



CAREL

MPX

Total connectivity and high efficiency for the complete management of multiplex refrigerated cabinets

Connected Efficiency

Total management of multiplex refrigerated cabinets

MPX is the innovative series of electronic controllers for the management of multiplex cabinets. Developed on platforms that guarantee high flexibility and scalability, this range of products can meet all market demands for the application: from ease of use and installation to highly-efficient performance.

The completeness of the offering means the most suitable solution can be guaranteed to meet the needs of the application.

mpxone

- Advanced control for uniform groups of cabinets (master/slave networks) that require modulation (fans, anti-sweat heaters);
- Possible serial integration of modulating devices such as valve drivers, or modulating fans;
- Integrated supervisor connection;
- Advanced connectivity (Bluetooth).

mpxzero advanced

- Standard control;
- Management of uniform groups of cabinets (master/slave networks);
- Integrated supervisor connection;
- Advanced connectivity (Bluetooth).

mpxzero

- Standard control for stand-alone units;
- Integrated supervisor connection.



Connectivity

Complete management of groups of cabinets, wireless technology and seamless BMS and Fieldbus device integration.



High efficiency

Energy savings through advanced logic and control of modulating devices, now also available for more simple and compact applications.



User experience

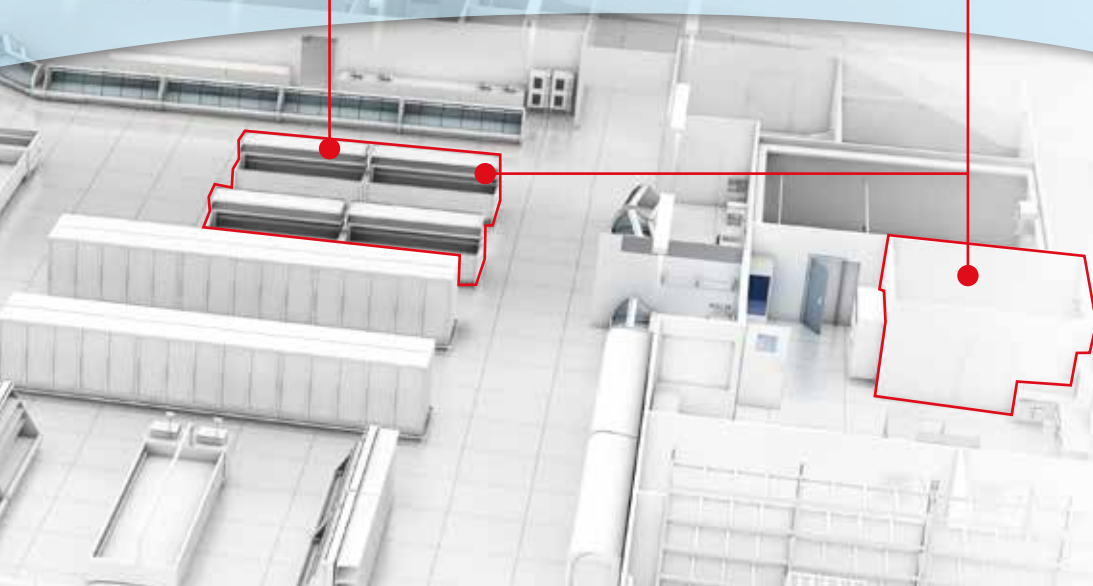
Improved user interaction thanks to a common family feeling across the range, plus advanced programming tools for smartphones and laptops.

mpxone advanced

- Advanced control for uniform groups of cabinets (master/slave networks) that require modulation (fans, anti-sweat heaters)
- Control of an integrated unipolar valve driver
- Integrated supervisor connection
- Advanced connectivity (Bluetooth)

MPXPRO

- Advanced control for uniform groups of cabinets (master/slave networks) that require modulation (fans, anti-sweat heaters)
- Integrated control of bipolar E2V valves (with built-in Ultracap technology) or PWM valves
- Integrated supervisor connection



Flexibility

Platform based on modular architecture to develop variants extremely quickly.



Optimum preservation

Stabilisation of the storage temperature preserves the quality of food.



HACCP

Certified best practice for food safety.

Platform modularity

The entire range features the most advanced control logic, from direct connection to supervisory systems to the management of synchronised actions between uniform groups of cabinets.



Synchronised actions between uniform groups of cabinets, including:

- defrost synchronisation;
- light management;
- probe sharing.



Field connectivity always available:

- immediate connection to supervisory systems using the built-in BMS port;
- control of external devices via Fieldbus serial port.



Extreme flexibility in the I/O configuration.

Possibility to associate probes to functions directly on the controller, without having to physically rewire the channel.



Wireless connectivity, using NFC and Bluetooth technologies, revolutionises the way that users interact with the cabinets, simplifying the user experience with tools developed for mobile devices.

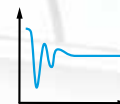


High level of security, guaranteed by:

- user profiling with password protection;
- parameter visibility configurable by the OEM for different types of users;
- possibility to deactivate radio channels directly on the supervisor.



Integrated management of Carel EXV electronic expansion valves (unipolar or bipolar) or PWM valves, for self-adaptive optimisation of operating conditions and maximisation of evaporator efficiency.



Advanced control algorithms to stabilise the control temperature, for optimal food preservation and reduced energy consumption.

Advanced connectivity
(NFC,
Bluetooth)

Capacitive
touch screen

High
contrast

Wide angle
of visibility

Backlit
buttons

Multicolour
icons

Panel
mounting
without
screws



The cutting-edge in user interfaces for the latest generation controllers



Complete management of a
multiplexed cabinet:

- differential control temperature management;
- scheduled defrosts, either synchronised or on-demand;
- internal air flow control with fixed or modulating activation;
- day/night function to optimise performance according to thermodynamic load.



Extremely compact electronic
controllers, available in different versions:

- panel mounting;
- DIN rail mounting with remote user interface.

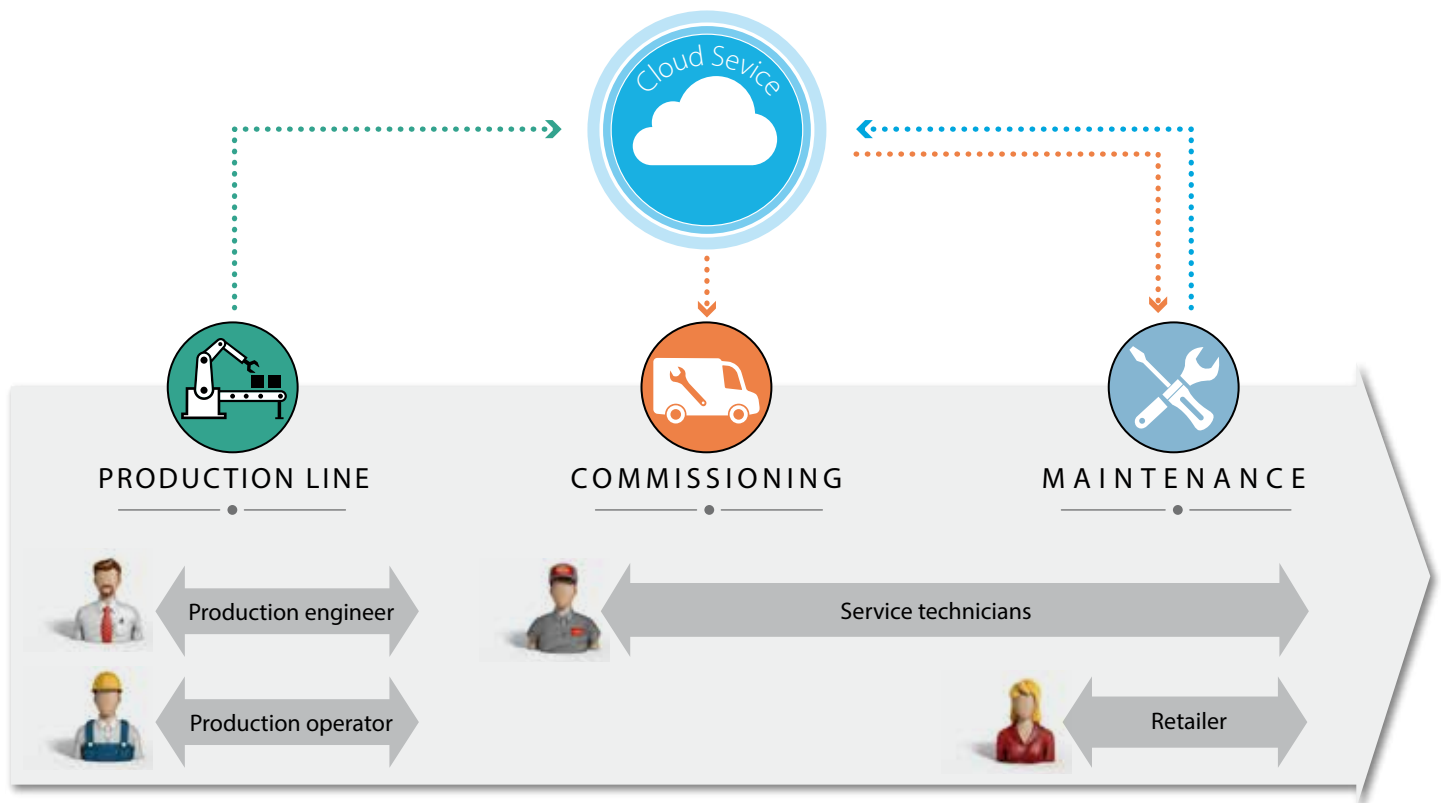
- ☒ coldroom
- ☒ cabinet LT
- ☒ cabinet MT

Diversified management of parameter
configurations:

- standard, using pre-sets loaded directly on the controller;
- advanced, with unlimited saving of configurations on mobile devices and/or in the cloud.

Total connectivity solutions

A complete system architecture allows the units to be managed throughout their entire life cycle: from production and installation through to maintenance. File hosting and sharing services simplify interaction between users in different locations, allowing access to constantly updated documentation and configuration files.



- ✓ Writing of specific unit information (production date, serial number, type).
- ✓ Complete unit configuration and end-of-line testing.
- ✓ Definition of user profiles, passwords and corresponding parameter visibility.
- ✓ Creation of documentation packages to be uploaded to the cloud, where they are then available to users in the field.

- ✓ Commissioning wizard.
- ✓ Immediate retrieval of default configurations and simple unit fine-tuning.
- ✓ Direct management of control outputs via mobile device.
- ✓ Extensive I/O configurability directly on the smartphone, without the need to change the wiring.

- ✓ Real-time display of operating conditions.
- ✓ Retrieval of logs from the controller (temperatures, alarms and events).
- ✓ Immediate access to the most up-to-date documentation in multimedia format.
- ✓ Cloud/email sharing of configurations, alarm lists and log reports.



APPLICA



Mobile application for a new user experience

NFC and Bluetooth wireless communication revolutionise interaction with the refrigerated cabinets.

Using the dedicated APPLICA app, the traditional user interface is available on any mobile device (smartphone, tablet), extending functionality and usability.







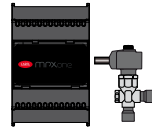
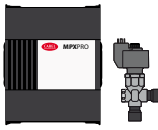
Dedicated app - Applica

Available for Android and iOS, designed to simplify commissioning and maintenance. Full control of the connected unit from your mobile device - smartphone or tablet.



Operating conditions, configuration wizard, access to technical documentation and direct output commands are just some of the features available at a simple click or tap.

Technical specifications

| | MPXzero | MPXzero advanced | MPXone medium | | MPXone advanced | MPXPRO |
|-------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| |  |  |  |  |  |  |
| Type of installation/mounting | panel | panel | panel | DIN rail | DIN rail | DIN rail |
| Power supply | 115/230 Vac | 115/230 Vac | 24 Vac/Vdc | 115/230 Vac | 115/230 Vac | 115/230 Vac |
| Number of analogue inputs | 3 (2) | 3 (2) | 6 | | 8 | 6 (7) |
| Number of digital outputs | 3 | 4 | 4 | | 4 | 5 |
| Type of digital outputs | 2HP, 8A, 5A | 2HP, 8A, 5A, 5A | 16A, 8A, 5A, 5A | | 16A, 8A, 5A, 5A | 6A, 10A (1HP), 10A, 6A, 6A |
| Number of analogue outputs | 0 | 0 | 2 | | 2 | 2 + 1 |
| Number of digital inputs | 1 (2) | 1 (2) | 5 | | 5 | 2 (1) |
| Master/Slave network (m/s) | no | 1 m + 9 s | 1 m + 9 s | | 1 m + 9 s | 1 m + 5 s |
| Connections | NFC | NFC, Bluetooth | NFC, Bluetooth | | NFC, Bluetooth | remote control |
| Serial ports | 1 BMS | 1 BMS, 1 Fieldbus | 1 BMS, 1 Fieldbus | | 1 BMS, 1 Fieldbus | 1 BMS, 1 Fieldbus |
| Electronic expansion valve | mechanical only | mechanical only | mechanical only | EEV with external driver | Unipolar EEV | Bipolar EEV or PWM |
| Ultracap module | NA | NA | on external driver | | external module | built-in |
| RTC | built-in (> 6 months) | built-in (> 6 months) | built-in (> 6 months) | | built-in (> 6 months) | |
| Connectors | plug-in | plug-in | microfit | plug-in | microfit, plug-in | plug-in |
| Dimensions | | | 88.6x84.9 mm | 110.9x70.4x66.2 mm | | |

Versions available

| Part number | Description |
|------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| MPX zero - Controller^(**) | |
| S0MPSA3R02S**** | MPXzero, panel mounting, 115...230VAC, red display, 2HP 8A 5A, NFC, RTC, 3NTC, 1DI, BMS, plug-in terminals, 1PC |
| S0MPSA4B03S**** | MPXzero ADVANCED, panel mounting, 115...230VAC, white display, 2HP 8A 5A 5A, NFC BT, RTC, 3NTC, 1DI BMS FBS, plug-in terminals, 1PC |
| MPX one - Controller^(**) | |
| S1M0004W0B060 | MPXone, basic version, panel mounting, 24V, white display, 16A 8A 5A 5A relays, with connectors |
| S1M0006W0B070 | MPXone, medium version, panel mounting, 24V, white display, 16A 8A 5A 5A relay, with connectors |
| S1M0006B0B080 | MPXone, medium version, panel mounting, 24V, white display with BLE, 16A 8A 5A 5A relays, with connectors |
| S1M0007N0B110 | MPXone, medium version, DIN rail mounting, 230V, 16A 8A 5A 5A relays, with connectors |
| MPX one - User interface^(**) | |
| AX3000PS20020 | MPXone user interface RS485, NFC, white display, with keypad and buzzer |
| AX3000PS20030 | MPXone user interface RS485, NFC and BLE, white display, with keypad and buzzer |
| AX3000PS20X10 | MPXone RS485 repeater, white display |
| MPXPRO - Controller^(**) | |
| MX30*21HO0 | MPXPRO: complete controller (with RS485 and RTC) 5 relays, 115-230 Vac, 2 PWM, NTC/PT1000, connector kit with horizontal screws |
| MX30*24HO0 | MPXPRO: complete controller with EEV valve (with RS485 and RTC) 5 relays, 115-230 Vac, E2V PWM, 2 PWM, 0-10 Vdc, NTC/PT1000, connector kit with horizontal screws |
| MX30*25HO0 | MPXPRO: complete controller with EEV valve (with RS485 and RTC) 5 relays, 115-230 Vac, E2V Stepper & Ultracap, 2 PWM, 0-10 Vdc, NTC/PT1000, connector kit with horizontal screws |
| MPXPRO - User interface^(**) | |
| IR00UGC300 | TERMINAL (MPXPRO, green LED, KEYPAD, buzzer, commissioning, IR) |
| IR00XGC300 | Display (MPXPRO, green LED, buzzer, commissioning, IR) |

(*) MPXPRO: *=M for Master, *=S for Slave

(**) These products are also available in multi-pack versions.

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