costs.

A monitoring system allows to monitor a series of parameters and significant values for the operation of the entire system, as well as the operating status.

For each possible critical situation, the user can decide if the

monitoring system should signal the event by buzzer, send a FAX or SMS message to a GSM mobile phone, simply save the event, print it or call the service centre.

More complex and evolved control systems can also provide for the system itself to make decisions, when certain situations arise, so as to ensure correct operation, resolve problems and optimise energy consumption.

Supervision system CLIMA CENTER allows the whole control (management of alarms, commissioning, monitoring and energy saving) of middle and big installation up to 90 units connected.

The monitoring and supervision system proposed by CLIMAVENETA for the ACCURATE units, answer at the demand:

- Monitoring unmanned remote installations
- Checks of the efficiency of the units
- Optimisation of Remote assistance:
  - Faster service response
  - Reduction of maintenance time risk
- Lower maintenance costs


And they are:

1. Local Supervision with CLIMA GUARD
2. Remote Supervision with CLIMA GUARD
3. Local Supervision with CLIMA CENTER
4. Remote Supervision with CLIMA CENTER

**CLIMA GUARD** is an electronic device for the monitoring and supervision of a network comprising a maximum of 30 CLIMAVENETA air-conditioning units.

- logging of around 100 variables, sampled every 15 minutes, for more than one year;
- Guardian software to increase and improve system reliability;
- 3 output relays for alarm signals or to activate lights;
- possibility to export data (alarms, events, system and model configurations, and variable reports) using a USB pendrive (the data are downloaded in a format compatible with Microsoft® Excel and Microsoft® Word);
- graphs available on the display;
- proximity sensor to activate the display without having to open the cover;
- external buzzer management;
- complete alarm configuration;
- address book for SMS, fax and email contacts;
- system management can be accessed by different users, with different privileges (administrator, normal user, user with additional privileges);

Its main purpose is to supervise small and medium-sized installations.

 **The send SMS function is only available when fitting the CLIMA GUARD with a GSM modem.**

**CLIMA CENTER** allows complete control and optimisation of air-conditioning systems.

It provides a simple, tabular interface for displaying information and configuring the system.

In addition, it provides remote access to all the devices making up the system: the web server function means it can be easily connected to the Internet.

CLIMA CENTER can display all available parameters as lists of digital / analogue variables, and can be used to set all parameters with write access.

#### DATA ANALYSIS

Manual and scheduled creation of detailed and complete graphs and reports of system variables.

For remote analysis of system variables, custom reports can be scheduled so that the system is under control at all times.

#### ALARM MANAGEMENT

Measuring and notification of all alarm situations, with remote interaction for efficient management of maintenance and service operations.

CLIMA CENTER identifies any alarm conditions and conse-

quently notifies the maintenance manager over multiple channels (email, fax, SMS) or signals the alarm directly on the system (printout, alarm relay).

Automatic update of operating parameters can be configured following alarms.

Alarm management rules can be set according to how serious the alarm is or custom time bands.

#### REPORTS & GRAPHS

These represent the values and trends for all the variables logged on the system.

System data can thus be easily accessed by users for analysis, based on specific requirements:

- the data are presented in compliance with the relevant standards in force, using pre-configured reports;
- maintenance personnel have an effective analysis tool available in the event of malfunctions, with detailed reports and graphs;

For these purposes, reports in Excel and PDF format can be:

- exported to removable memory media;
- saved to PC via a remote connection;
- printed at set intervals on a network or local printer connected directly to CLIMA CENTER;
- sent at set intervals by email to the site manager.

#### COMPLETE MANAGEMENT






A Scheduler is available for flexible programming of site operation according to specific system requirements, representing a powerful and effective tool for:

- periodical set points
- changing parameters based on the conditions of other site variables.

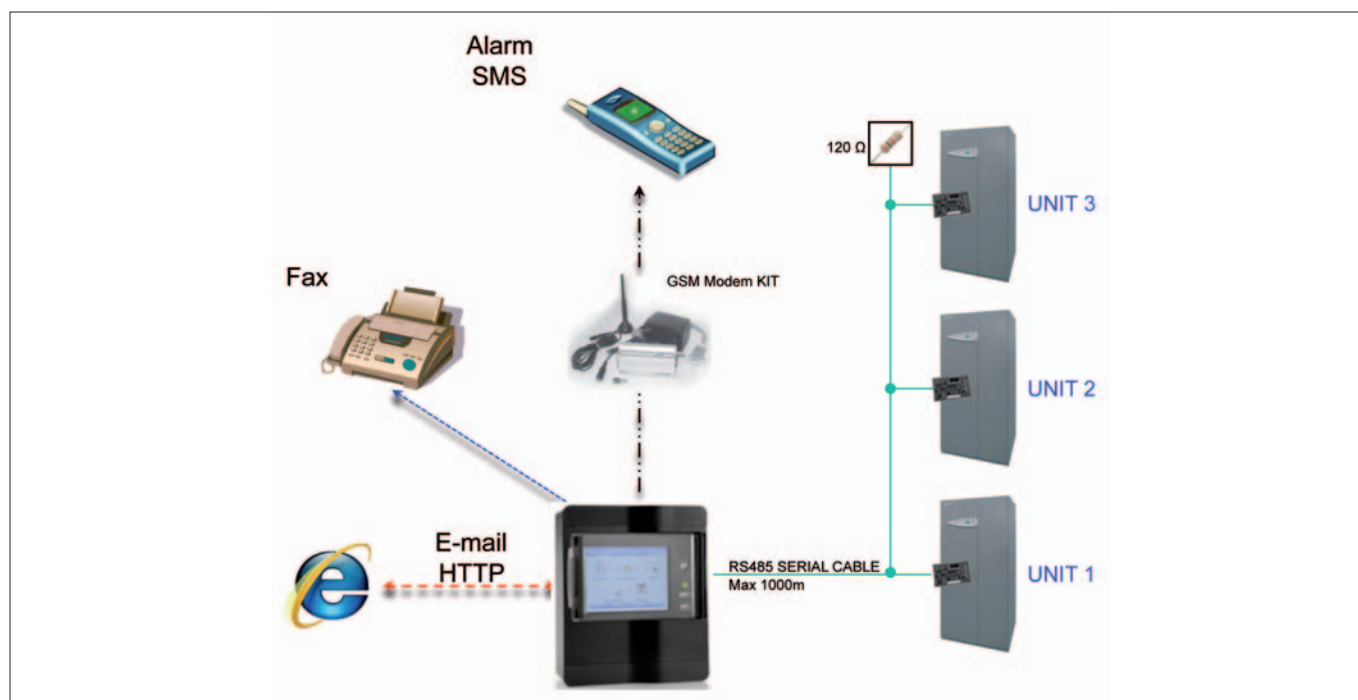
For more advanced system management, customised algorithms and logical variables can be used for setting parameters in the field or analysing specific operating conditions.

- up to 90 units can be connected
- logging of up to 1400 variables, sampled every 30 seconds;
- Guardian software to increase and improve system reliability;
- 3 output relays for alarm signals or to activate lights;
- possibility to export data (alarms, events, system and model configurations, and variable reports) using a USB pendrive (the data are downloaded in a format compatible with Microsoft® Excel and Microsoft® Word);
- graphs available on the display;
- complete alarm configuration;
- address book for SMS, fax and email contacts;
- system management can be accessed by different users, with different privileges (administrator, normal user, user with additional privileges);

The communication between the monitored devices and the systems that collect and analyse the data requires a common language, that is, a set of rules and commands recognised by both sides. This language is called a communication protocol. The CLIMAVENETA air conditioning units are compatible with the most common BMS languages

|   |  |
|---|--|
|  | <p><b>LonWorks</b><br/>With millions of devices installed all over the world, the LonWorks system, developed by Echelon, is one of the dominant solutions in the industrial, office, home and transport automation and control markets.</p>  |
|  | <p><b>Modbus</b><br/>Introduced in the 1970s, the Modbus protocol has become one of the most commonly used languages in BMSs (Building Management Systems).</p>  |
|  | <p><b>BACnet</b><br/>This is the protocol designated in 1995 by ASHRAE (America Society of Heating, Refrigerating and Air-Conditioning Engineers) as the organisation's official language.</p>   |
|  | <p><b>TREND</b><br/>TREND is a building automation system that is very widely used in English-speaking countries and in Europe in general. The ACCURATE units, are TREND compatible (with supervisor IQ3).</p>   |
|  | <p><b>TCP/IP</b><br/>These are the communication protocols used for communication via the Internet.<br/>TCP (Transmission Control Protocol) divides and then reassembles each piece of information and message into elements (called packets), while IP (Internet Protocol) makes sure that the packets reach the correct destination.<br/>TCP/IP is used because the internet is a packet switching network: as there is no single continuous connection between the sender and receiver, the information, when sent, is divided into a number of packets, which are sent at the same time via many different paths, and then reassembled at the receiver's end.<br/><b>SNMP</b><br/>SNMP (Simple Network Management Protocol) is a protocol used in Ethernet networks for controlling and setting the parameters for the network devices, for example switches and network printers.</p> |

## LAYOUT







## SYSTEM FUNCTIONALITY

|  |
|--|
| Up to 30 ACCURATE units can be connected               |
| Up to 100 variables logged (every 15 minutes)          |
| View complete unit status                              |
| View all parameters                                    |
| Possibility to set all parameters with write access    |
| Alarm signalling with description                      |
| Alarms managed in groups with HIGH/MEDIUM/LOW priority |
| Variable graphs  |
| ON/OFF unit  |
| Event notification via SMS / FAX / email               |
| Ethernet/Internet access from PC to view the units     |
| Print report   |
| Download reports in .xls / .doc format                 |

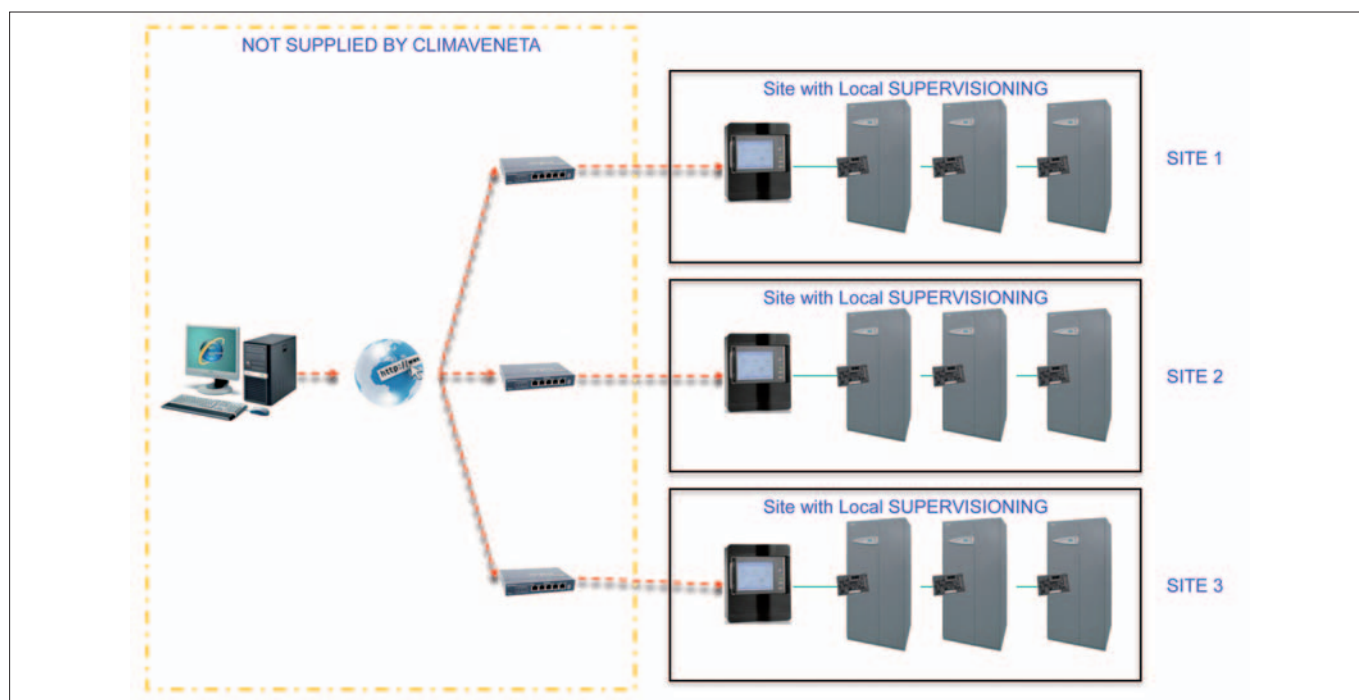
For a complete description of CLIMA GUARD functions and system configuration, see the specific instruction manual.

## COMPONENTS LIST

| Device  | Description   | Supplied by CLIMAVENETA |
|---|---|-------------------------|
|        | CLIMA GUARD device  | YES                     |
|        | Serial card RS485 installed in each unit                    | YES                     |
| 120 Ω  | Serial cable RS485 and resistance 120Ω- 1/4W<br>Max 1000mt. | NO                      |
|        | Optional: external modem GSM                                | YES                     |



## LAYOUT








## SYSTEM FUNCTIONALITY

This offers the same features as supervision with CLIMA GUARD, with the additional possibility of site remote control, centralising the parameters/alarms on just one PC running Internet Explorer.

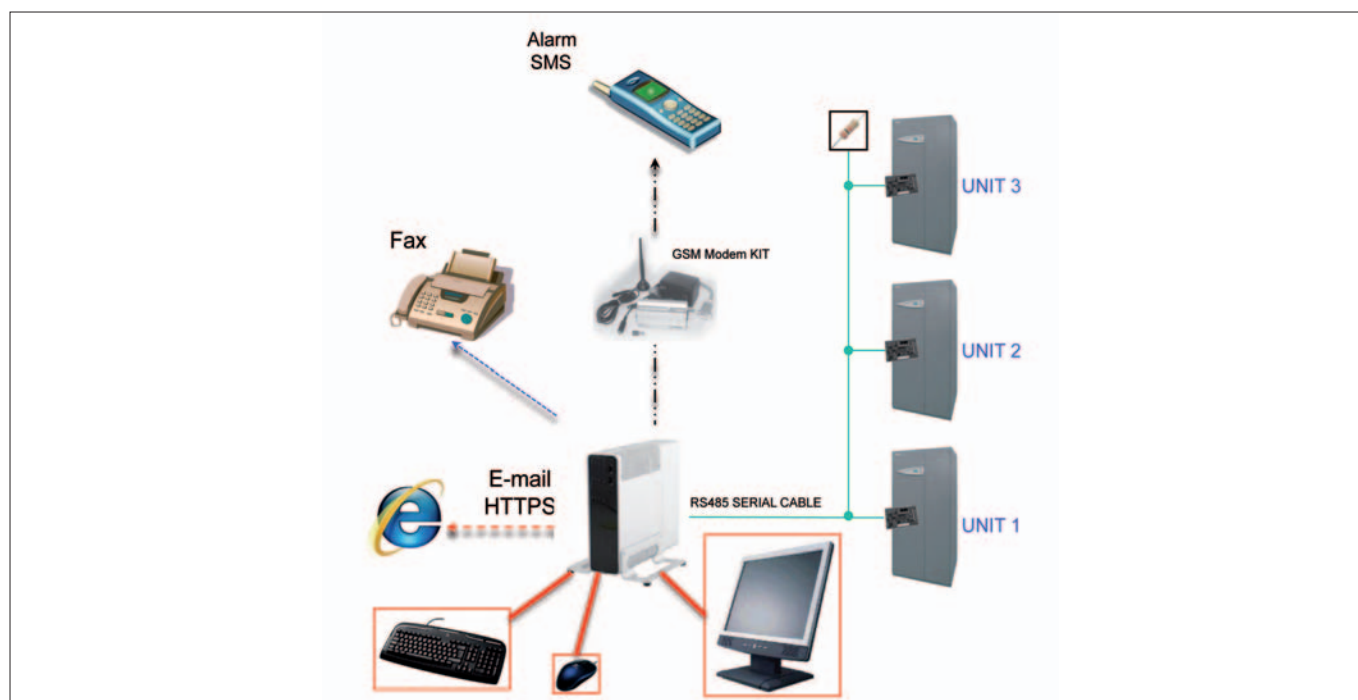
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|--|
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| ON/OFF unit  |
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| Ethernet/Internet access from PC to view the units     |
| Print report   |
| Download reports in .xls / .doc format                 |

For a complete description of CLIMA GUARD functions and system configuration, see the specific instruction manual.

## COMPONENTS LIST

| Device   | Description  | Supplied by CLIMAVENETA |
|--|--|-------------------------|
|               | CLIMA GUARD device on each site  | YES                     |
|               | Serial card RS485 installed in each unit   | YES                     |
| 120 $\Omega$  | Serial cable RS485 and resistance 120 $\Omega$ - 1/4W<br>Max 1000mt.   | NO                      |
|               | Remote PC<br><br>REQUIREMENTS :<br>Windows 2000 Professional SP4, Windows XP Professional SP1<br>Internet browser Explorer 7.0 (or higher) | NO                      |
|               | Optional: external modem GSM   | YES                     |

## LAYOUT



## SYSTEM FUNCTIONALITY

|  |
|--|
| Up to 90 ACCURATE units can be connected               |
| Up to 1400 variables logged (every 30 seconds)         |
| View complete unit status                              |
| View all parameters                                    |
| Possibility to set all parameters with write access    |
| Alarm signalling with description                      |
| Alarms managed in groups with HIGH/MEDIUM/LOW priority |
| Variable graphs  |
| ON/OFF unit  |

|  |
|--|
| Up to 3 configurable relays                        |
| Up to 2 digital inputs                             |
| Event notification via SMS / FAX / email           |
| Ethernet/Internet access from PC to view the units |
| Print report                                       |
| Download reports in .xls / .doc format             |
| Activity scheduler                                 |
| Definition of system response to alarms/events     |

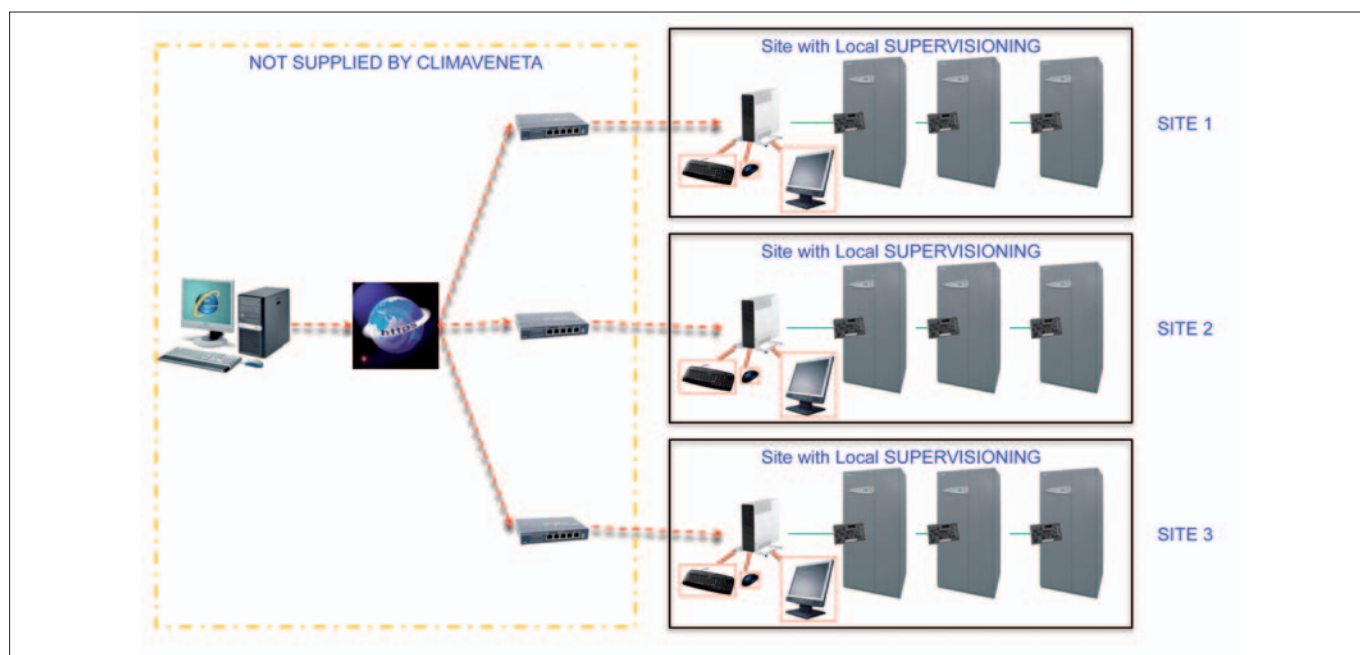
For a complete description of CLIMA CENTER functions and system configuration, see the specific instruction manual.

## COMPONENTS LIST

| Device | Description   | Supplied by CLIMAVENETA |
|--------|---|-------------------------|
|        | CLIMA CENTER device   | YES                     |
|        | Serial card RS485 installed in each unit                    | YES                     |
| 120 Ω  | Serial cable RS485 and resistance 120Ω- 1/4W<br>Max 1000mt. | NO                      |
|        | Keyboard with PS2 or USB connector                          | NO                      |
|        | Mouse with PS2 or USB connector                             | NO                      |
|        | Monitor   | NO                      |
|        | Optional: external modem GSM                                | YES                     |



## LAYOUT



## SYSTEM FUNCTIONALITY









The remote supervision is a centralized system to control local supervisor by remote PC where is installed PlantVisor in "Remote" configuration.

|  |
|--|
| Up to 90 ACCURATE units can be connected               |
| Up to 1400 variables logged (every 30 seconds)         |
| View complete unit status                              |
| View all parameters                                    |
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|  |
|--|
| Up to 3 configurable relays                        |
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| Print report                                       |
| Download reports in .xls / .doc format             |
| Activity scheduler                                 |
| Definition of system response to alarms/events     |

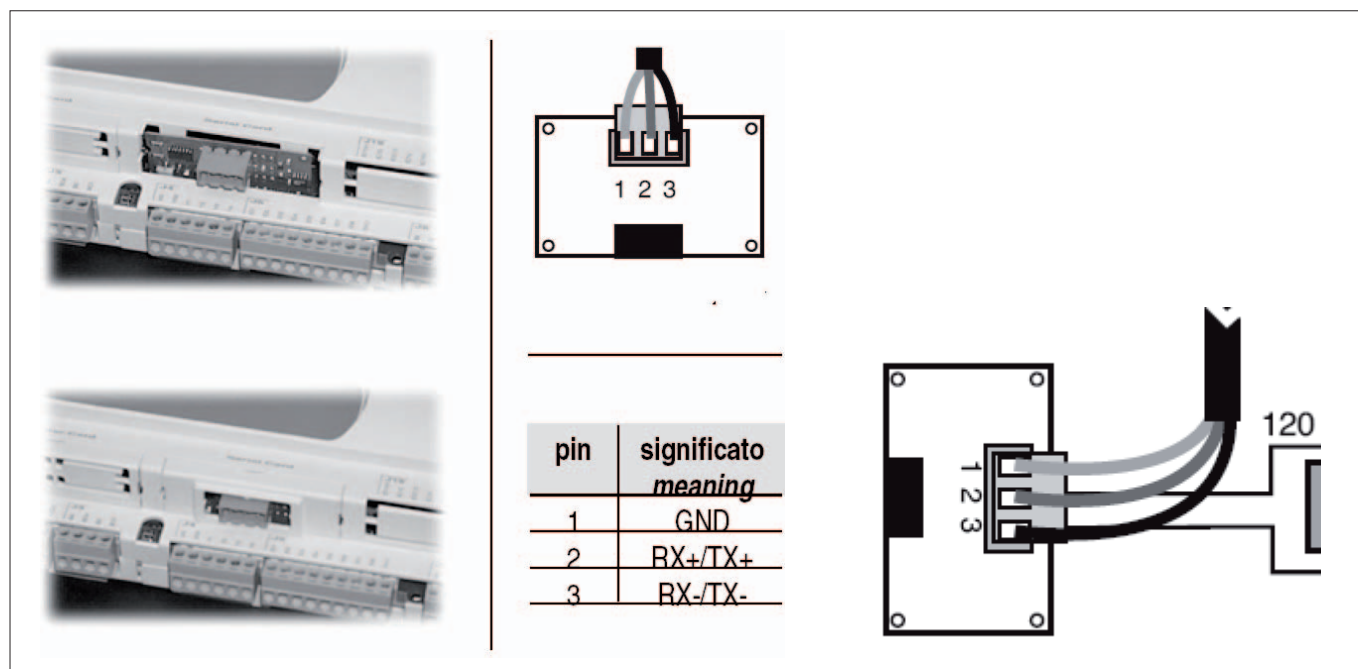
For a complete description of CLIMA CENTER functions and system configuration, see the specific instruction manual.

## COMPONENTS LIST

| Device   | Description  | Supplied by CLIMAVENETA |
|--|--|-------------------------|
|               | CLIMA CENTER device  | YES                     |
|               | Serial card RS485 installed in each unit   | YES                     |
| 120 $\Omega$  | Serial cable RS485 and resistance 120 $\Omega$ - 1/4W<br>Max 1000mt.   | NO                      |
|               | Keyboard with PS2 or USB connector   | NO                      |
|               | Mouse with PS2 or USB connector  | NO                      |
|               | Monitor  | NO                      |
|               | Optional: external modem GSM   | YES                     |
|               | Remote PC<br>REQUIREMENTS :<br>Windows 2000 Professional SP4, Windows XP Professional SP1<br>Internet browser Explorer 7.0 (or higher) | NO                      |

The connection with the RS485 network is carried out by means of the plug-in terminal connector on the card.

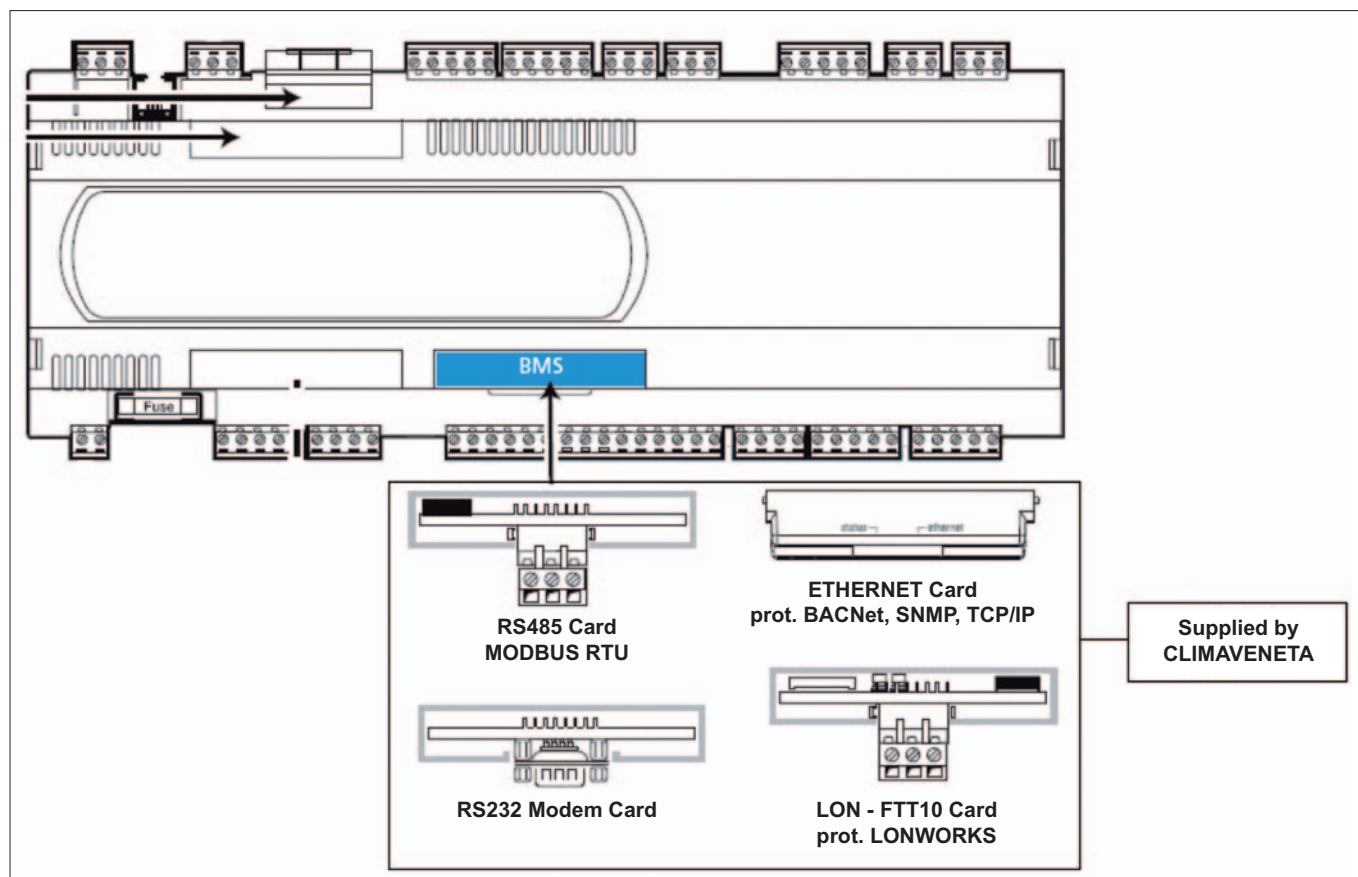
Pin-wiring of the connector is stamped on the card (see table below). If the card is placed in the last position of the supervision serial line, pins 2 and 3, you must connect a 120Ω - 1/4W end line resistor.

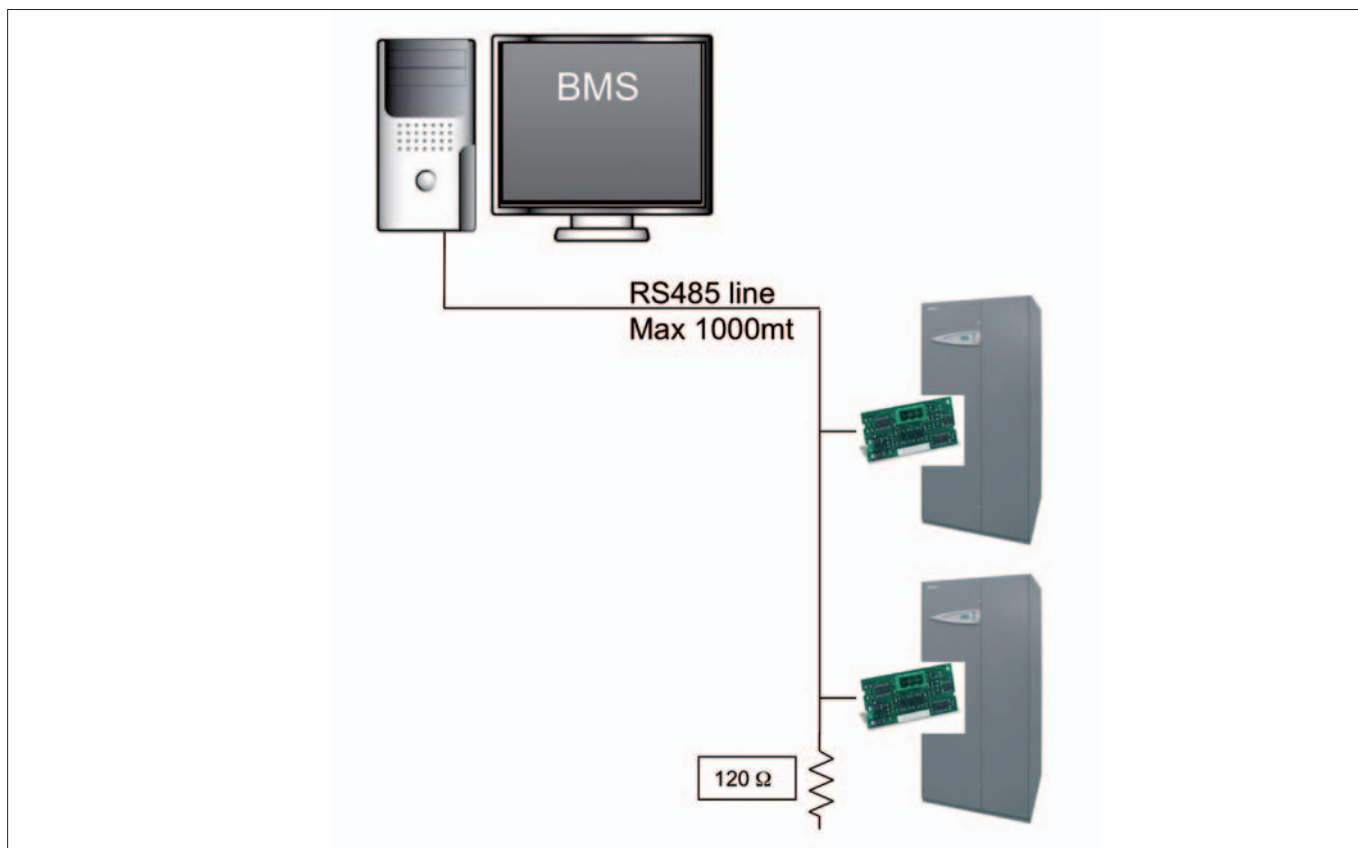


## BMS SOLUTIONS

The CLIMAVENETA unit's are compatible with all the protocols that are emerging as the “de facto” standards in the world of HVAC/R and intelligent building management, and that are consequently used in the leading BMS: LonWorks®, Modbus®, BACnet™, TCP/IP, SNMP, TREND.



Each protocol needs a dedicated serial card, fitted in the suitable slot of ACCURATE controller.





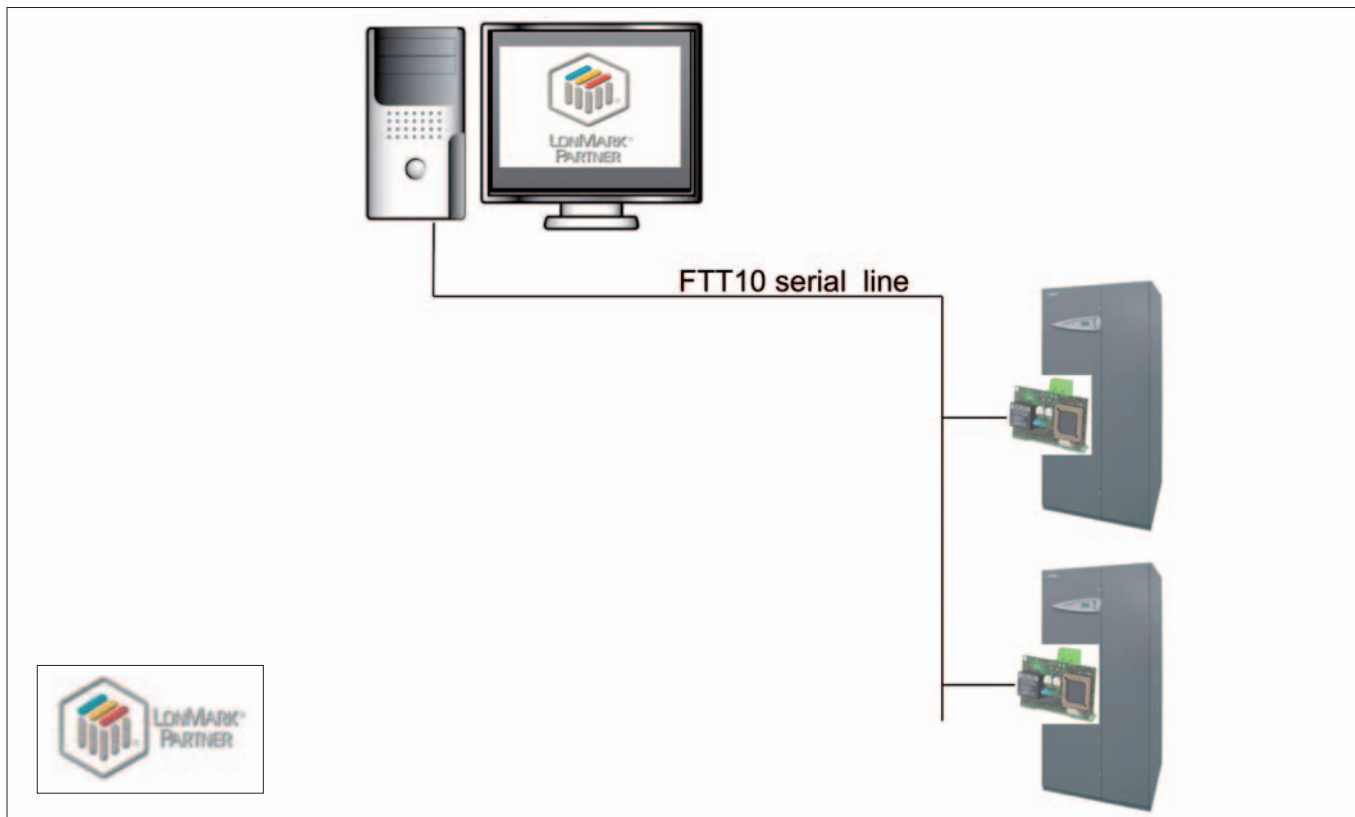
Modbus is a serial communications protocol published by Modicon in 1979 for use with its programmable logic controllers (PLCs). It has become a de facto standard communications protocol in industry, and is now the most commonly available means of connecting industrial electronic devices.

The Modbus protocol for ACCURATE units is RS485 RTU type (1byte = 2 characters hexadecimal). Is sufficient to install the RS485 serial card into suitable slot of pCO controller of ACCURATE and set, on the "SERIAL SETUP", the Modbus protocol and BAUD RATE according to the serial connection of BMS (check with System Administrator).

| COMPONENT LIST  |  |                  |
|---|--|------------------|
| Device  | Description  | Supplied by      |
|        | Serial card RS485 installed in each ACCURATE               | CLIMAVENETA      |
| 120 Ω  | Serial cable RS485 and resitance 120Ω- 1/4W<br>Max 1000mt. | Client/Installer |

| CLIMAVENETA controller setting |        |
|--------------------------------|--------|
| Protocol                       | MODBUS |
| Baud rate                      | 19200  |

| Communication parameter suggested |       |
|-----------------------------------|-------|
| Timeout response                  | 500ms |
| Intercharacter delay              | 80ms  |
| Interpacket delay                 | 80ms  |
| Max retries                       | 3     |



LonWorks is a networking platform specifically created to address the needs of control applications. The platform is built on a protocol created by Echelon Corporation for networking devices over media.

LonWorks is a networking platform specifically created to address the needs of control applications. The platform is built on a protocol created by Echelon Corporation for networking devices over media

The LON serial card uses an Echelon® FTT-10 transceiver, approved for use on the TP/FT-10 channel.

This channel has the following main characteristics:


- allows the connection of a maximum of 64 nodes for each network segment;
- the nodes can be connected without any restrictions in the topology: that is, star, ring, on one bus only, or with any combination of these;
- communication speed: 78,125 kbps;
- maximum distance (Belden 85102 cable): 500m for connections between the nodes with free topology; 2700m for bus connections with double line terminator

**⚠ In order to become operational, the board must be programmed and it requires knowledge of and experience with the LonWorks® network installation and maintenance tools.**

The user must then copy the .NXE file (supplied by CLIMAVENETA) to the memory on the interface board using the LonWorks® network installation and maintenance systems, such as LonMaker™ or NodeBuilder®, so as to render the node operational.

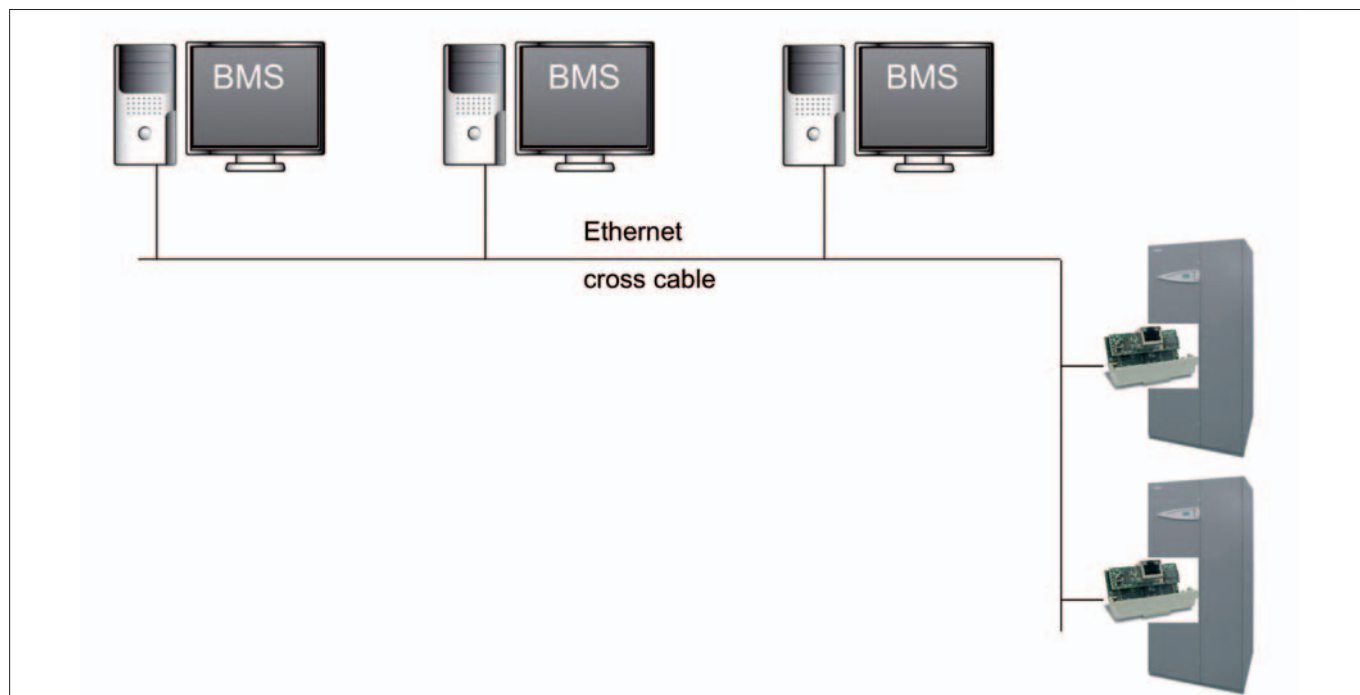
As well as the .NXE file, a file with the extension .XIF (External Interface File) will also be provided, containing the essential information on the node that is used by the network management instrument for the configuration of the node.

#### COMPONENT LIST supplied by CLIMAVENETA

| Device  | Description   |
|---|---|
|  | LON-FT10 serial card in each unit   |
| File .NXE<br>File .XIF  | Application to be copied to the interface using LonMaker™ or similar tools;<br>External Interface File, containing the essential information on the node; |

#### CLIMAVENETA controller setting

|           |      |
|-----------|------|
| Protocol  | LON  |
| Baud rate | 4800 |



ETHERNET serial card to provide “gateway” function, i.e. translate between the proprietary protocol and the BACnet and SNMP protocols, emerging HVAC protocols based on the Ethernet standard. Ethernet serial card has a big capacity of memory (8Mb flash with 4Mb for user) and calculating (ARM7 74MHz with LINUX operating system).

This therefore allows connection to the following network:

- with the web server capabilities of pCOWeb, the user can download, via FTP, the HTML pages relating to the specific application and then use a browser for the remote management of the installation.
- SNMP v1, v2, v3
- BACnet™ Ethernet™, BACnet™/IP, BACnet™ MS/TP
- LANs or Internet.

The net parameter configuration could be in automatic way if a DHCP server is present


The ETHERNET serial card connected to an Ethernet network provides the following functions:

- WEB server: used to check or change the operating status of the EVOLUTION controller using a remote computer running, for example, Internet Explorer™ or Mozilla Firefox; dynamic web pages developed by the user can be added; supports CGI technology; supports protection for accessing web pages;
- Logger: the ETHERNET serial card can record the values of some of the EVOLUTION controller variables in a file on its non-volatile memory; the file can then be downloaded to a PC using Internet Explorer™;
- Graphs: the trends over time of the data saved with the Logger function can be viewed on graphs;
- E-mail: the ETHERNET serial card can send e-mails when programmable events occur on the EVOLUTION controller

(activation of alarms, exceeding of thresholds) or at set time intervals; a file in XML format can be attached containing the values of the variables;

- FTP PUSH: the ETHERNET serial card can send a file in XML format containing values of the variables to a suitably configured computer; the send operations can be programmed in the same way as for send the e-mail messages (upon event or at set times); the file is sent using the FTP protocol;
- SNMPv1 & v2: to access ETHERNET serial card from a computer using supervision software based on the SNMP protocol. the ETHERNET serial card can send programmable enterprise TRAP or INFORM packets for alarm notifications;
- BACnet Ethernet ISO8802-2 over 8802-3: to access the EVOLUTION controller using supervision software based on the BACnet Ethernet protocol;
- BACnet/IP (Addendum A/Annex J): for access using supervision software based on the BACnet/IP protocol;
- FTP server: used to copy data files or web pages from/to ETHERNET serial card in a simple manner, using programs based on dragging icons from one window to another;
- DHCP: used to connect ETHERNET serial card to a local network using the method of automatic addresses assignment by a central server, rather than statically setting the addresses on the individual devices; DHCP is active by default;
- Plugins: used to add additional applications developed by the user in script or compiled format;
- Firmware update: the ETHERNET serial card firmware can be updated from a computer.

#### COMPONENT LIST supplied by CLIMAVENETA

| Device  | Description                       |
|---|-----------------------------------|
|  | ETHERNET serial card in each unit |

#### CLIMAVENETA controller setting

|           |          |
|-----------|----------|
| Protocol  | Standard |
| Baud rate | 19200    |



## CONFIGURATION INSTRUCTIONS

The PC can communicate with ETHERNET serial card if the settings on both devices are correctly aligned.

As the ETHERNET serial card default settings can only be changed once the connection has been established with the PC, when first accessing the device the personal computer will need to be configured to adapt it to the ETHERNET serial card default settings.



## A - PC SETTING

disconnect the personal computer from the data network (if connected), and connect it directly to the ETHERNET serial card using the cable (crossover).

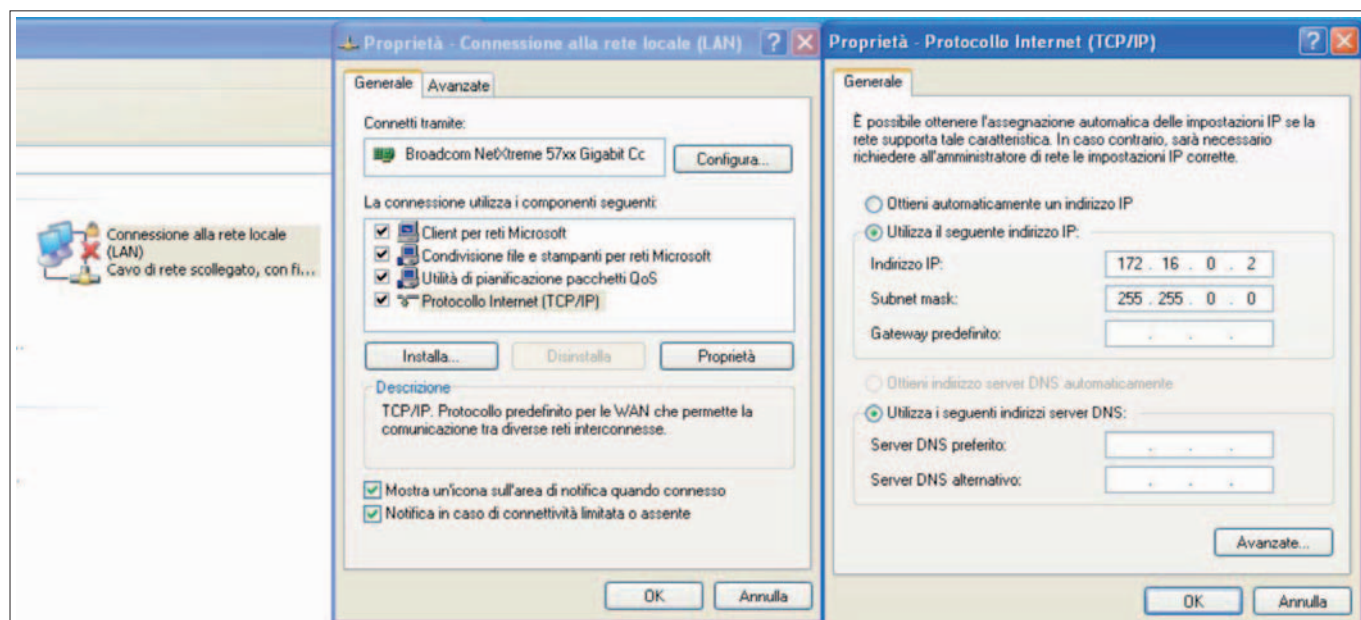
## B - IP address and subnet mask information

The personal computer must be set not to use the DHCP, but rather the following IP address: 172.16.0.2. The Subnet mask field also needs to be set; the Gateway is not required..

1. Double click "Control Panel"
2. Double click "Network and dial-up connections"
3. Double click "Local area connection"
4. Click "Properties"
5. Double click "Internet Protocol (TCP/IP)"

⚠ **Note down all the settings shown in the new window: this will be useful for returning to the original settings when the procedure is terminated, so that the PC can again communicate with the data network it was previously connected to.**

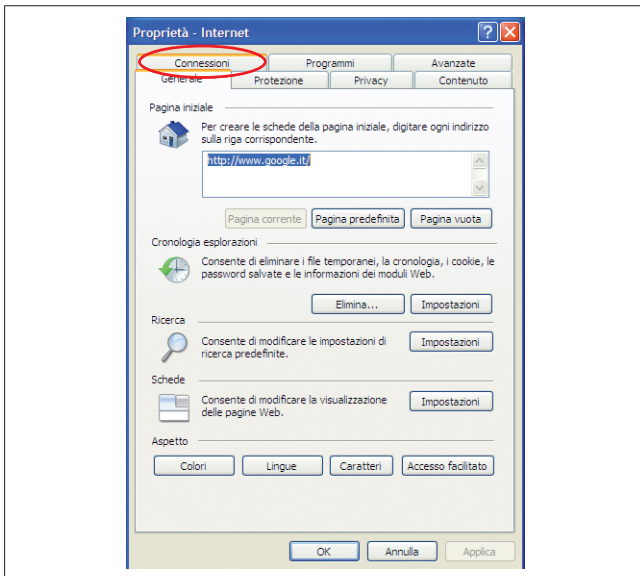
6. Click "Use the following IP address"  
Set the following parameters:  
IP address = 172.16.0.1  
Subnet mask = 255.255.0.0
7. Click the OK button to close all the windows.



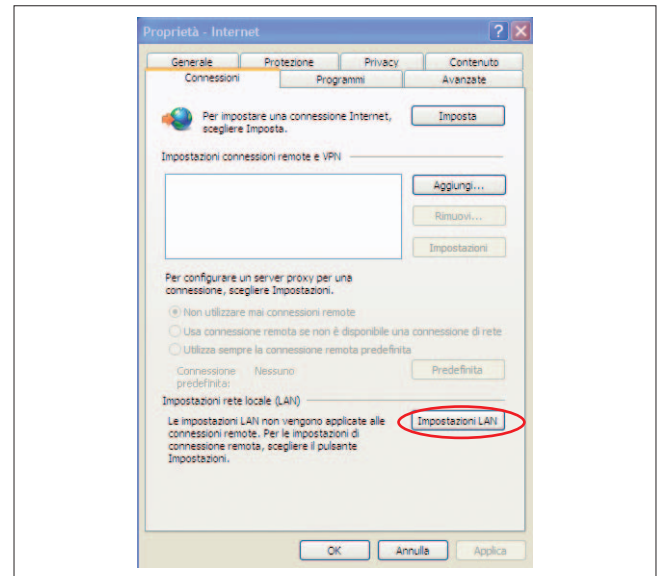


## C - Proxy

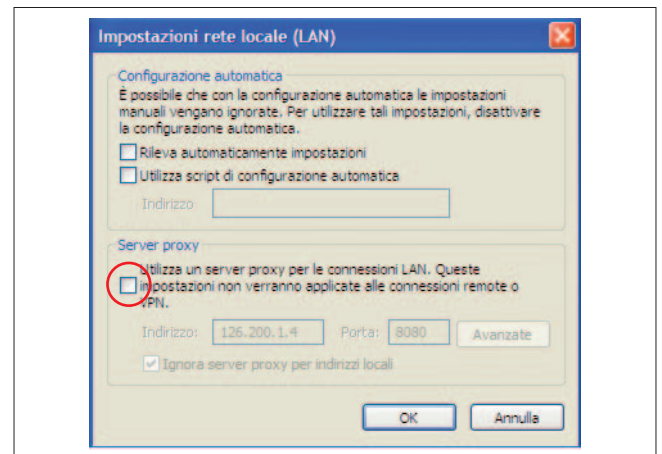
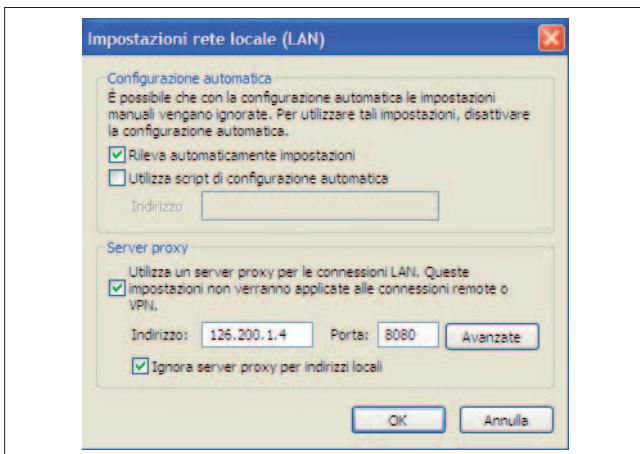
The following procedure tells the personal computer to not use the network device called the “proxy” for communication: in fact, the PC is not connected to the network and if the “proxy” is not disabled communication would not be possible.



1. Open the Windows “Control panel”.
2. Double click “Internet options”;
3. Click “Connections”. Another window will be displayed.
4. Click “LAN settings”...



5. Disable the proxy server.
6. Close the windows using the OK button.



## Activating ETHERNET serial card (factory network settings)

1. Switch on the EVOLUTION controller
2. Check that both the indicator LEDs on the ETHERNET serial card connector come on within a few seconds.



**⚠ The activation of the factory settings or the user settings can only be selected when starting the ETHERNET serial card. ETHERNET serial card will reboot whenever it is restarted.**

3. Immediately after reboot, as soon as the Status LED remains on steady GREEN, to activate the factory settings rather than the user settings, hold the button;
4. After around 20 seconds the Status LED, due to the button being pressed, will turn RED and flash slowly 3 times; the button must be released before then end of the 3 flashes;

5. Once the red flashes have terminated, the Status LED will turn GREEN and, if the procedure has been performed correctly, immediately after the Status LED will confirm the pressing and release of the button by flashing quickly 3 times RED, and then will come on steady GREEN again for around one minute (completion of the start-up phase); once the start-up phase has been completed, the Status LED will start flashing: ETHERNET serial card will now start operating;

In this mode the ETHERNET serial card will not use the values of the “User” parameters for communication, but rather the following factory values:

IP address: 172.16.0.1  
Subnet mask: 255.255.0.0

NOTE: These values remain active until the ETHERNET serial card IS RESTARTED.

When next rebooted, the ETHERNET serial card will return to the “User” configuration. The network communication parameters should be configured immediately.

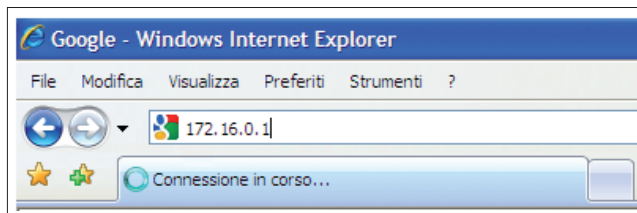
## Accessing ETHERNET serial card from a PC

For ETHERNET serial card to communicate with the data network it is installed in, a number of network communication parameters need to be correctly set.

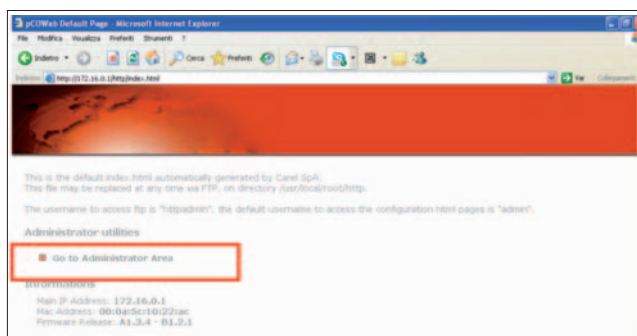
**⚠ The assistance of the network administrator is required to establish if ETHERNET serial card can be connected, and to understand the essential data relating to the installation.**

On the PC open Internet Explorer; in the address field enter the following number, including the dots:

172.16.0.1 then press ENTER.

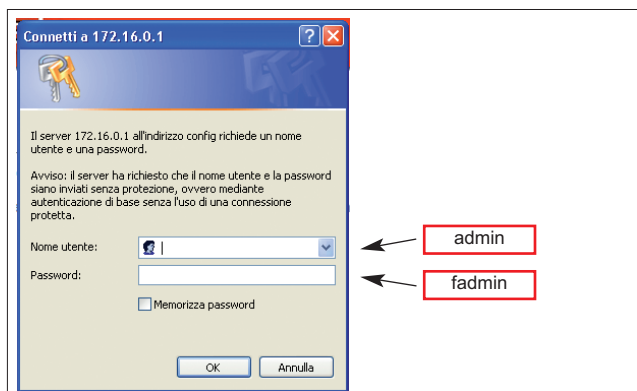


The ETHERNET serial card main page "index.html" will be displayed, and click on "Go to Administrator Area"



at the login and password request, insert the factory setting:

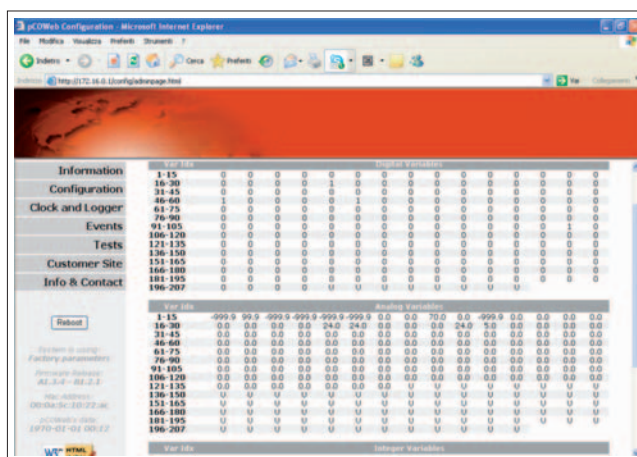
Username: **admin**  
Password: **fadmin**



If the login data entered are correct the following page will be displayed:

Click "Informations" to refresh variables

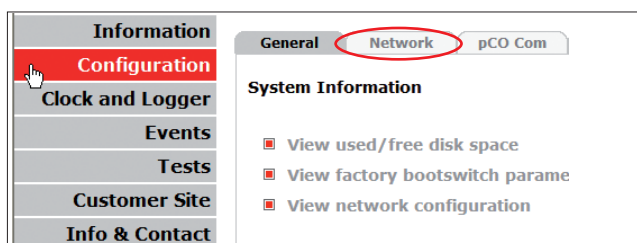
**⚠ The ETHERNET serial card is already ready in the factory configuration for network with DHCP and no operation is required.**



To set the Network configuration, starting by the main configuration page – Information, click "Configuration", then click the "Network" tab.

set the following fundamental user network parameters:

- IP address
- NetMask



**⚠ The values set will only be used when ETHERNET serial card is next rebooted.**

The screenshot shows the 'Network' tab in the pCOWeb configuration interface. It includes sections for 'Ip Addresses and Subnet Masks' with fields for DHCP, IP Address main, NetMask main, and three additional IP aliases (1, 2, 3) with their respective netmasks. There is also a 'Gateway' section with a 'Gateway Address' field and a 'DNS servers' section with 'Primary DNS' and 'Secondary DNS' fields. A 'Submit' button is at the bottom.

## EVENT NOTIFICATION

Notification messages can be programmed to be sent when events occurred. The following types of notification messages are managed:

- E-mail, the body of which can contain customised text or a web page with the values of the EVOLUTION controller variables read at the moment the message was sent; possibility to attach a custom XML file containing the values of the variables;
- XML file, identical to the one sent by e-mail, but in this case delivered by FTP (FTP PUSH function);
- SNMP TRAP or INFORM messages, which can contain up to 5 values of selected variables.

1. From ETHERNET serial card main page, click on "Events".

The screenshot shows the 'Events' section in the pCOWeb Configuration interface. It includes a sidebar with 'Information', 'Configuration', 'Clock and Logger', 'Events' (highlighted), 'Tests', 'Customer Site', and 'Info & Contact'. The main area shows 'Events Handlers' with 'Asynchronous Events' (Events triggered by digital variables, Events triggered by analog variables, Events triggered by integers variables) and 'Synchronous Events' (Events triggered by the scheduler). There is also a 'Messages Receivers Configuration' section with options to 'View and modify the events' recipients' and 'View and modify the status messages'.

2. Click "View and modify the events' recipients" if you need to configure email properties (that have to be provided by your server administrator).

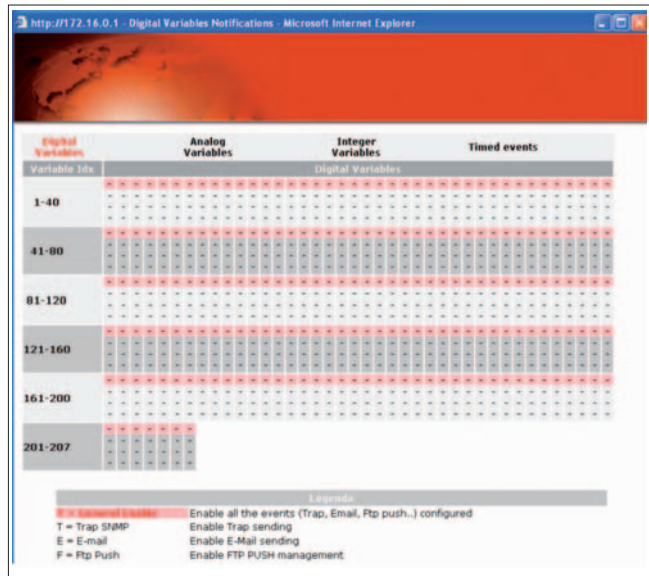
The settings in this window will be common to all the events generated.

The screenshot shows the 'E-Mail Configuration' window. It includes fields for 'Username', 'Password', 'E-Mail Account\*', 'Identification', 'Reply to', 'Destination #1\*', 'Destination #2', 'Destination #3', 'Destination #4', 'Destination #5', 'SMTP Server Address\*', 'XML template for attachment', 'Attached file name\*\*', and 'Offset from UTC\*\*\*'. There is a 'Test' button and a 'Store the E-MAIL configuration' button at the bottom. A note at the bottom explains the format for the 'Attached file name' and the 'Offset from UTC'.

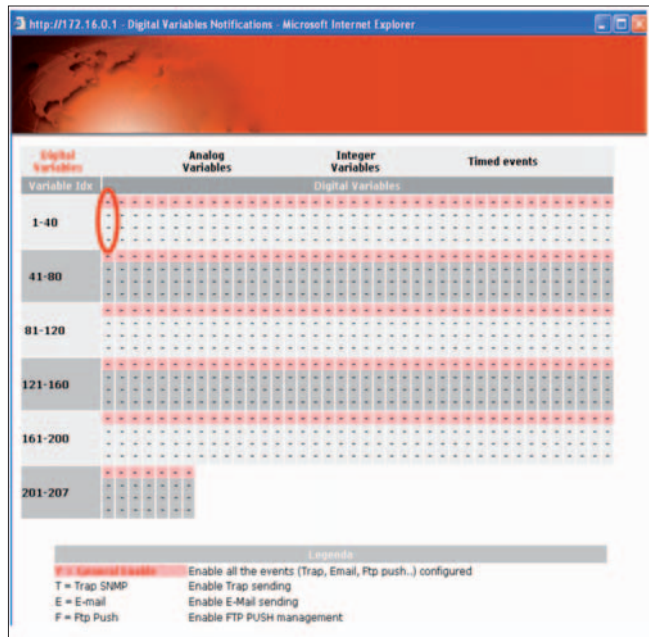
## SETTING THE NOTIFICATIONS SET UPON VARIATIONS IN THE VARIABLES

- Click “Events triggered by digital variables” or
- Click “Events triggered by analogs variables” or
- Click “Events triggered by integers variables”

Example of variable setting:



- Click on variable check box (Example: digital variable 1):

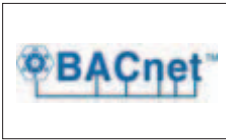


and set the parameters:

More informations are available in ETHERNET serial card service Manual.



## BACNET PROTOCOL



The ETHERNET serial card can recognise queries sent by a supervisor that uses the BACnet protocol (Building Automation Control Networks), in the following two versions:

- BACnet/IP (Addendum A/Annex J)
- BACnet Ethernet ISO8802-2 over 8802-3

The basic BACnet parameters configuration are available on suitable menu "Configuration".

The values set will only be used when ETHERNET serial card is next rebooted.

For advanced configuration, go to <http://ksa.carel.com> and download the BACset Configuration Tool. BACset can be used to set all the properties of the BACnet objects supported by THERNET serial card, save them on THERNET serial card or on the PC for later use when required.

The two standards use the same physical means for carrying the data (Ethernet RJ-45 network) but differ as regards the different ways the data packets are encoded. If BACnet is used, during installation the proper version needs to be set to coincide with the type used by the supervisor.

**⚠ The system integrator, who is usually responsible for setting the various parameters, checking network communication and setting up the supervision system, should know how BACnet works.**

## SNMP PROTOCOL

SNMP (Simple Network Management Protocol) is a protocol used in Ethernet networks for controlling and setting the parameters for the network devices, for example switches and network printers.

**⚠ The system integrator, who is usually responsible for setting the various parameters, checking network communication and setting up the supervision system, should know how SNMP works.**

A simple system based on the SNMP protocol normally features a series of devices, each containing an SNMP Agent, as well as a central supervisor called the NMS – Network Management Station – which periodically queries the devices, acquiring the status and where necessary setting the operating parameters.

The simplicity of its messages means that SNMP is becoming increasingly widespread, above all for the control of industrial devices.

The ETHERNET serial card includes an SNMP v2c Agent, that is, an application that responds to network queries in SNMP protocol version 1 and 2c.

The basic SNMP parameters configuration are available on suitable menu "Configuration".

The values set will only be used when ETHERNET serial card is next rebooted.



## TREND PROTOCOL

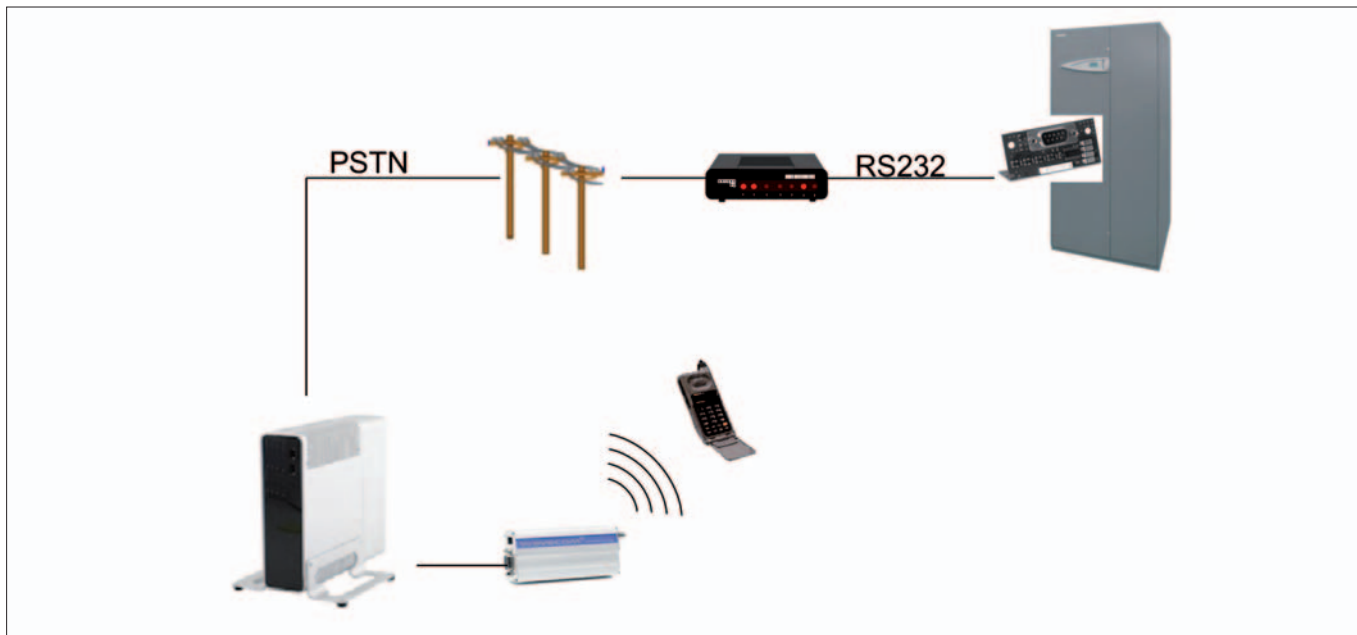
ACCURATE units fitted with Ethernet card can communicate via the BACnet protocol with the new TREND IQ3 supervisor.







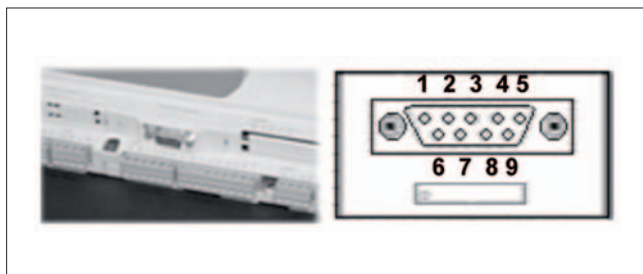
The RS232-Modem serial card is an option to allow connecting the unit with HAYES analogic modem or GSM.

#### WITH ANALOGIC MODEM PSTN

The connection of analogic modem to a remote PC allows a supervision system with the same characteristics as already described in the Supervision paragraph.



| COMPONENT LIST  |                                       |                         |
|---|---------------------------------------|-------------------------|
| Device  | Description                           | Supplied by CLIMAVENETA |
|  | Serial card RS232 Modem for each unit | YES                     |
|  | modem PSTN                            | NO                      |
|  | CLIMA CENTER device                   | YES                     |
|  | Optional: external modem GSM          | YES                     |



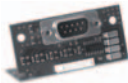

| PIN | Meaning | PIN     | Meaning       |
|-----|---------|---------|---------------|
| 1   | CD      | 5       | GND (frame)   |
| 2   | RX      | 6       | not connected |
| 3   | TX      | 7       | RTS           |
| 4   | DTR     | 8 and 9 | not connected |

| CLIMAVENETA controller setting |          |
|--------------------------------|----------|
| Protocol                       | Standard |
| Baud rate                      | 19200    |

## WITH GSM MODEM

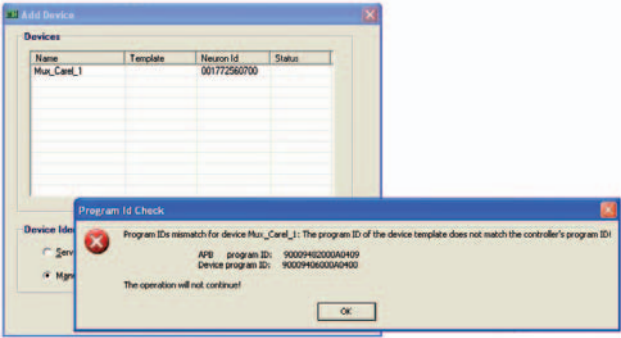
The connection with a GSM modem allows to send SMS to GSM phone in case of allarms.



| Device  | COMPONENT LIST                       |             |
|---|--------------------------------------|-------------|
|   | Description                          | Supplied by |
|  | Serial card RS232 Modem in each unit | CLIMAVENETA |
|  | External GSM modem                   | CLIMAVENETA |

### CLIMAVENETA controller setting

|          |                |
|----------|----------------|
| Protocol | Modem GSM 9600 |
|----------|----------------|

| PROBLEM   | CAUSE   | SOLUTION   |
|---|---|--|
| <b>LON</b><br><br> | LON board does not<br>programmed with .NXE file | Verify to hav the .NXE file supplid<br>by Climaveneta and download it on<br>the board with a suitable software<br>tool. See the dedicated paragraph<br>for "LON Serial card" |

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