

# Global RETAIL Solution



# CALL CENTER

XCENTER



Dixell's experience...  
...is your global solution!

# SYSTEMS

XWEB500



XWEB3000



XWEB5000



# CONTROLLERS

DISPLAY CASES/COUNTERS



ROOMS



COMPRESSOR RACKS



Research, innovation and extensive experience: these are the elements that allow Dixell to offer controllers and tele-maintenance systems that are in the forefront for all refrigeration applications, cooking and conditioning fields. A series of specific solutions and a comprehensive range that extends from Thermometers to Multifunction Controllers, from Supervising Systems to the Call Centers, for a **centralized plant** according to the **HACCP rules**. Every product is designed to obtain **energy saving processes** and consequently **reduce costs** and **preserve the environment**. Dixell offers solutions that are synonymous with quality, user-friendliness and efficiency, because they are designed to meet end user needs.

Dixell, with its range of controllers and systems offers a complete solution for managing system requirements and meeting hygiene regulations. The PRIME and XR700-XW700 series have particular software functions that are able to check product temperature, identifying signalling and recording critical points due to, for example, sudden black-outs.

Every instrument is designed to satisfy all users requirements as display cases and counters, cold rooms, compressor racks, retrofit, food service and chillers.

Dixell offer several different systems to meet the needs of all applications: XWEB500 for the monitoring and controlling system, XWEB3000 for the industrial monitoring and controlling system and XWEB5000 for the monitoring, controlling and supervising system.

XCENTER is a centralized management software, that allows users with multiple sites to remotely manage them all. Idea for supermarket groups, distribution companies. It is also ideally suited to use by Central Station (Call Center) operators.

#### REFITTING



#### FOOD SERVICE



#### AIR CONDITIONING



# ENERGY SAVING

Dixell has always considered energy saving extremely important, particularly now it is becoming crucial in the refrigeration and conditioning field. All regulators and systems have special algorithms allowing optimize the efficiency of the system increasing the energy saving. Every user has their own requirements which can be different from others, be it a compressor rack, a display case or a chiller. Dixell offers specific solutions for every application...

## ▷ ...COUNTERS

The **superheat** controlling system, managed by Dixell series, allows optimization of the plant performance using the "cold minimum quantity" required. **Nightly set back** allows for different day/night temperature sets points according to needs, whereas **different/intelligent defrosts** provide the possibility of making those independently with selectable time and limits. Also extremely important is the **fan speed controller** to regulate fan speed depending on evaporator conditions and the **virtual probe** that obtains the temperature from the real probes.

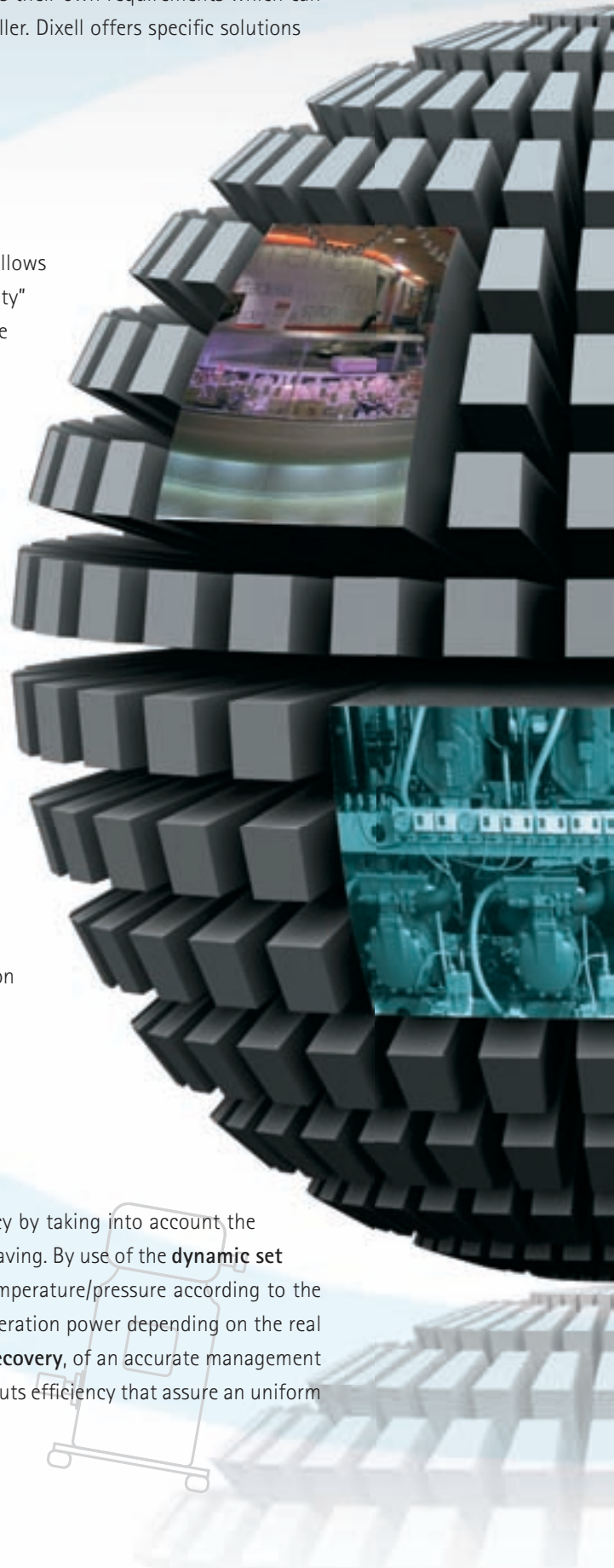
## ▷ ...AIR CONDITIONING

Optimization of chiller usage is synonymous with energy saving: for this reason Dixell controllers are equipped with functions such as **dynamic set point** to allow an automated modification of the working set point depending on the external temperature. Also a **reduced set point** that takes advantage of the time bands concept, it allows management of weekly start/stop in order to have this function ON only if it is necessary.

The **circuit balance regulation** is achieved through the activation or deactivation of the compressors to produce only the minimum refrigeration power required at any given moment.

## ▷ ...COMPRESSOR RACKS

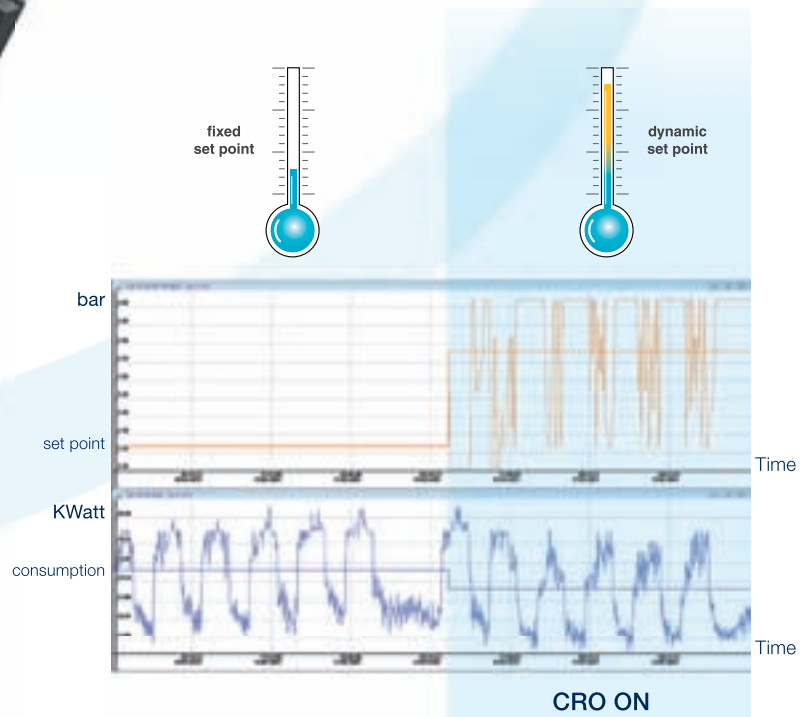
The compressor rack controller guarantees an excellent system efficiency by taking into account the actual operative conditions, which is vital in achieving effective energy saving. By use of the **dynamic set point**, the system automatically modifies the suction or condensing temperature/pressure according to the external ambient or the retail space temperature, so changing the refrigeration power depending on the real thermodynamic exchange. It's also important to make a check of **heat recovery**, of an accurate management of the **sub-cooling** in order to increase the system and the **inverter** outputs efficiency that assure an uniform check of the refrigeration power and its condensation.



## ▷ ...SYSTEMS

Limiting electrical usage by items such as fork lifts, lights or signs only to times when it's really necessary is important for the energy saving. This is why Dixell considers **time scheduling** so essential for some devices. They are allowed to use electrical power only when it is convenient. Dixell's instruments are equipped with a **scheduler function** that allows, besides an intelligent management of all plant events, also to make a **scheduled maintenance** of the plant first of all defining the machines or the counters that have to be deactivated. It is also possible to check the **set point** value that can be modified depending on devices requirements thanks to the CRO function, and easy discovery of any **technical problems** using the statistics management.

The connection to the modern supervising systems (of Dixell) allows, thanks to the special **CRO algorithm (Compressor Rack Optimization)**, to manage the compressor rack set point in the best possible way, depending on the devices connected, resulting in plant optimization and energy saving. The system, equipped with the CRO function, analyzes the information from the controller to determine if a controller needs more refrigeration power and how much. The set point will be recalculated in order to satisfy the worse instance and sent from the supervising system to the XC1000D compressor rack controller; this will be the new working set point. If the supervising system can't manage the XC1000D, it's the controller that "decides" to replace the set point (coming from the system) and will then define the set point in the program phase. The 2 graphs emphasize that when the CRO algorithm is active, in a real installation, the set point becomes on average higher, and consequently the energy consumption decreases. The dotted line represents the average weekly value.

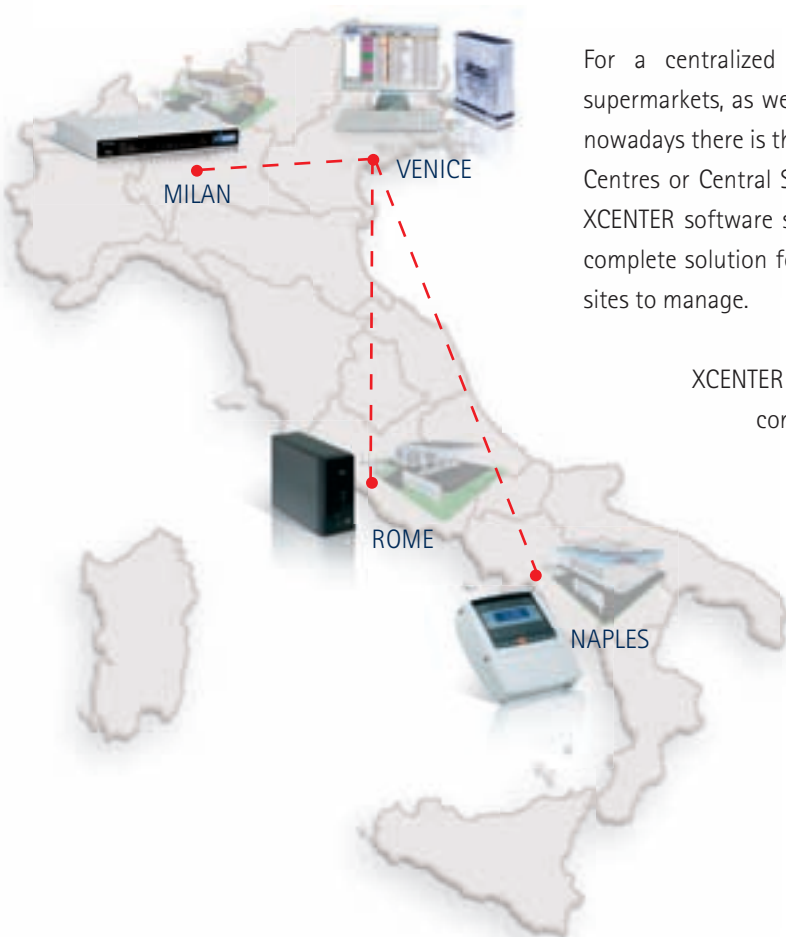




## **XCENTER: CENTRALIZED MANAGEMENT SOFTWARE FOR CALL CENTER**



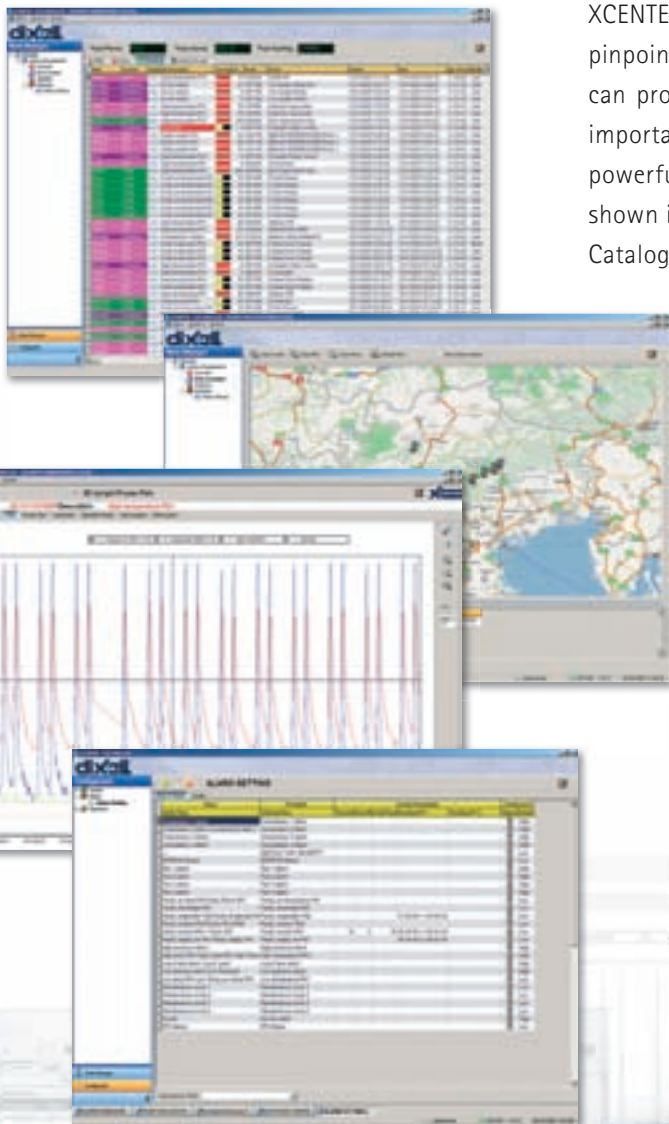
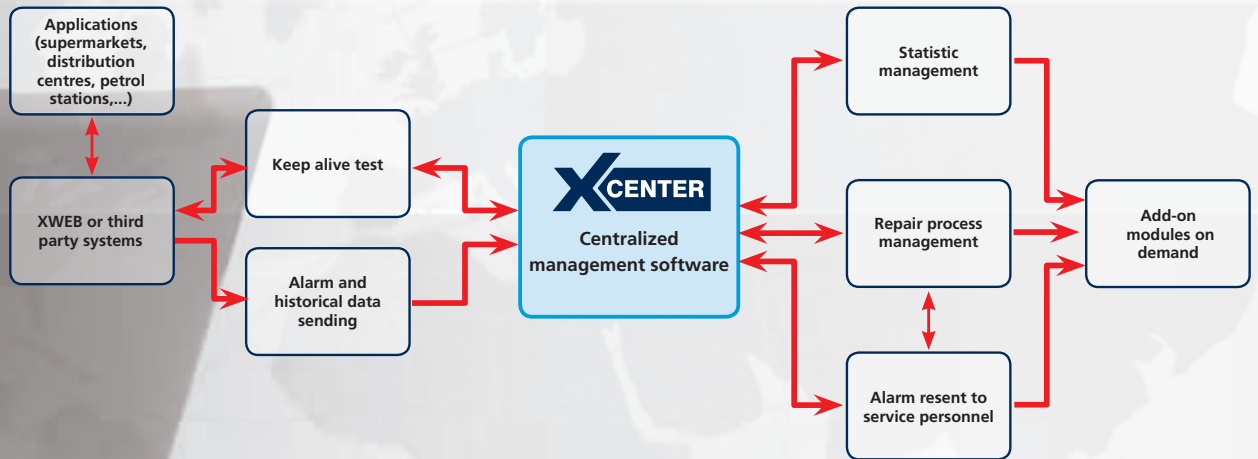
- **Third party system compatibility**
- **Multi-language and customization capabilities**
- **E-mail - SMS alarm reporting**
- **Modular software**
- **Oracle® DB structure**



For a centralized management of distribution centres, large plants and supermarkets, as well as the need for local monitoring, alarm & control systems, nowadays there is the need for the "Service" function to be managed through Call Centres or Central Stations. For this reason Dixell has created the revolutionary XCENTER software suite for the centralized alarm management that can give a complete solution for every kind of requirement, also when there are numerous sites to manage.

XCENTER has a modular structure; it is installed in a server and it communicates with clients as remote PC, but above all XWEB systems and third part systems. Among many functions of the software is the ability to receive data from real installations and manage it, send commands and modify parameters, besides sending alarms through SMS or e-mail. The permanent internet and DataBase Oracle® connection allow the management of many controllers. The connection between XCENTER and the monitoring units (i.e. XWEB) can be via Internet (by means of the standard SNMP protocol) or telephone line (via dial-up to an internet provider).

## XCENTER INSTALLATION LAYOUT



XCENTER software has a user interface that is simple to understand. It can pinpoint a site's position using modern geo-location technologies plus it can provide statistical data management. The statistics section is a very important function that has been developed to give to the user a complete powerful instrument. All the device information is available and can be shown in graphical format.

Catalogued data allows a decision to be made based upon statistical methods, allowing estimates of maintenance costs and assisting the operator to have a complete overview of what happened. The screens on the left: home page, geo-location, graphics, alarm management.

To pursue innovation and development, Dixell has introduced XCENTER as an open project. Hence it is possible to have add-on software such as spare-parts warehouse database management or the invoice and accounting management.



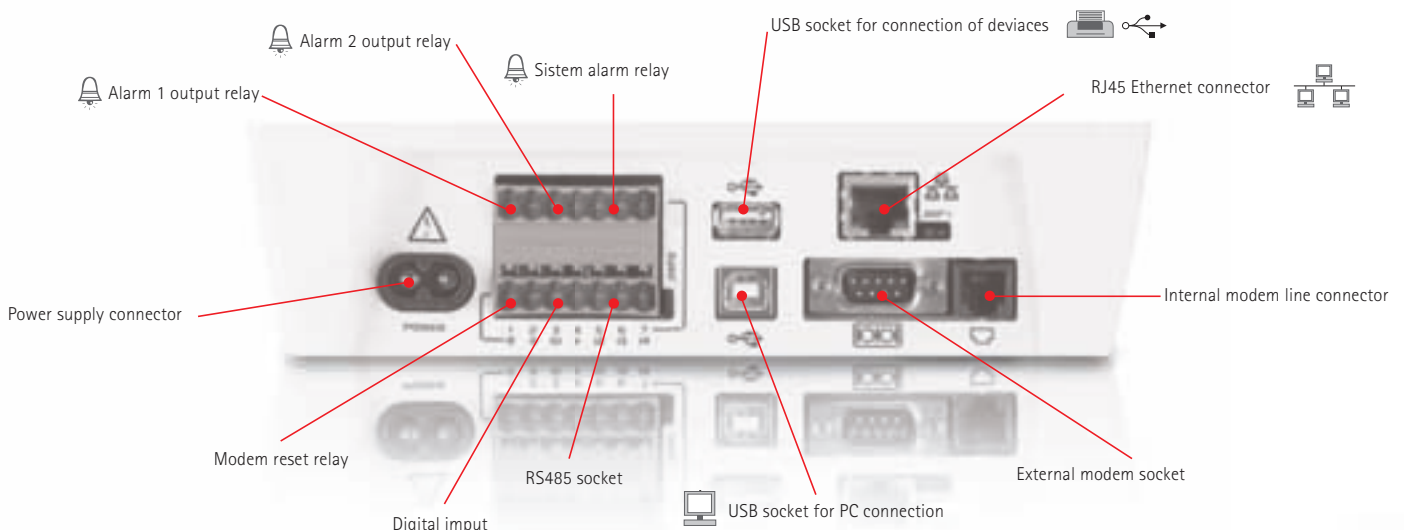


## ▶ XWEB500: MONITORING AND CONTROLLING SYSTEM



- 200MHz CPU
- Flash memory capacity: 128MB
- Back lit LCD display
- For medium and small applications (up to 100 controllers)
- Stand alone usage
- GSM modem compatible

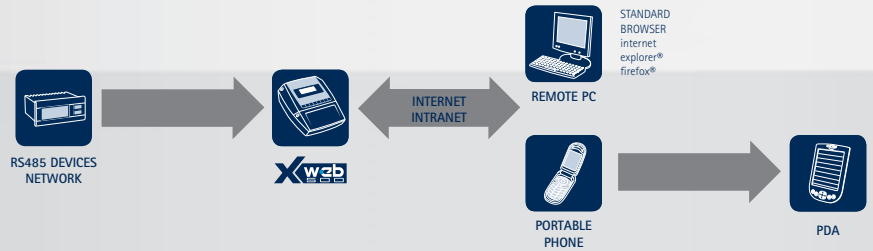
XWEB500 is a WEB server for small to medium installations (up to 100 points) such as mini-markets and petrol stations. Thanks to its innovative and useful features it is also suitable for medium-large applications such as pharmaceutical, catering, supermarket or storage centres. Based on the LINUX Operative System, it provides complete access to the system via standard web browser software such as Microsoft Internet Explorer® or Firefox® (special software is not required). The unit can operate either as a stand-alone server by means of the local keyboard and display, or in conjunction with a PC using the USB cable. Both intranet/internet remote connection and modem connection are available via RJ45 ethernet port or via RS232 serial port. Alarm signalling is very flexible and can be done through Fax, e-mail, SMS an also via relay output.



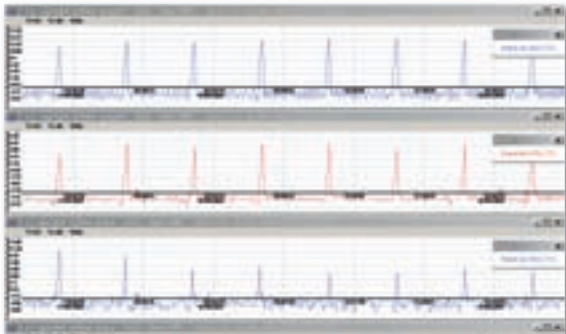
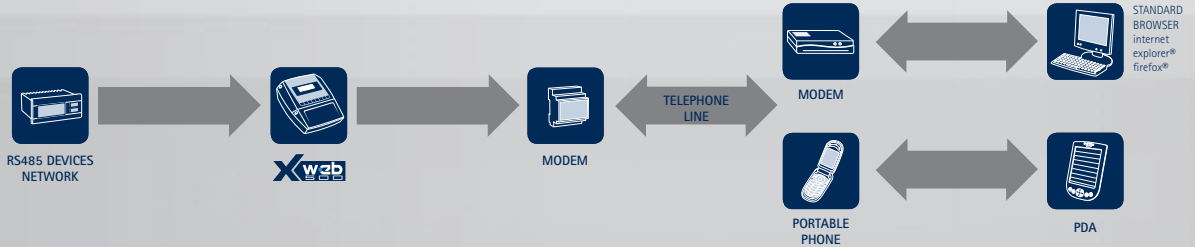
## WORLD WIDE WEB CONNECTION

XWEB500 Server and associated system can be remotely accessed using several methods:

- by modem with point to point connection, also on GSM modem;
- by link in local Ethernet network, by means of standard net connector RJ45;
- by direct Internet connection, if provided with a static IP address.



## POINT TO POINT CONNECTION



http://192.168.0.224 - RS485 monitor - Mozilla Firefox

Address	Name	TX	RX	% OK	Test
10	Fish cabinet LT	20463	13505	98%	Test
11	Chicken cabinet	20467	20480	99%	Test
12	Beef cabinet	20480	20480	99%	Test
13	Dairy cabinet	20484	20480	99%	Test
14	Fish cabinet HT	20481	20480	99%	Test
15	Fruits and vegetable	20485	20480	99%	Test
16	Bar cabinet HT	20470	20480	99%	Test
20	Meat cabinet TC	22480	22473	99%	Test

Update    Refresh

With XWEB500, the user is able to create a set of options and rules that can range from the configuration of a simple system to the association of special options for any devices connected and flexible rules for alarms. The display's devices is intuitive and is updated in real time.

With the XWEB500, the user can modify the various parameters of the controllers depending on the requirements. There is also the possibility to create multiple analogue variables on the same pictorial system, and the Layout allows access to all real time data and even to send a command to one or more controllers at the same time. Another important feature is the scheduler and the functional test of the RS485 network, very useful especially when there is the necessity to have information regarding the quality of the connection and the necessity to analyse a network problem.

The screens on the left: graphics, RS485 network test.

It is possible to connect to the XWEB500 via palmtop computer displaying the value of a device and sending commands to it.





## ➤ XWEB3000: INDUSTRIAL MONITORING AND CONTROLLING SYSTEM



- **1GHz CPU**
- **80GB HD**
- **For large and medium applications (up to 247 controllers)**
- **Stand alone usage of the unit using mouse, keyboard and monitor**

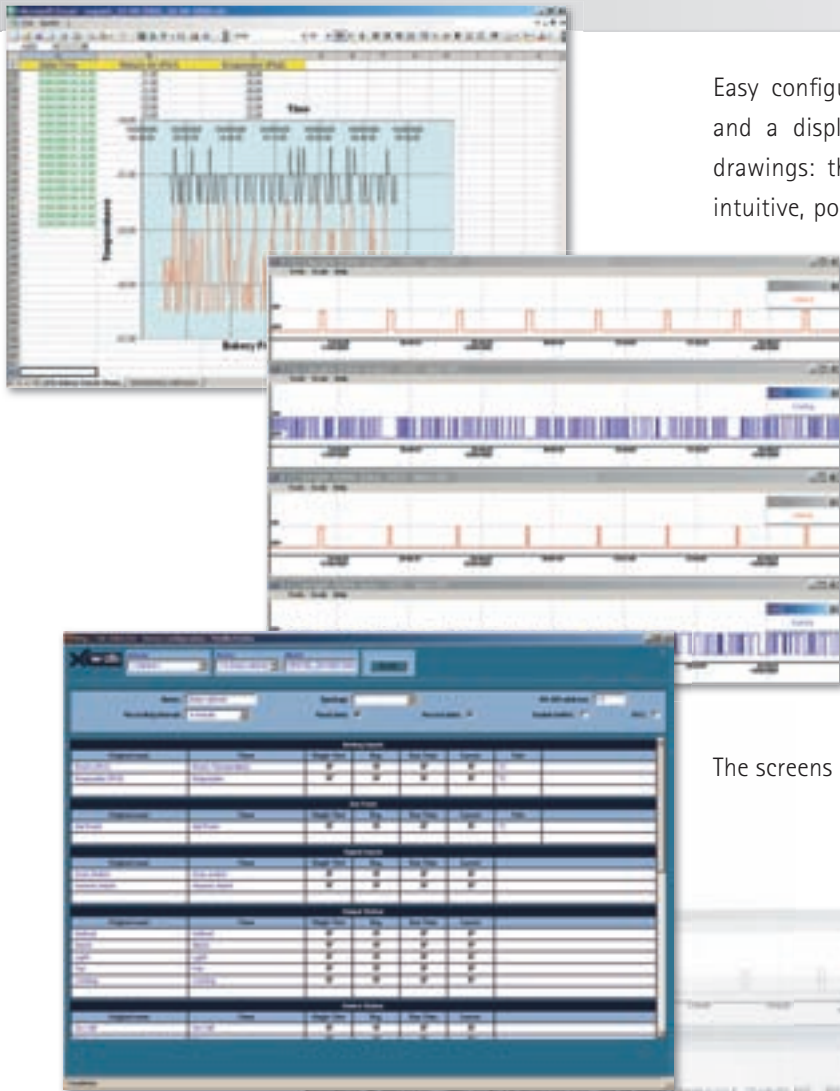
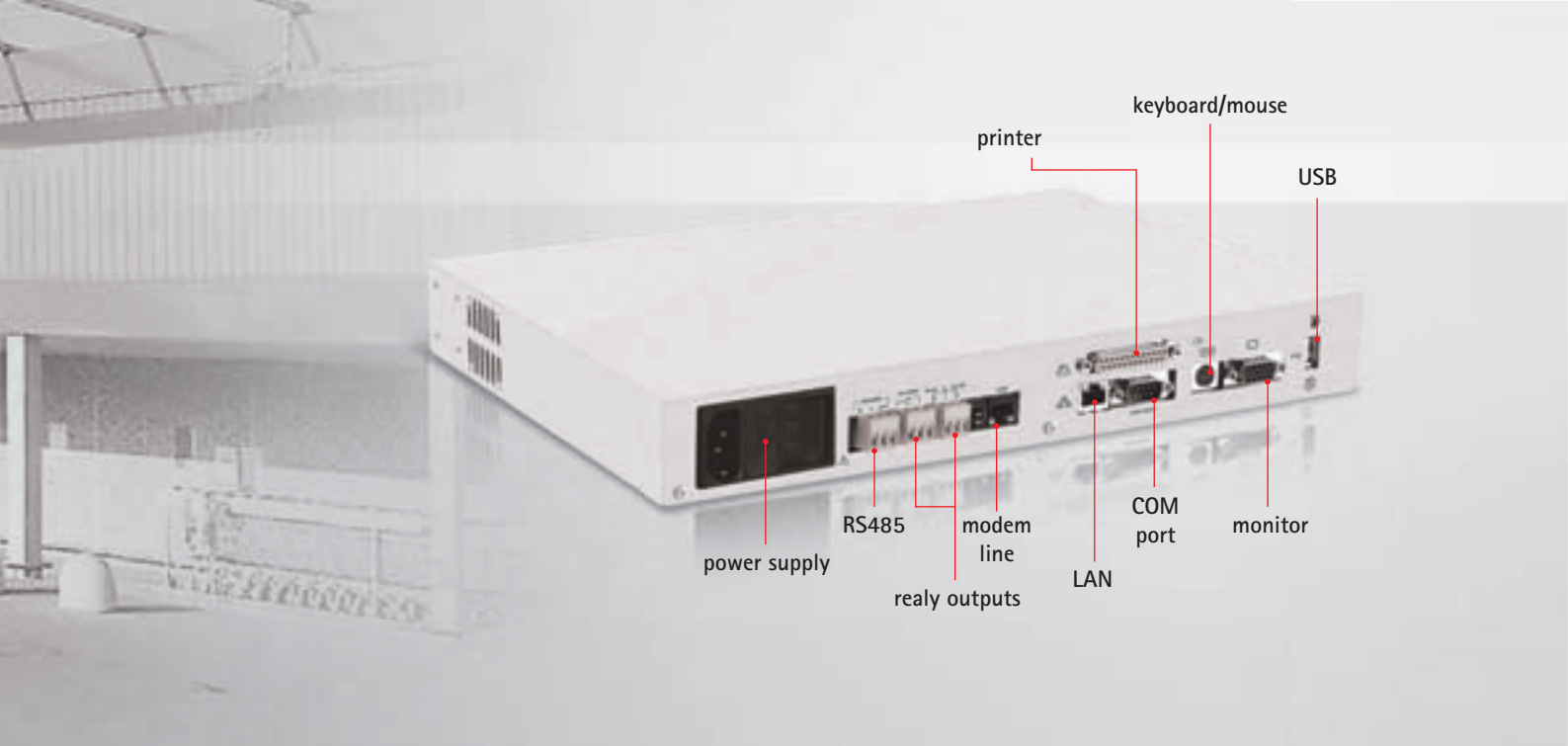
XWEB3000 is a WEB server for medium and large installations (up to 247 points) such as supermarket, hypermarket, large storage and distribution centres as well as production and storage goods processing such as restaurant. XWEB3000 is the ideal solution for service needs (modem, ethernet and internet connection); it can operate as a stand-alone server without using a PC but it's also simple to connect a monitor, keyboards and mouse. Local or remote connection from PC is made without using a special software, standard web browser software (Microsoft Internet Explorer® or Firefox®) is all that's required. The alarm signalling for service is very flexible and can be done through Fax, e-mail, SMS an also via relay output.

It is possible to connect to the XWEB3000 via palmtop computer displaying the value of a device and sending commands to it.

Also XWEB3000 Server as XWEB500 associated system can be remotely accessed using several methods:

- by modem with point to point connection;
- by link in local Ethernet network, by means of standard net connector RJ45;
- by direct Internet connection, if provided with a static IP address.





Easy configuration, efficient management of all controller values and a display of controllers also using pictures and schematic drawings: these are some of the XWEB3000's strengths. It is an intuitive, powerful and at the same time, very versatile device.

This web server allows parameter and alarm management with different levels and typologies, providing the user with the possibility to divide the controllers into different categories, each with their own sampling periods.

Powerful tools include: the scheduler which is a graphic instrument created to manage commands sent to the controllers, data export used to save data in a Microsoft Excel file, and the back-up function to have data-safe protection even in the worst environmental usage, also to save all the unit setup. XWEB3000 can supply powerful graphs to allow an immediate and accurate controller analysis.

The screens on the left: data export, graphics, device configuration.



## ➤ XWEB5000: MONITORING, CONTROLLING AND SUPERVISING SYSTEM



- 1GHz CPU
- 80GB HD
- For large and medium applications (up to 247 controllers)
- Stand alone usage of the unit using mouse, keyboard and monitor
- Powerful new supervising engine
- Built-in editor with local and field simulator
- Automation algorithms

The WEB server XWEB5000 is provided with a powerful supervision engine suited for larger installations (with up to 247 devices) in the refrigeration, conditioning and building automation field, where it's necessary to program several different interactive actions that the controller has to perform. It is extremely well suited to hypermarkets, large storage and distribution centres, as well as production and storage goods processing and is ideal for the large service centre (modem, ethernet and internet connection). The system manages the alarm transmission to the "in charge" service (via Fax, e-mail, SMS and also through relay outputs) and it can also work without a PC using direct connection of a monitor, keyboard and mouse. Local or remote connection PC is made using Microsoft Internet Explorer® and Firefox® browser; it is possible to connect the instrument also via palmtop.



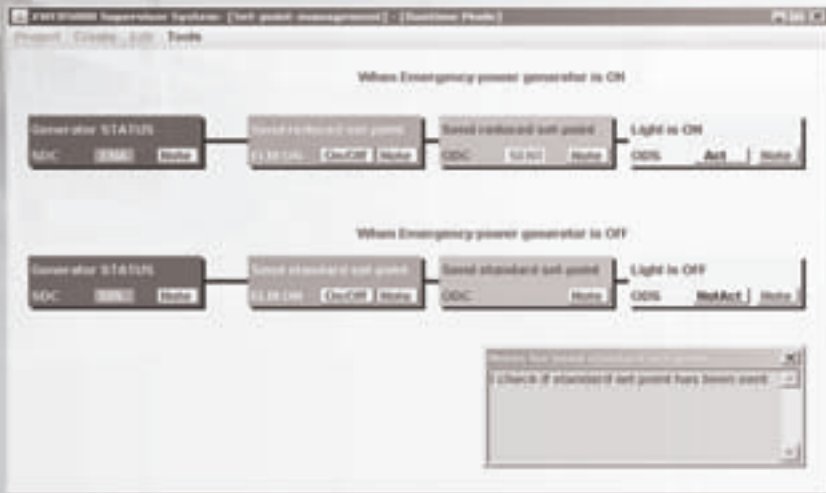
XWEB5000 Server and associated system can be remotely accessed using several methods:

- by modem with point to point connection;
- by link in local Ethernet network, by means of standard net connector RJ45;
- by direct Internet connection, if provided with a static IP address.

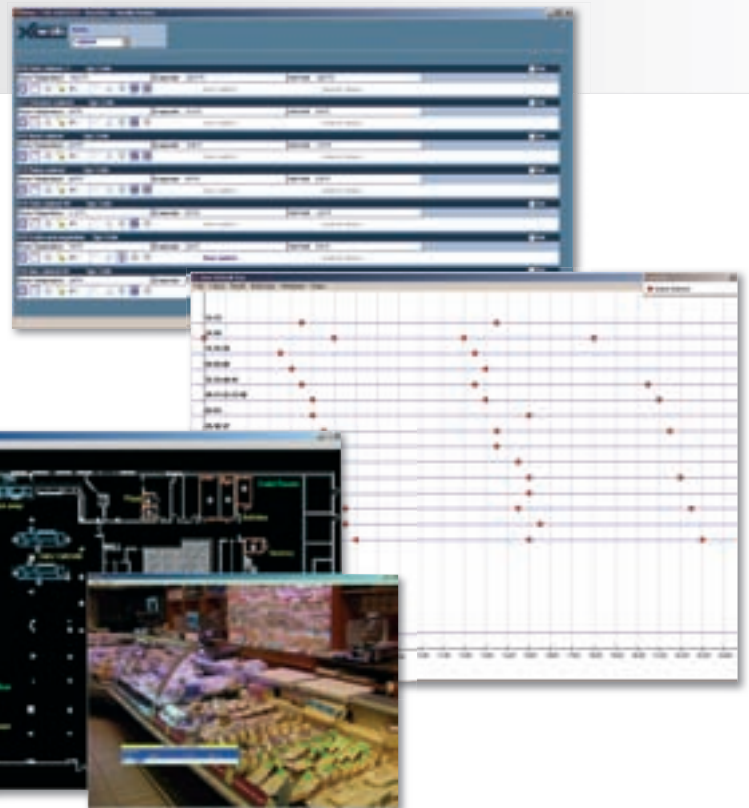
## SUPERVISING

With XWEB5000 it's possible to intervene sending commands to monitored devices. The installer can create a supervision "Project" (or several "Projects") by programming links between the input variables (inputs, status and outputs of a controller) and defining what actions the system must take when these conditions are met. Unlike a standard PLC, where the user is required to know a specific programming language, with the XWEB5000 the "project" can be easily created using a simple graphic user interface, but importantly, without the need to learn a complex programming language.

A specific software is not necessary: the supervising software has been written in JAVA and it runs on the client PC. The project is saved to the XWEB5000; several project can be run simultaneously.



The XWEB5000 allows an easy configuration and management of all controller values and can supply powerful graphs of it; an example is represented by the layout function that makes use of pictures and scheme. Some powerful tools are: the graphic program for the project management, the scheduler, a graphic instrument created to manage commands sent to the controllers, the data export used to save all data information in a Microsoft Excel file, and the back-up function to have datasafe protection even in the worst environmental usage, also to save all the unit setup. The screens on the right: run time, scheduler, layout.



## AUTOMATION

The high versatility and programmability, allow the XWEB5000 to perform automation programs. In fact it's possible, for example, to manage the use of lights plant, internal or external signs, the battery charge/discharge as fork lifts, increasing the energy saving process. In case of compressor fault or when the absorption threshold exceeds the set, etc the monitoring unit can automatically interact with the rest of system.





## DISPLAY CASE/COUNTER CONTROLLERS

Dixell, offers a complete range to satisfy the world's refrigeration needs, from display case, to counters or cold counters,... They are available in different formats: 32x74, 4 or 8 DIN, and the versatile WING series (available also in court format, less than 40mm). Thanks to the blue display with icons and the inox cover, instruments have a value added that is fundamental in ice-cream parlour sector.

**PRIME, XR100** Refrigerated application controllers for NT, MT and LT for general purpose; available in CX (32x74) and 4 DIN module formats.

**XW BASIC, XW200/500** Advanced multifunction regulators designed for NT, MT and LT refrigerated applications available in vertical and horizontal WING format, compact and split.

**XR400-XW400** Advanced multifunction controllers for NT, MT and LT refrigerated applications with dual temperature management.

**XR700-XW700** Regulators family for MT and LT designed to satisfy the HACCP rules monitoring, signalling and recording only the critical temperature.

**XM400/600** Advanced multifunction controllers for multiplexed cabinets (MT and LT applications) available also with the integrated driver for electronic expansion valves.

**XEV** Drivers for ON/OFF and stepper electronic expansion valve management that allow the user to obtain useful information about pressure and injection problems.





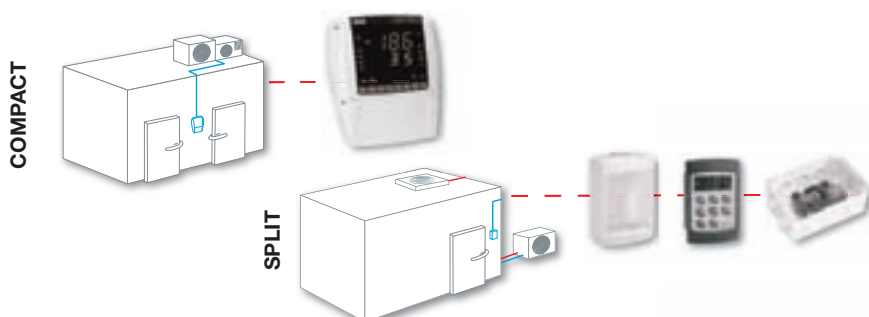
## ROOM CONTROLLERS

Refrigerated rooms are a basic part of the cooling chain, their correct usage is very important for the conservation and storage of products whether in small or in big applications, from a small shop up to a big storage centres. Dixell offers specific solutions for static and ventilated refrigerated rooms also with temperature/humidity management. In particular has been developed the COOLMATE series that have large displays with icons and with a sturdy structure that makes them the ideal solution for every applications.

**XLR100** Advanced multifunction controllers in COMPACT format designed for static and ventilated refrigerated rooms for NT, MT and LT.

**XLR400** Advanced multifunction controllers in COMPACT format for dual temperature applications with the possibility to manage independent cold room and pre-cold room.

**V-KIT** SPLIT solutions for wall/panel mounting of all Dixell vertical keyboards. Associated with WING series are the ideal solution for NT, MT and LT refrigerated rooms.



**XLH200/300** COOLMATE controllers for NT, MT, LT and maturing applications with temperature/humidity management.

**XH200/300**  
**XH400/500** Advanced multifunction regulators in WING format designed for MT and LT refrigerated, maturing and retarding/proving rooms.





## COMPRESSOR RACK CONTROLLERS

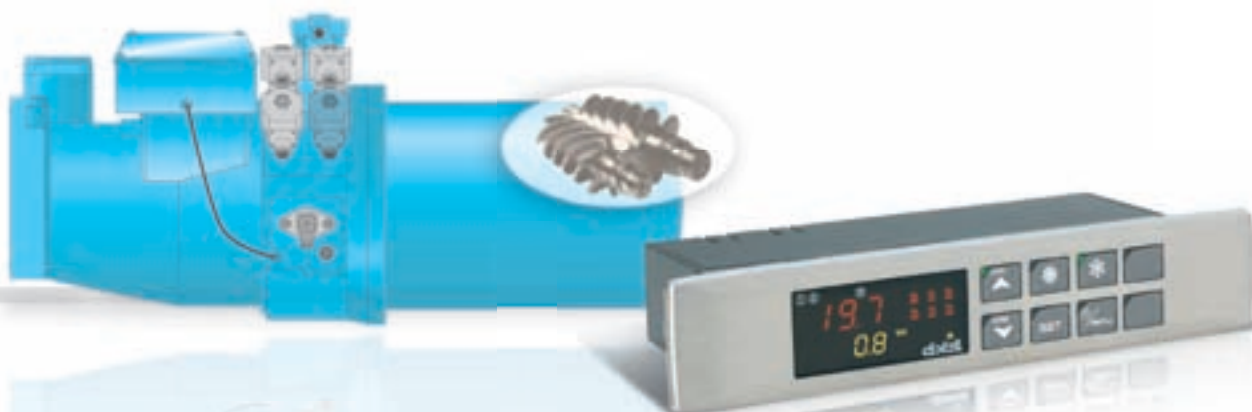
The compressor rack is at the heart of every cold circuit, and its correct usage is basically for the plant management and is very important for the energy saving. Dixell has made the XC family controllers (for racks compressor: scroll, semi-hermetic, multi stages, different power and screw) that thanks to the wide range of functions, they are suitable for even the most complex of applications.

**XC400/600** 32x74 and 4 DIN Rail format controllers for applications with up to 6 compressor/fan output.

**XC700/800/900M** 72x144 format regulators for applications with up to 11 compressor/fan output.

**XC1000D** 10 DIN Rail format controllers for applications with up to 15 compressor/fan output. They can be used with the versatile programmable graphic display (**VISOGRAPH**) for a complete solution that is easy to use in every kind of compressor rack.

**XC200L** Controller family designed for industrial application compressor racks up to 6 compressors and 4 fans. It can manages 1 compressor with 4 partializations and thanks to the included algorithms is an ideal solution for screw compressors.





## REFITTING MODULES

Dealing with refitting controllers is always a delicate topic that needs particular solutions able to reduce the economic impact of the system. Dixell proposes an instrument family that can be connected to the XWEB controlling and supervising systems that allows to respond to plant needs and to reduce costs and installation time.

**XJA** Alarms/status acquisition modules able to read up to 10 independent inputs (master + slave).

**XJP** Probe and alarm data acquisition modules with 6 inputs for NTC, PTC, 4÷20mA and 0÷10V and 3 digital inputs or 4 Pt100 inputs and 4 digital inputs.

**XJR** Relay modules with up to 4 load management. They are suitable for several applications such as internal lighting management, external lighting signage, as well as typical applications for refrigeration such as night blinds and cabinet lights.

**ICOOLL** Wireless solution for data monitoring. Information from device instruments (counters, showcase, rooms, ...) is collected by XJ100 radio communication module and then directly sent to the XJ150 connected to the XWEB controlling system. The maximum distance is 80m.





## FOOD SERVICE CONTROLLERS

An area where cooking takes place is important in trade centres or hypermarkets. The trend is to give to the user a high-quality product according to the hygiene rules. For this reason it's fundamental to have appropriate cooking areas for bread, pizza and cold food preparation. Dixell has introduced a controller line that, thanks to many algorithms, is perfectly suitable for every cooking, freezing and holding requirement.

**XT100** Digital controllers (32x74, 4 DIN modul and 72x72 formats) designed for temperature management. They can have one or two stage ON/OFF or PID with direct or reverse action thanks to the multi-probe input and to the measurement units on the display, ideal also for humidity or pressure.

**XT200** Digital regulators (32x74 format) with time/temperature management designed for cooking oven controllers.

**XT400** Digital controllers (32x74 format) with dual display. They are designed for cooking oven controllers and cooking cycle.

**XB500** Digital controllers for blast chiller and temperature maintenance applications with printer output. designed to comply with the food preservation rules (HACCP). Thanks to the 4 different soft and hard chill cycles in their memory the controllers are the ideal solution for all these application typologies.





## AIR CONDITIONING CONTROLLERS

iCHILL and iPRO series respond to the need of the dynamic conditioning world. Those controllers are compact and handy and they have an innovative interface and a complete range of solutions. In air conditioning, alarm management it's very important for correct chiller unit operation: the final aim is to receive timely warning of any malfunction or alarm in order to solve all problems especially in particular situations.

**IC100** Advanced multifunction controllers with management of 1 circuit up to 2 compressors, they are available in 32x74 and horizontal WING formats.

**IC200** Advanced multifunction controllers with management of 2 circuits up to 6 compressors, they are available in horizontal WING and 10 DIN module formats. In addition to the series there are a 32x74 format controllers for the management of 2 circuits up to 4 steps.

**iPro** Programmable controllers (based on PLC logic) designed for the conditioning world. Thanks to the high flexibility these controllers are the ideal solution in residential and commercial applications where the environment heating/cooling is managed through "roof top" units, geothermic heat pump or chiller combined with panel heating/ fan coil / hydronic.



