



**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.

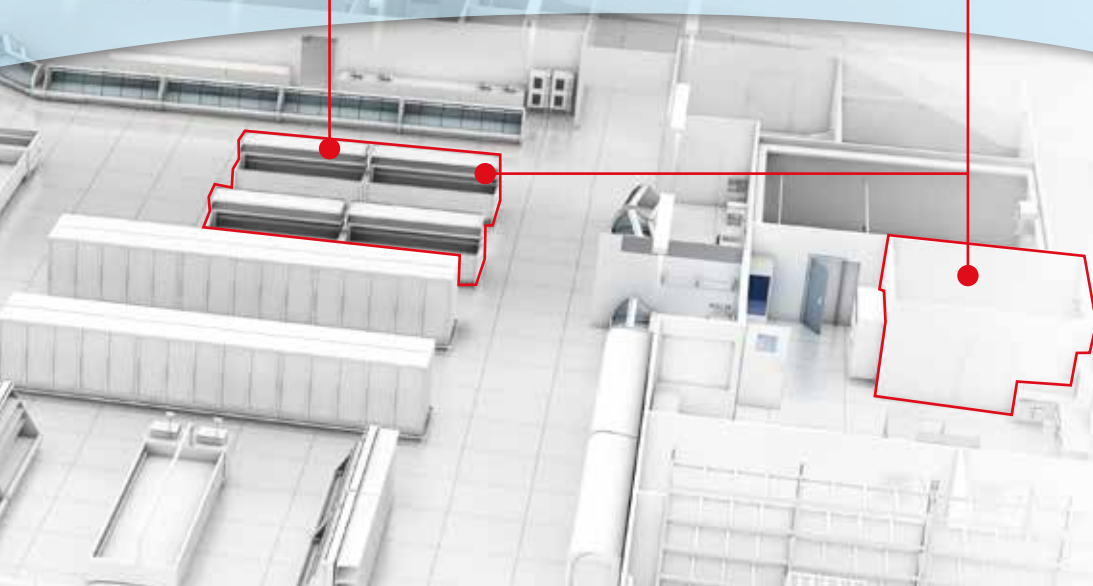


## mpxone advanced

- 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.

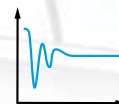


High level of security, guaranteed by:

- 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.

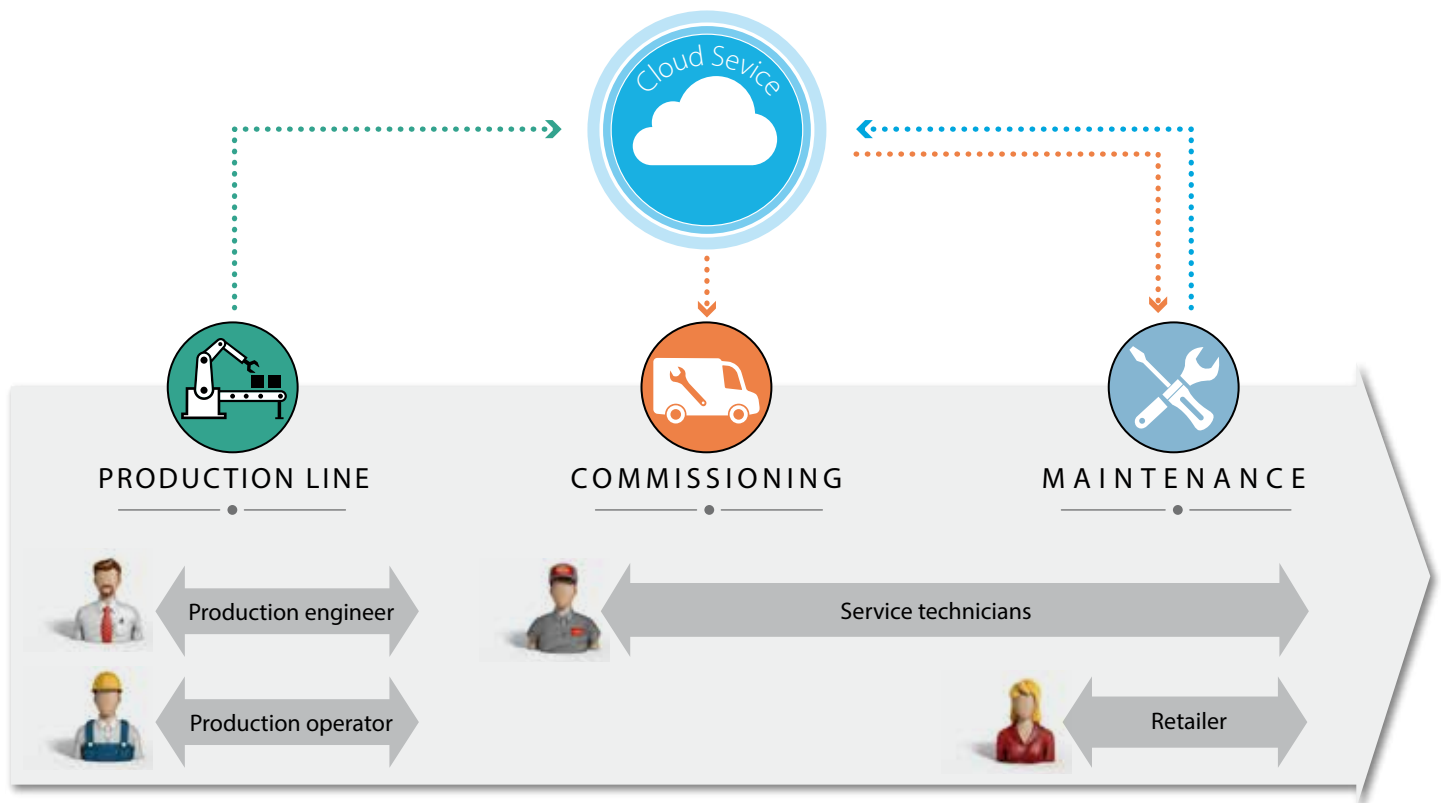
- ☒ coldroom
- ☒ cabinet LT
- ☒ cabinet MT

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.







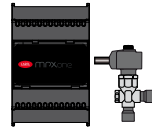
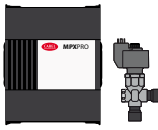
## Dedicated app - Applica

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
<b>MPX zero - Controller(**)</b>	
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
<b>MPX one - Controller(**)</b>	
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
<b>MPX one - User interface(**)</b>	
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
<b>MPXPRO - Controller(**)</b>	
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
<b>MPXPRO - User interface(**)</b>	
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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