CAREL

Solutions for showcases
and cold rooms

CAREL
retail
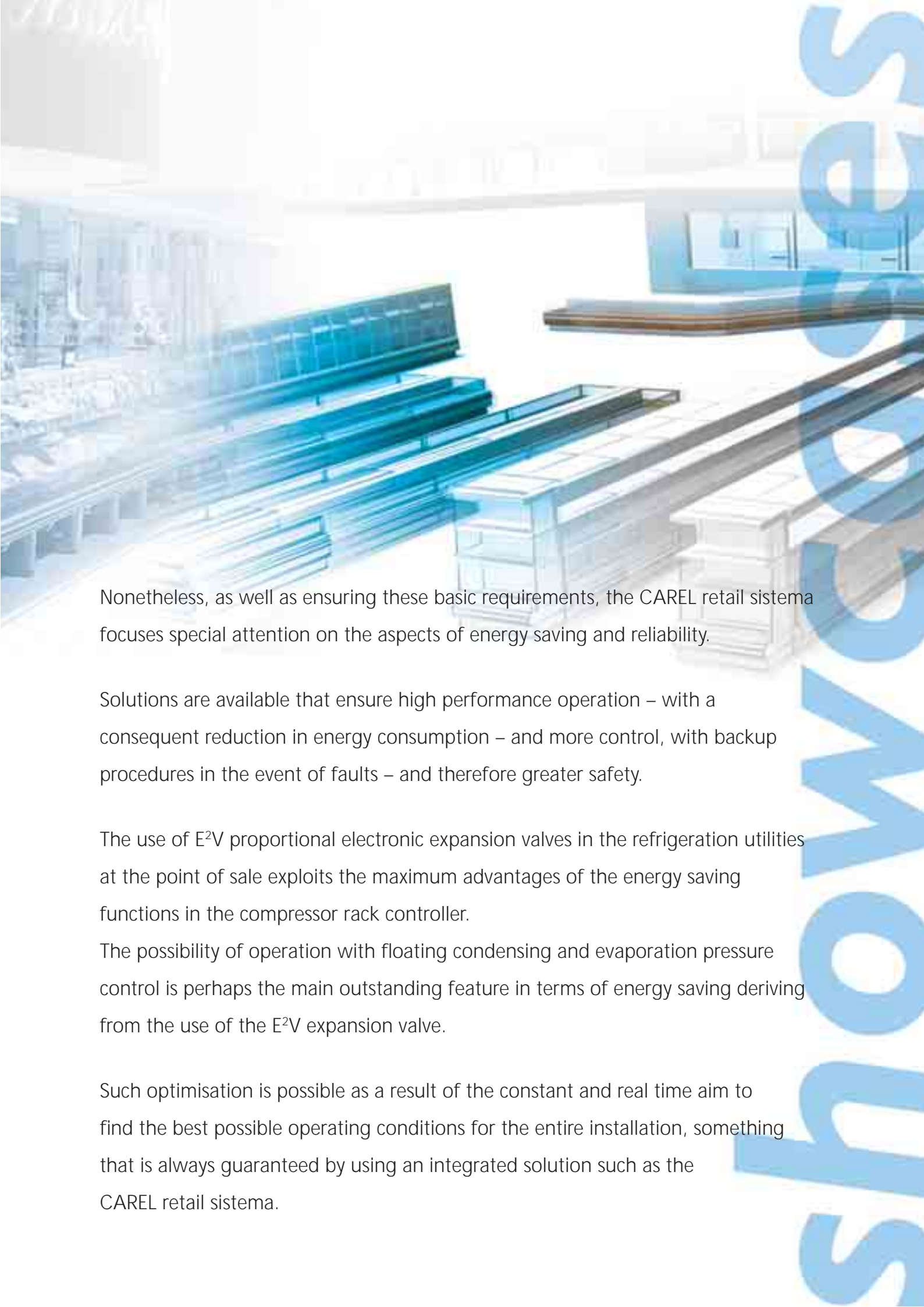sistema
the one solution

Technology & Evolution

Solutions for showcases and cold rooms

Refrigeration utilities are a fundamental part of the refrigeration system, and as such must feature the best solutions available to ensure state-of-the-art performance and flexibility.

Each utility controller has the task of guaranteeing the correct storage temperature and monitoring the operating status.

Nonetheless, as well as ensuring these basic requirements, the CAREL retail sistema focuses special attention on the aspects of energy saving and reliability.

Solutions are available that ensure high performance operation – with a consequent reduction in energy consumption – and more control, with backup procedures in the event of faults – and therefore greater safety.

The use of E^2V proportional electronic expansion valves in the refrigeration utilities at the point of sale exploits the maximum advantages of the energy saving functions in the compressor rack controller.
The possibility of operation with floating condensing and evaporation pressure control is perhaps the main outstanding feature in terms of energy saving deriving from the use of the E^2V expansion valve.

Such optimisation is possible as a result of the constant and real time aim to find the best possible operating conditions for the entire installation, something that is always guaranteed by using an integrated solution such as the CAREL retail sistema.

# **MPX**PRO
performance and easy to use

Comply with
EN13485

The **MPX**PRO platform has been designed for the complete control of multiplexed showcases, with special focus not only on energy performance and flexibility, but also on simplicity of use and installation.

Optional built-in controller for CAREL E^{2}V proportional electronic expansion valve to maximise efficiency energy and allow floating evaporation and condensing pressure control for compressor operation*.
Optional board for the control of PWM expansion valves.

*Requires a compressor rack controller and compatible CAREL supervision software.
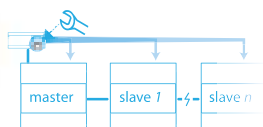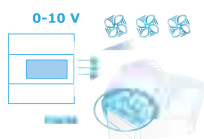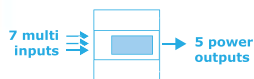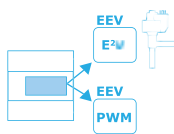
Up to five digital outputs and seven configurable analogue/digital inputs to allow the most advanced control algorithms.

Dedicated outputs for the advanced and innovative management of fans and anti-sweat heaters to increase performance and stability and reduce energy consumption.

Terminal and remote display shared by the Master/Slave section, with front access port for commissioning, access to the parameters and updating the control software.

up to
4 slaves

up to
4 slaves

local LAN

local LAN

shared

shared

RS485

PlantVisorPRO
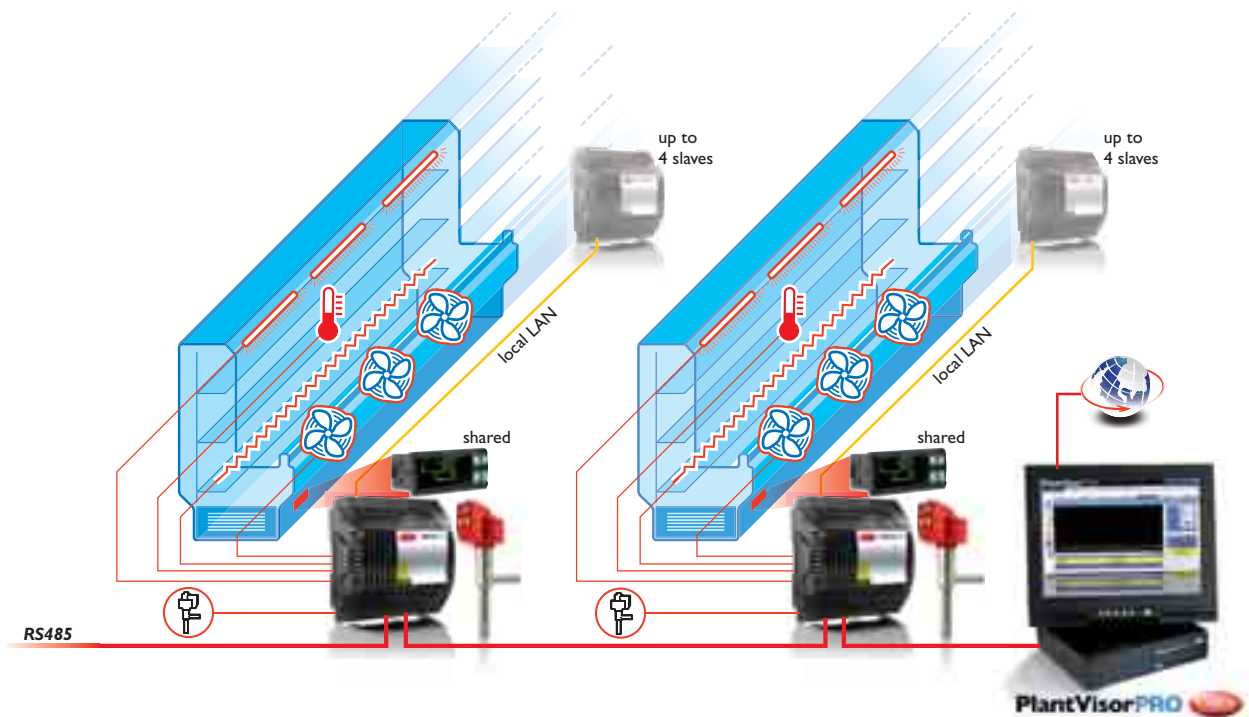
accessories

E²V valve driver

The optional board for the built-in E²V expansion valve controller manages all the sizes available.
All models of **MPX**PRO that do not have other options installed can use this board.
Compatible with the RS585/RTC option.
Requires external power supply (24 Vac).

RS485 serial and clock option

Used to connect the controller to a RS485 serial network and enable the real time clock functions (RTC).
Useful for setting real time defrosts and time bands for day/night operation and operation on Sundays and public holidays.
Compatible with **MPX**PRO Slave, included in the master controllers.

PWM valve driver

Controls PWM expansion valves (230 Vac/Vdc).
All models of **MPX**PRO that do not have other options installed can use this board.
Compatible with the RS585/RTC option.
Requires external power supply (230 Vac/Vdc).

Connector kit

Plug-in screw or spring connector kits are available, with vertical or horizontal configuration.

product codes

MX20M00EO0	**MPX**PRO master (RS485 serial + RTC), 5 relays, NTC probes, vertical plug-in terminals, 230 Vac
MX20M03EO0	**MPX**PRO master (RS485 serial + RTC) with E²V driver option, 5 relays, NTC probes, vertical plug-in terminals, 230 Vac
MX20S10EO0	**MPX**PRO slave, 3 relays, NTC probes, vertical plug-in terminals, 230 Vac
MX20S13EO0	**MPX**PRO slave with E²V driver option, 3 relays, NTC probes, vertical plug-in terminals, 230 Vac
MX2OP48500	RS485 serial board and RTC
IR00UGC200	terminal with keypad, buzzer, IR, commissioning port
IR00XGC200	display terminal with buzzer, IR, commissioning port

MasterCase²
## control and flexibility

Comply with
EN13485

MasterCase² is a highly powerful and flexible controller for showcases and cold rooms.
Featuring an extensive set of I/Os, it can completely control the refrigeration unit, and being developed based on the pCO sistema platform, it is the ideal instrument for implementing the most innovative control solutions.

Complete probe configurability in terms of number, type and position.

optional
E²V driver

built-in
PWM driver

Control of E²V proportional expansion valves to ensure reduced energy consumption by operating the installation with floating evaporation* and condensing pressure. Control of PWM expansion valves also available.
*Requires compatible supervision software.

TCP/IP
IP addressable
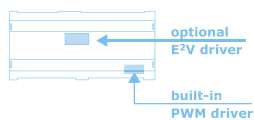
Extended connectivity using the pCO sistema optional serial boards (Modbus®, TCP/IP,…).

pGD⁰ graphic display

User terminal with graphic LCD for the simplified display of the unit status and simple and fast programming, including during commissioning.

Supervision

Using the communication accessories, **MasterCase²** interfaces to the CAREL PlantVisor and PlantVisorPRO supervisory systems, and to other supervisory systems via Modbus® or TCP/IP.

MasterCase² power box

- integrated solution with electrical panel;
- designed and sized for installation inside the refrigeration unit;
- special plug-in connectors for fast and safe connection;
- direct control of the loads (internal auxiliary relays), built-in main disconnect switch and thermal overloads;
- reduces installation costs in the field.

accessories

RS485 serial board

Used for direct optically-isolated interface to an RS485 network. The maximum baud rate available is 19200 baud (settable by software).
The CAREL and Modbus® RTU protocols are available on the pCO.

Clock board

Option used to manage the time, date and RAM with backup battery to store the application program.

Connector kit

Plug-in screw or spring connector kits are available, with vertical or horizontal configuration.

pCOWeb Ethernet™ interface board

Used to interface the pCO controllers with Ethernet™, IP, SNMP V1, 2, 3, FTP and HTTP protocols.

Key option

Used to copy the settings and the operating parameters between devices, between the key and the device, and vice-versa.

product codes

MasterCase²

MC200N0B00	**MasterCase²**, 230 Vac, NTC probes, with driver for PWM EEV
MC200N0B10	**MasterCase²**, 230 Vac, NTC probes, with driver for E²V EEV

Options and accessories

PCO1004850	RS485 serial board
PCO100CLK0	clock board (RTC)
PCO1000WB0	serial Ethernet board (TCP/IP)
MC200CON00	plug-in screw connector kit with cable outlet parallel to the board
MC200CON10	plug-in spring connector kit with cable outlet perpendicular to the board
PCOS00AKY0	pCO sistema smart key

Headquarters

CAREL S.p.A.
Via dell'Industria, 11 - 35020 Brugine - Padova (Italy)
Tel. (+39) 0499 716611 - Fax (+39) 0499 716600
carel@carel.com - www.carel.com

Subsidiaries

CAREL Australia Pty Ltd
www.carel.com.au
sales@carel.com.au

CAREL China Ltd.
www.carelhk.com
info@carelhk.com

CAREL Deutschland GmbH
www.carel.de
info@carel.de

CAREL Export
www.carel.com
carelexport@carel.com

CAREL France Sas
www.carelfrance.fr
carelfrance@carelfrance.fr

CAREL Italia
www.carel.com
carelitalia@carel.com

CAREL Sud America Ltda.
www.carel.com.br
carelsudamerica@carel.com.br

CAREL U.K. Ltd.
www.careluk.co.uk
careluk@careluk.co.uk

CAREL USA L.L.C.
www.carelusa.com
sales@carelusa.com

Affiliated Companies:

CAREL Korea Co. Ltd.
www.carel.co.kr
info@carel.co.kr

CAREL (Thailand) Co. Ltd.
www.carel.co.th
info@carel.co.th

+30223431 - 1.0 - 01.10.05

www.carel.com