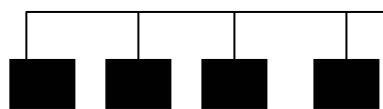# PlantVisor Sistema

PlantWatch

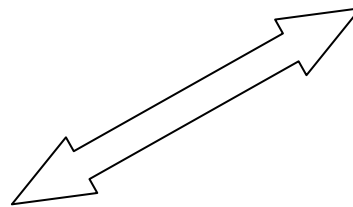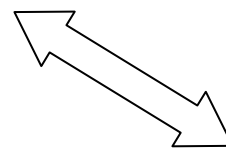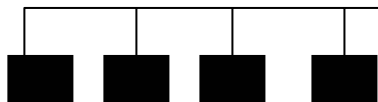**Pl@ntVisor**

CAREL

Local PlantVisor

PlantWatch

Remote PlantVisor

Solutions for:

Data recording
HACCP

Printout

Alarm management

Tele Maintenance

Powerful & integrated for Convenience Stores–Petrol Station etc.

Manages all kind of Carel units with RS-485.

(Carel std. line and protocol)

Easy to install.

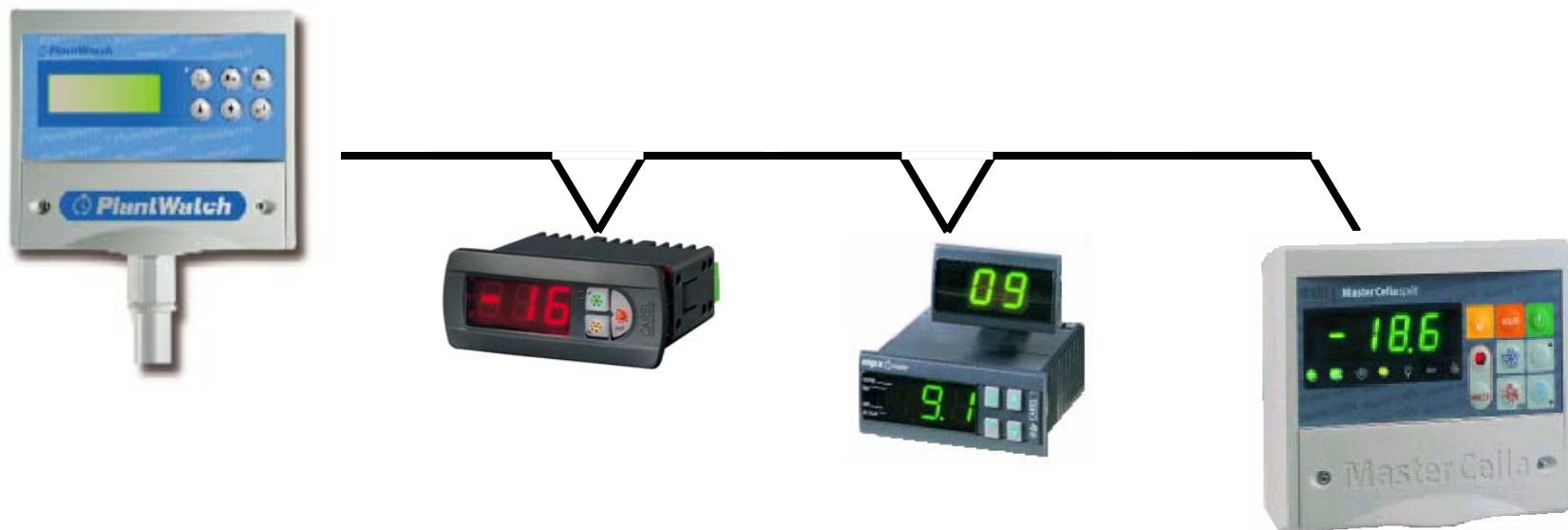Quick startup features.

Example of application - 1

This is the common use on small plants (cold-rooms, cabinets, etc.) equipped with Carel controllers.

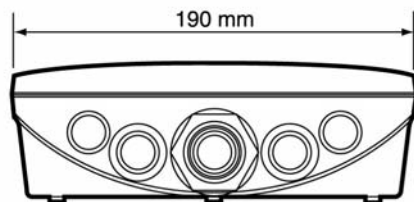# Example of application - 2

Small installations (cold-rooms, cabinets, etc.) without Carel controllers- Retrofit solutions

PlantWatch Info and Models

PLW00B0000   230 V

basic version
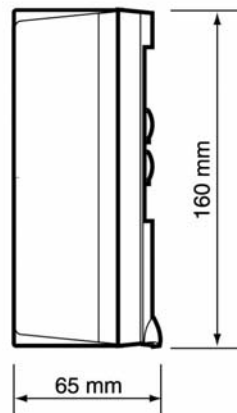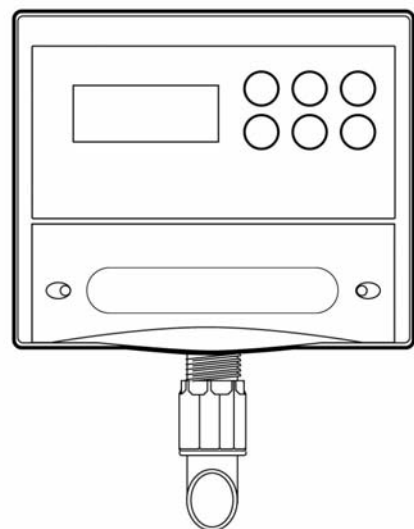
PLW00M0000   230 V

with internal MODEM (PSTN 33k6)

• Wall mounting, IP65 box
• Clear LCD display 4x20
• Embedded RS-485 (opto-insulated)
• Alarm relay, led, buzzer
• RS-232 to PC or MODEM (adapter)

PlantWatch Specifications

Up to 32 Carel units directly connectable with full alarm management
Manages even CUSTOM APPLICATIONS on pCO and pCO^2

Flash memory
100 variables stored (Temperature, pressure, digital I/O etc)
(average 2 weeks in full configurations)

Logs 4500 alarms/events

Text and display in 5 languages
(others are down-loadable)

PlantWatch: Product Plus

Easy & cheap :

> Without P.C.
> Without Windows Software
> Supervisory Software inside
> RS-485 embedded

Installation requires only

> Power Line and Carel RS-485 connection

More powerful with :

> PC connection
> Modem connection
> Printer & remote alarm module

Opzioni: Moduli STAMPANTE

PLW0PPRT00   TABLE version
24 Vac (adapter)

PLW0PPRD00   24 Vac
DIN RAIL MOUNTING

Connected to the RS-485 Line
(up to 1 Km far from PlantWatch) :

• Allows on a Standard Parallel Printer
              Alarm and Data Printout
• Remote Alarm Warning
• Security feature (Watch-Dog)

How to connect the printer

Option: PC – Modem connection

PLW0PPC000 KIT PW Manager

Cable + AC Adapter + Software

links PlantWatch to a COMPUTER.

Includes

Software PW Manager

PLW0PMD000 *Cable + 2 adapters (9 and 25 pins)*

links PlantWatch to a MODEM

PRINTOUTS examples

11/09/2000 1: Banco BT Temperatura sonda

	Lun	Mar	Mer	Giov	Ven	Sab	Dom
0	-21.7	-23.4	-20.3	-20.0	-19.4	-18.7	-18.7
1	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-19.7
2	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.1
3	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-18.7
4	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-18.9
5	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.0
6	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-19.1
7	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-19.2
8	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.3
9	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.5
10	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.7
11	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.9
12	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-20.0
13	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-20.1
14	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-19.9
15	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-19.7
16	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-19.1
17	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-19.2
18	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.3
19	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.0
20	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-19.7
21	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-20.0
22	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-20.0
23	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-20.0

11/09/2000 1: Banco surgelati Temperatura sonda

	Lun	Mar	Mer	Giov	Ven	Sab	Dom
0	-21.7	-23.4	-20.3	-20.0	-19.4	-18.7	-18.7
1	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-19.7
2	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.1
3	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-18.7
4	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-18.9
5	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.0
6	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-19.1
7	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-19.2
8	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.3
9	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.5
10	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.7
11	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.9
12	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-20.0
13	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-20.1
14	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-19.9
15	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-19.7
16	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-19.1
17	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-19.2
18	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.3
19	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9	-19.0
20	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-19.7
21	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-20.0
22	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0	-20.5
23	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0	-20.6

10/09/2000 1: Banco BT Temperatura sonda

	0'	10'	20'	30'	40'	50'
0	-----	-----	-----	-----	-----	*****
1	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
2	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
3	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
4	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
5	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
6	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
7	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
8	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
9	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
11	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
12	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
13	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
14	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
15	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
16	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
17	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
18	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
19	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
20	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
21	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
22	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
23	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0

10/09/2000 2: Banco surgelati Temperatura sonda

	0'	10'	20'	30'	40'	50'
0	-----	-----	-----	-----	-----	*****
1	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
2	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
3	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
4	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
5	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
6	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
7	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
8	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
9	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
10	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
11	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
12	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
13	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
14	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
15	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
16	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
17	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
18	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
19	-20.0	-19.9	-19.9	-19.5	-19.7	-19.9
20	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
21	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0
22	-20.0	-20.1	-20.5	-20.7	-20.8	-21.0
23	-21.3	-21.1	-21.0	-20.7	-20.2	-20.0

```
25/07/2000 13:58       1: Banco BT 1       Alarm enabled
25/07/2000 13:59  <->  PW: Fine carta
25/07/2000 14:00 <!>   PW: Fine carta
25/07/2000 14:00       PW: Alarm rele ON
25/07/2000 14:52       PW: Acceso
25/07/2000 14:52 <!>   PW: Fine carta
25/07/2000 14:52       PW: Alarm rele ON
25/07/2000 14:53       1: Banco BT 1       Alarm disabled
25/07/2000 14:55       9:                  Alarm enabled
25/07/2000 14:55       25:        .        Alarm enabled
25/07/2000 14:55       26:                 Alarm enabled
25/07/2000 14:55       27:                 Alarm enabled
25/07/2000 14:55       28:                 Alarm enabled
25/07/2000 14:55       29:                 Alarm enabled
25/07/2000 14:55       30:                 Alarm enabled
25/07/2000 14:55       31:                 Alarm enabled
25/07/2000 14:55       32:                 Alarm enabled
25/07/2000 14:56       1: Banco BT 1       Alarm enabled
25/07/2000 15:13       2: Murale Verdura 1 Alarm disabled
25/07/2000 15:13  <->  PW: Fine carta
25/07/2000 15:16       2: Murale Verdura 1 Alarm enabled
25/07/2000 15:16 <!>   PW: Fine carta
25/07/2000 15:16       PW: Alarm rele ON
25/07/2000 16:05       PW: Acceso
25/07/2000 16:05 <!>   PW: Fine carta
25/07/2000 16:06       PW: Alarm rele ON
25/07/2000 17:43       1: Banco BT 1       Alarm disabled
25/07/2000 17:44       1: Banco BT 1       Alarm enabled
25/07/2000 17:47       PW: Acceso
25/07/2000 17:48 <!>   PW: Fine carta
25/07/2000 17:48       PW: Alarm rele ON
25/07/2000 17:48  <->  PW: Fine carta
25/07/2000 17:50       PW: Acceso
25/07/2000 17:52 <!>   PW: Fine carta
25/07/2000 17:52       PW: Alarm rele ON
25/07/2000 18:11       PW: Acceso
25/07/2000 18:11 <!>   PW: Fine carta
25/07/2000 18:12  <->  PW: Fine carta
25/07/2000 18:13       PW: Acceso
25/07/2000 18:14 <!>   PW: Fine carta
25/07/2000 18:14       PW: Alarm rele ON
26/07/2000  9:28       PW: Acceso
26/07/2000  9:28 <!>   1: Banco BT 1       Slave fuori linea
26/07/2000  9:28 <!>   2: Murale Verdura 1 Slave fuori linea
26/07/2000  9:28       PW: Alarm rele ON
26/07/2000  9:28  <->  1: Banco BT 1       Slave fuori linea
26/07/2000  9:28  <->  2: Murale Verdura 1 Slave fuori linea
26/07/2000  9:30       PW: Acceso
26/07/2000  9:30 <!>   PW: Fine carta
26/07/2000  9:30  <->  PW: Fine carta
26/07/2000  9:32 <!>   PW: Fine carta
26/07/2000  9:32       PW: Alarm rele ON
26/07/2000  9:33  <->  PW: Fine carta
26/07/2000  9:33 <!>   PW: Fine carta
26/07/2000  9:34       PW: Alarm rele ON
26/07/2000  9:34  <->  PW: Fine carta
26/07/2000  9:44 <!>   PW: Fine carta
26/07/2000  9:44       PW: Alarm rele ON
26/07/2000 10:35       PW: Acceso
26/07/2000 11:13       PW: Acceso
26/07/2000 11:36       PW: Acceso
26/07/2000 13:54 <!>   PW: Printer module offline
26/07/2000 13:54       PW: Alarm rele ON
26/07/2000 14:45  <->  PW: Printer module offline
26/07/2000 14:45 <!>   PW: Fine carta
26/07/2000 14:45       PW: Alarm rele ON
```

ALARMS printout

Detailed Alarm printout :

On line (Real time)
timed or
upon request

FAX of the Alarms

With internal or external MODEM

FAX call management
(all numbers / first sent)

Total "picture" of plant status :
Only 1 FAX even with many alarms

PlantWatch **Pl@ntVisor**

PlantWatch manager v.2.1 'C:\Programmi\Carel\PWSetup\PWatch.ini'

File   Setup   PW-configuration   Actions   Help

[●] Save configuration | [▦] Communication | Main configuration | [⬆] Upload | [⬇] Download | [▦] Get History

Network configuration:

1)	**Ir32 Universal**
2)	**Ir32 Refrigeration**
3)	**MPX**
4)	**MPX Slave**
5)	**Plug-In**
6)	**Microchiller 1 Compr**
7)	**Microchiller 2 Compr**
8)	**Mch Compact**

Configuration template for selected instrument: Show Hist. statistics

1) Ir32 Universal

Unit description/category:

0 - Showcase   ☐ Disable alarms

0 - -LT   ☐ Disable offline alarm

Unit progressive: 1

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 1 ◄ ► |

Instrument type: Template description:

Ir32 universal   Ir32 Universal   Import   Export

Variable Name	Description
AUTORITA	
CELSIUS_FARH...	
CODICE_TELEC...	
DIFF_GRADINO1	
DIFF_GRADINO2	
DIFF_GRADINO3	
DIFF_GRADINO4	
DIFFERENZ_ALL	
DIFFERENZIALE1	

History | Alarms

	Variable name	Description	Recording t...	Recording ...
●	ING_SONDA_0	Probe 1	LF	Istantaneous
●	ING_SONDA_1	Probe 2	LF	Istantaneous
●	STATO_UD_1	Relay 1 status	LF	Istantaneous

Tapi initialized.■

PlantVisor Enhanced

PlantVisor is a **range** of supervisory software designed for all kind of applications

PlantVisor, main features:

- Web server based
- Html pages
- Internet Explorer is the user interface
- **TCP/IP protocol**
- LAN access to the server
- Compatible with: **Win2000, WinXP.**
- PlantVisor can be published on Internet

PlantVisor, main features:

- Multi-user access with passwords
- Software Protection by:
  - USB key for **Remote version**
  - New RS485 converter for **Local version**
- All the controllers for refrigeration and HVAC are included
- Historical files guaranteed for more than one year
- Compatible with PlantWatch

Local PlantVisor

Remote PlantVisor

PlantVisor network architecture:
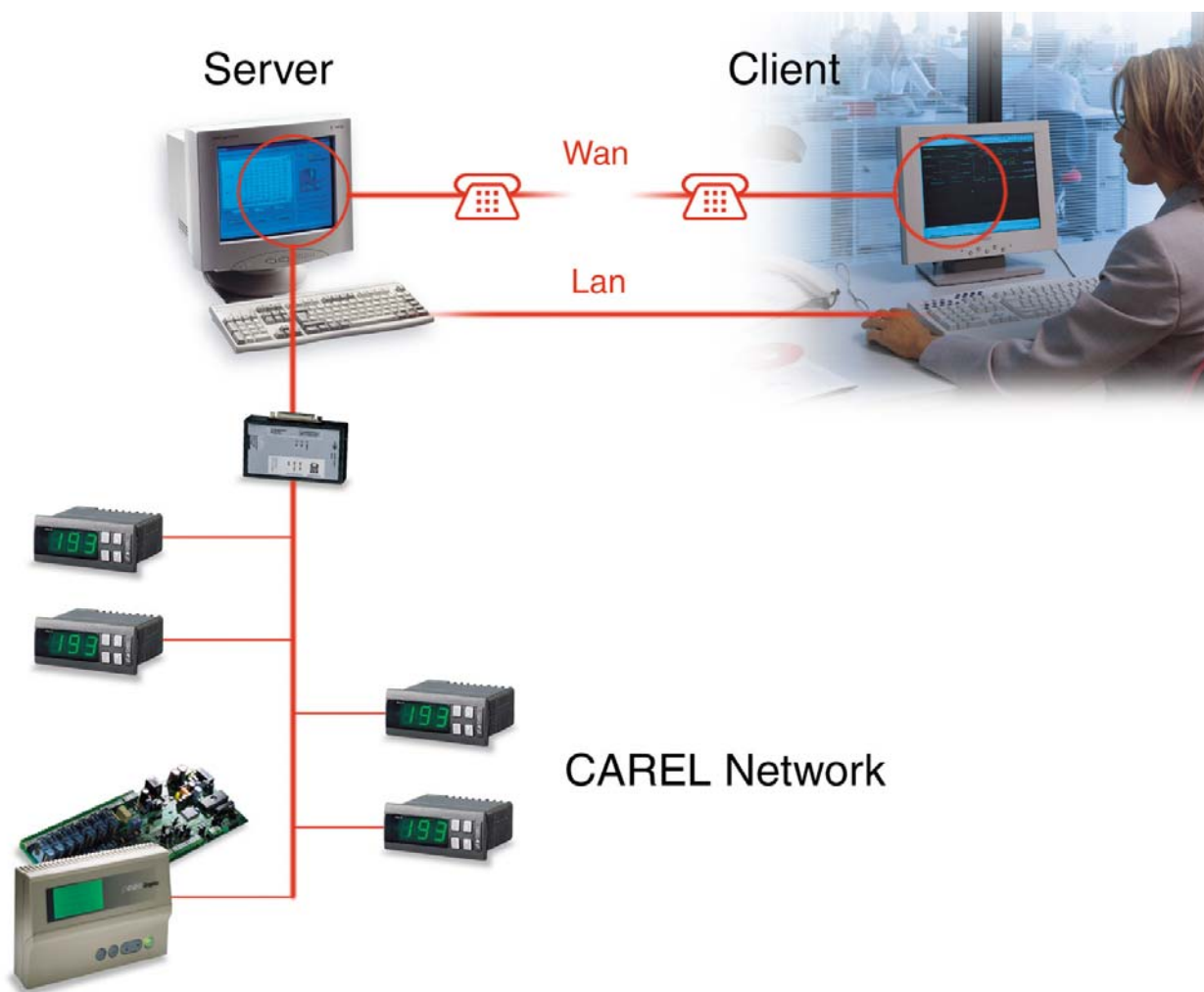
Point to point control on company network TCP/IP or modem
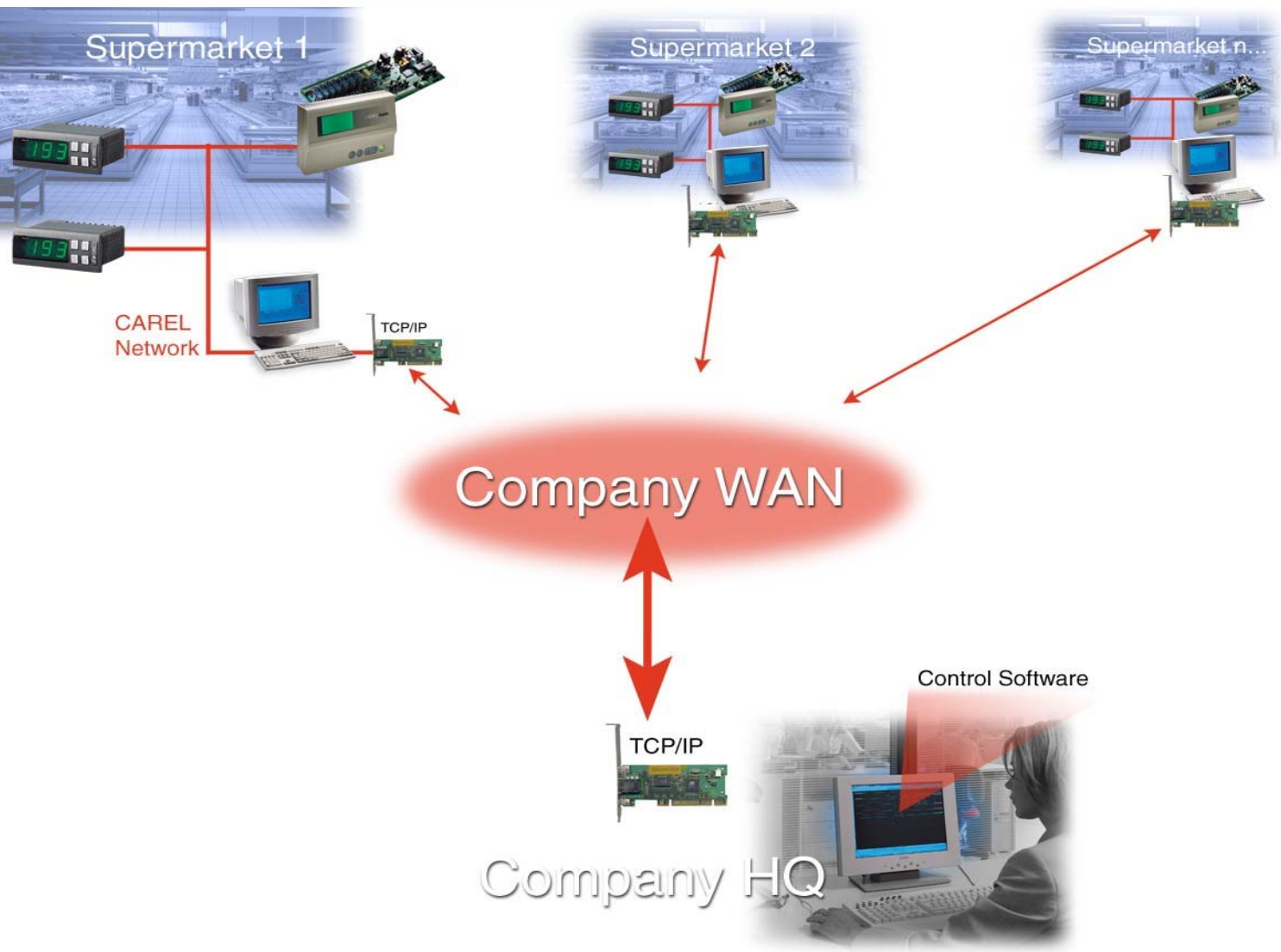
Supermarket centralised control through company network TCP/IP (INTRANET)

PlantVisor, main function:

- Read / Write of the parameters
- Remote Defrost command
- Alarms management (scheduler) by: Fax, SMS, relay, remote PC dial, soon: e-mail (via LAN)
- Automatic and manual temperatures printout
- Data backup
- Alarms routing from local PC to remote PC
- Logged data and alarms transfer from PlantWatch to remote PlantVisor
- GSM modem management

PlantVisor Enhanced

System requirement for server software:
- PC Pentium III
- USB port
- 64MB Memory
- 1GB HD
- Internet Explorer 5.0
- Modem (optional)
- SVGA monitor 800x600 at least
- 10Mbit Ethernet card for LAN (optional)

PlantVisor Enhanced

Compatibility:

All RS485 controllers including:

- MasterCase
- PowerSplit
- New MasterCella
- MasterCella Split
- pCO, pCO2 and pCO1
- I/O module
- small controllers for refrigeration
- Driver for EXV
- ….

PC-Gate

PC-Gate is the innovative RS232/485 serial converter.

• Serial conversion maximum 200 peripherals

• Watchdog for communication with the computer

• RS485 line amplifier/branch: the one input and the two output ports can be used to extend the line over the standard 1000 metres and/or to add branches.

• The converter can be installed on the desktop or mounted on a DIN rail.

• There are two models of converter:

  - one with internal key to enable the operation of PlantVisor Enhanced;

  - the other without internal key for use as a converter – branch only.

  This is the model supported by the PlantVisor Free Edition.

How to use PC-Gate
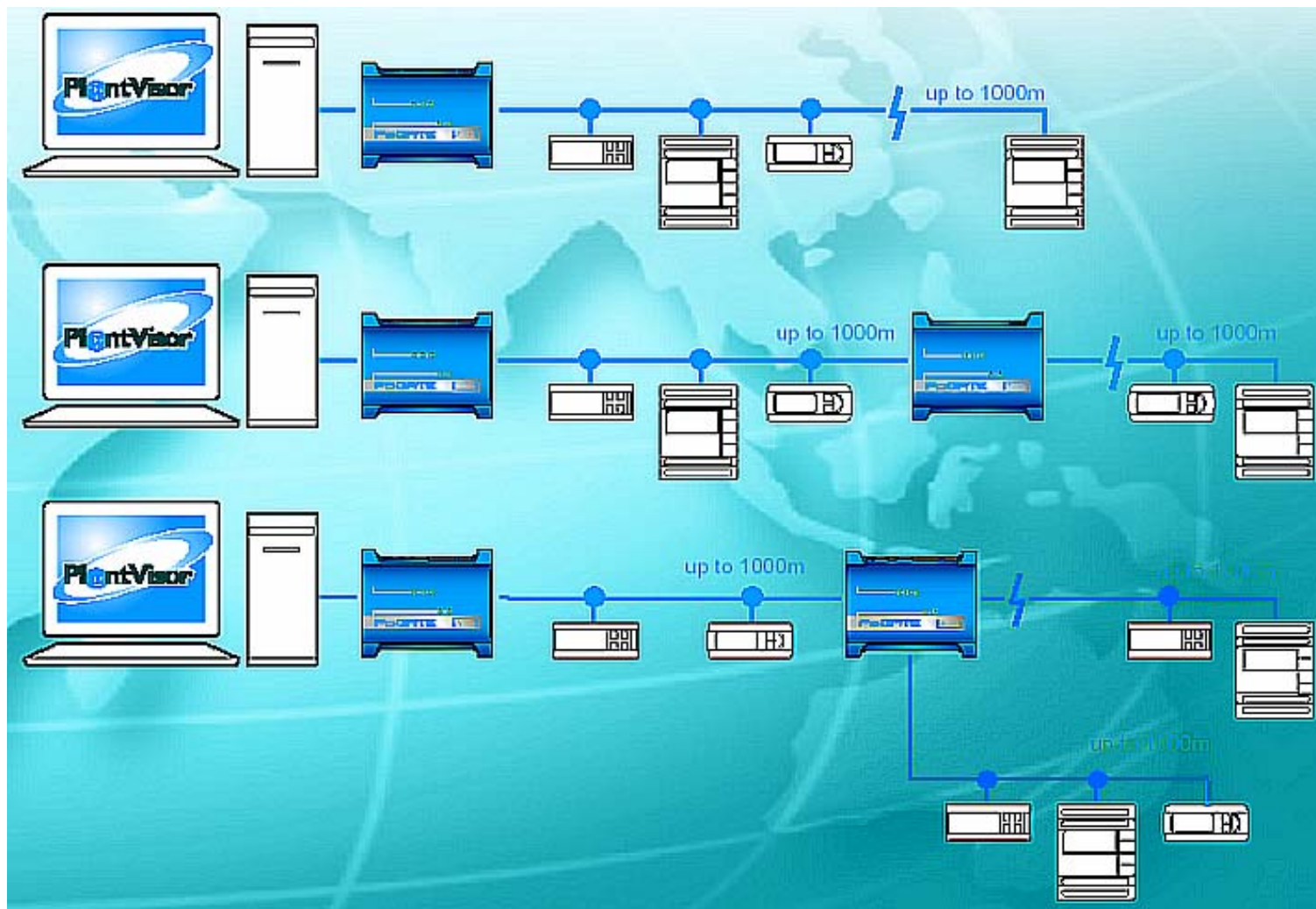
from **MasterPlant** to **PlantVisor** Enhanced

Minimum system requirement (suggested):

- PC Pentium III (IV)
- Windows 98/XP/2000 (2000)
- 64MB Memory (256MB)
- 1GB HD
- **USB port**
- Internet Explorer 5.0 (6.0)
- SVGA monitor 800x600 at least
- Modem (optional)
- 10Mbit Ethernet card for LAN (optional)

from **MasterPlant** to **PlantVisor** Enhanced

Special offer for the upgrading:
- PlantVisor Enhanced for 100€ (net price)
- Cod. PVUPGMB**L**00 for local PC
- Cod. PVUPGMB**R**00 for remote PC

The kits include: CD Rom PlantVisor Enhanced + USB key.

The local kit doesn't includes the converter because we presume already installed in the plant.
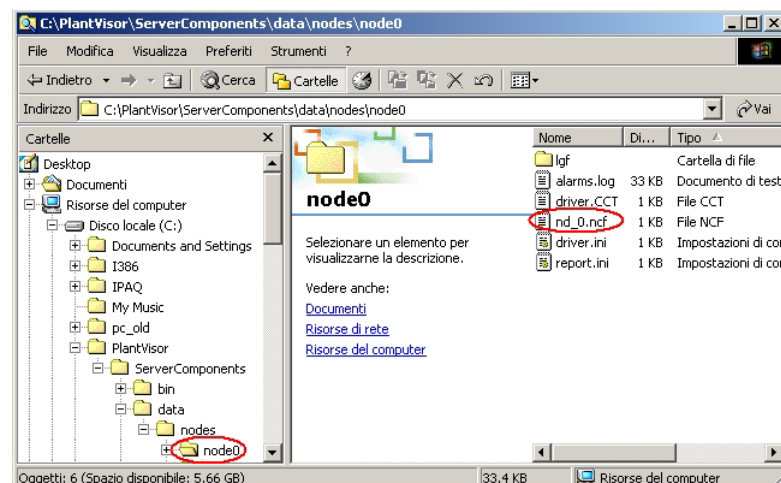
Availability: March 2003

from **MasterPlant** to **PlantVisor** Enhanced

How to do:

- Install PlantVisor
- Copy the LGF files from MasterPlant into the PlantVisor **lgf** folder:
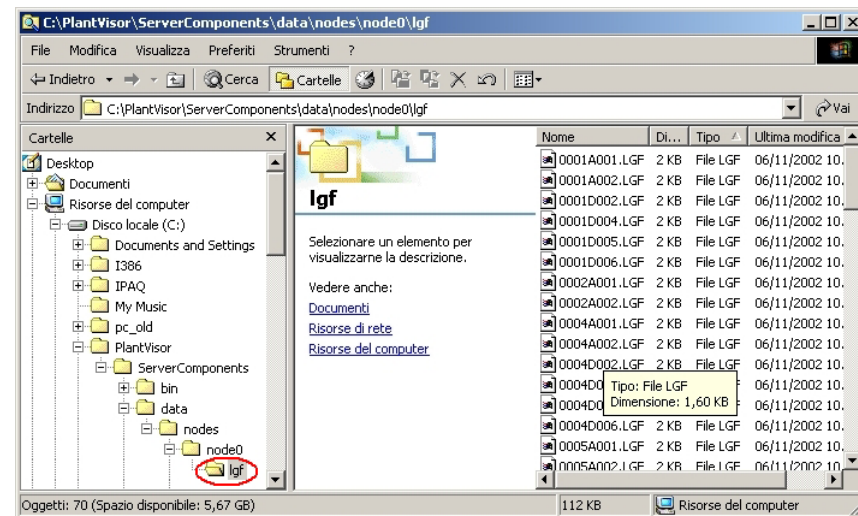
- Copy the NCF file from MasterPlant into the PlantVisor **node0** folder:

from **MasterPlant** to **PlantVisor** Enhanced

Continue with the configuration

PlantVisor Enhanced Codes

Product	Code	Price €
PlantVisor Enhanced Includes the USB key + RS485 converter	PV STD E BL 00	1300
PlantVisor Enhanced Remote Includes the USB key	PV STD E BR 00	900
PlantVisor Upgrade Local Includes the USB key	PV UPG M BL 00	100 net p.
PlantVisor Upgrade Remote Includes the USB key	PV UPG M BR 00	100 net p.
Service Pack 1 CD - Demo CD PlantVisor Remote Enhanced free version	PVSTDMBLD0	25

PC-Gate Codes

Product	Code	Price €
USB Key for custom applications local and remote. Includes tools for the key programming	PVKEYMBLK0	600
RS485 converter with key function unlimited units only for Custom application. Includes tools for the key programming	CVKEY00000 from May 2003	600
RS485 converter No key function	CVSTD00000 from May 2003	200
Service Pack 1 CD PlantVisor Remote Enhanced free version Demo CD	PVSTDMBLD0	25

The box includes:
- CD ROM with software and manuals
- The RS232/485 converter (local only)
- Leaflet for a quick start-up
- Protection key (remote only)
- Mouse pad
- Stickers for the PC

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