



MasterCella series

Controllers for static or ventilated refrigeration units up to 2HP

Comply With
HACCP
93/43/EU



Innovative Solutions
for Cold Rooms

CAREL
Technology & Evolution

MasterCella series



Index protection
IP65
Index protection



MasterCella

is the new series of controllers for cold rooms that joins the wide range of Carel's cooling control solutions. There are two available products: the **MasterCella compact** and the **MasterCella split**.

Intelligent!

MasterCella represents the complete electronic solution for static or ventilated single-phase/three-phase cold rooms. It directly manages single-phase units with compressors up to 2HP. Thanks to its high capacity relays, it can also control the other actuators: the evaporator fans, defrost, the lights and the alarm relay.

Simple to install!

The high index of protection - IP65 - allows the installation of **MasterCella** in particularly damp or humid rooms. The case can be installed directly on the wall at the front of the cold room. Wiring is made simple thanks to the access door located on the front panel.

Safe!

MasterCella is guaranteed by the Carel's design and production system, which ensures a high standard of

reliability and

quality in all its products.

All of them are sold at a very competitive price compared to a similar electromechanical panel. **MasterCella** can also be connected to Carel's supervisory systems.

Simple to set!

The operating parameters can be programmed either using the keypad or the remote control. **MasterCella** is supplied already pre-configured for the management of the door switch: when the door is opened the compressor and the evaporator fans are stopped, the temperature alarms are delayed and the light is switched on.











MasterCella *compact* the integrated solution

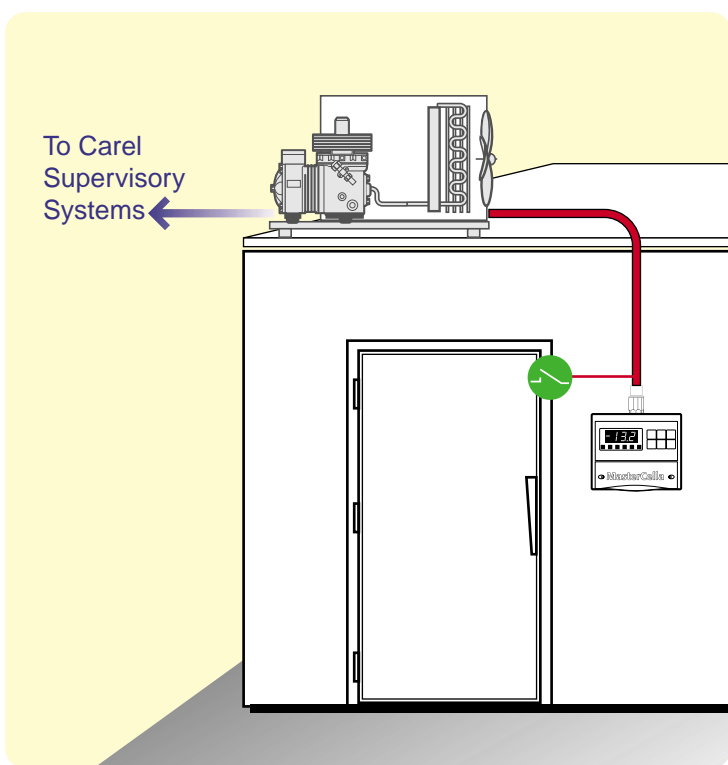
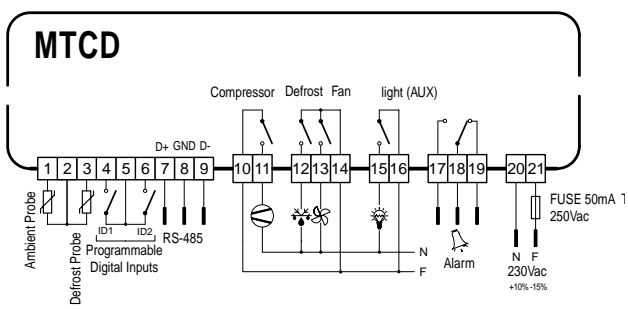
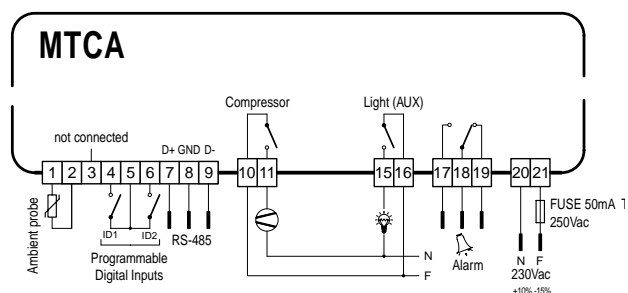
MasterCella compact is the compact solution for the control of single-phase cold rooms.

MasterCella compact does not require an extra electrical panel, because it works too as the electrical panel for the cold room. Its 5 relays directly manage all the actuators, in particular the compressor up to 2HP.

MasterCella compact can be either wall-mounted (at the front of the cold room) or panel-mounted. The electrical cables can be connected to the instrument through standard plastic channels that are fastened directly onto the case. Wiring is handy thanks to the front door that can be opened. The user interface is simple and complete.

The large LED display provides excellent display of the temperature, even in poor light conditions. The large buttons are designed to be user-friendly. Numerous signal LEDs continuously display the status of the cold room:

-  unit deactivated ("unit OFF"),
-  cooling actuator on
-  "continuous cycle" operation
-  evaporator fan on
-  defrost in progress
-  light on





MasterCella *split*

The advanced solution

MasterCella Split: the simple and complete solution for the control of single-phase/three-phase cold rooms with remote refrigeration unit.

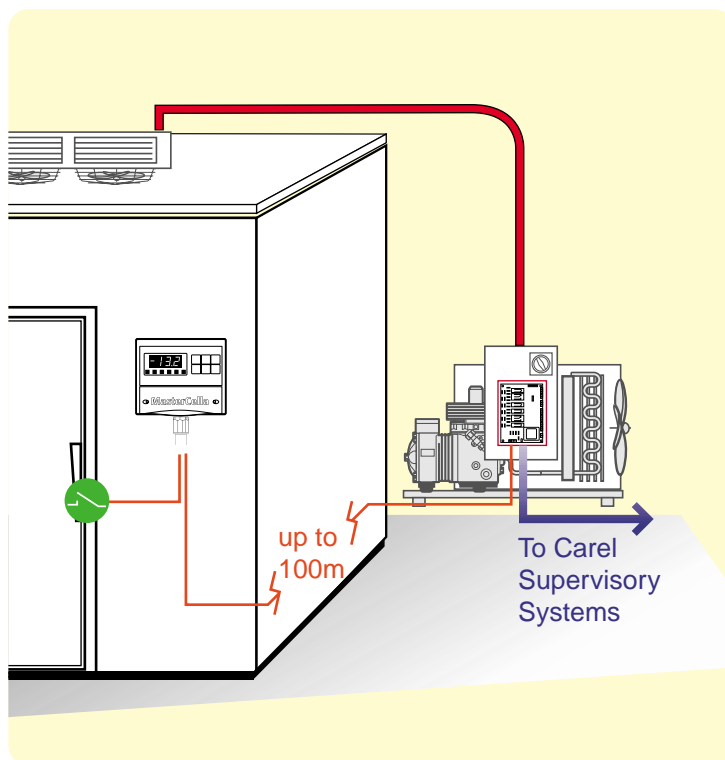
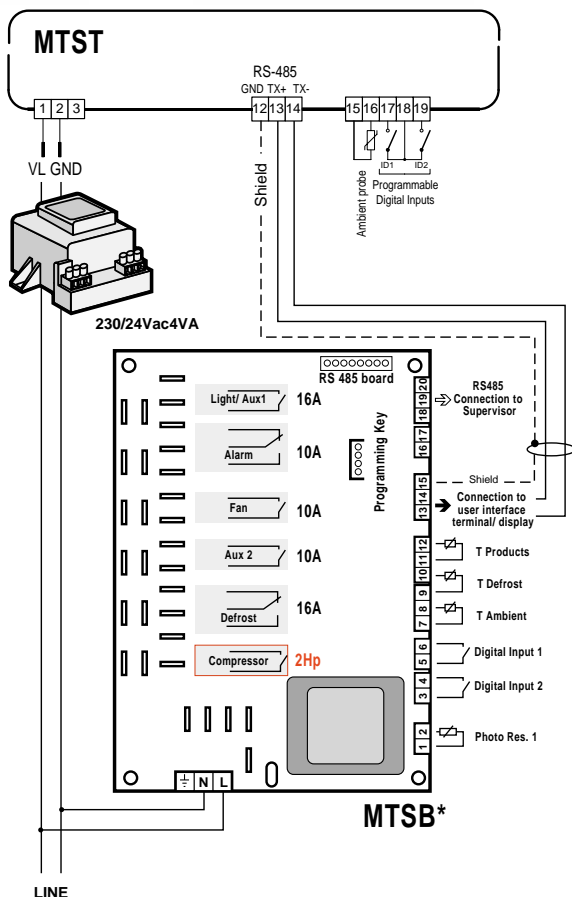
As a matter of fact, the power board can be located up to 100 metres and thus can be installed in the electrical panel of the condensation unit. In this way, the **MasterCella split** user interface becomes the front cold room panel.

The power board is wired quickly, through faston connections.

The **MasterCella Split** power board is fitted with 6 relays for the complete control of: **compressors up to 2 HP**, evaporator fans, defrost heaters, lights, auxiliary outputs, alarms.

The relay outputs can be configured either for power switching contacts (230Vac) or free contacts. Furthermore, the **Real Time Clock option** allows the defrost cycles to be programmed for set times.

The **MasterCella Split** can be configured either using the keypad or by using an electronic programming key, which allows the quick transfer of a standard configuration, avoiding errors and lengthy programming times.



The solution for compliance

HACCP: that is, Hazard Analysis and Control Critical Point (EU Directive 93/43 – Italian decree law no.155/156, 1997) is a method for controlling processes to ensure the safety of food.

Temperature is undoubtedly one of the critical variables that needs to be controlled.

The **MasterCella** series simplifies the “HACCP” procedure, in that it informs the user of the correct temperature trend, activating a local alarm (buzzer) and remote alarm (special relay) if the maximum set limit is exceeded.

The **MasterCella split**, in particular, features innovative functions that combine safety and simplicity.

It is in fact fitted with a dedicated HACCP signal LED and button. The LED lights up not only if the temperature limit has been exceeded for the maximum set period, but also in the absence of power for a period that may compromise the correct conservation of the product.

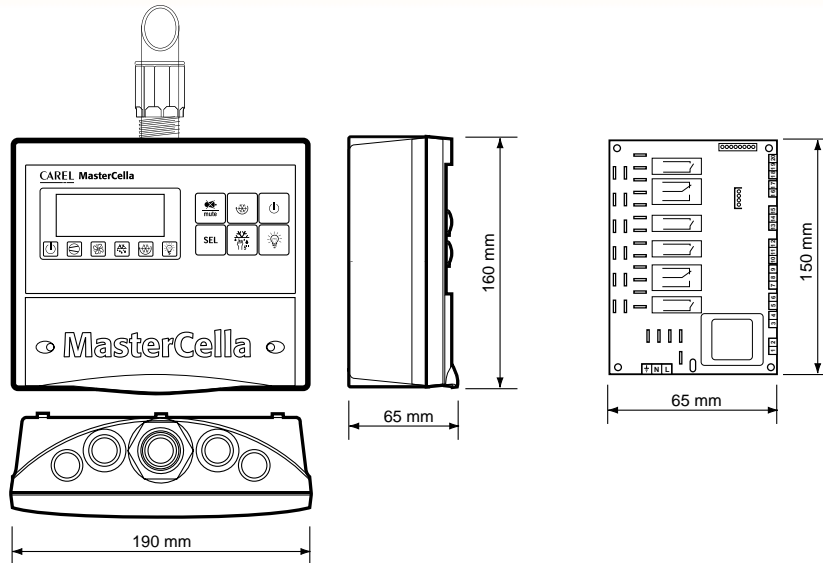
The Clock option, pressing the HACCP button lets the user know when the problem occurred.

Information is saved in the memory (even in the event of a blackout) until the user decides to cancel it, using a special password.

The **MasterCella** Series controllers can be connected to the Carel MasterPlant and PlantWatch data acquisition systems for saving and printing all the measured temperatures and alarms.

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Dimensions:



Technical specifications:

Compact series models

Operating range	0÷50°C, 20÷80 % RH
Index of protection	IP65
Parameter setting	using keypad, remote control
Display	2 and a half digits
signal lights	ON, compressor, continuous cycle, defrost, fan, light

Electrical specifications

power supply	230Vac +10% -15%, 50/60Hz, 7VA
terminal block	screw terminals, cross-section: max 1.5mm ² and min 0.5mm ²
Serial connection using	MTCSER0000 board to Carel 485 supervisory systems

Inputs

type	2 digital with free contacts 2 analogical (Carel NTC 10 kΩ at 25°C) for ambient and defrost probe
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precision ±1 °C

Models

MTCA000100, for NT unit
MTCDO000100, MTCDO200100 for LT unit

relay outputs
compressor

SPST relay, 8A res. MTCA, MTCDO
SPST relay, 2HP "MTCDO200100"

defrost
fans
light/aux output
alarm output

SPST relay, 10A res./250Vac
SPST relay, 4A res./250Vac
SPST relay, 4A ind./250Vac
SPDT relay, 2A res./250Vac

Split series models

Operating range	0÷50 °C, 20÷80%RH
Index of protection	IP65
Parameter setting	using keypad, remote control
Display	3 and a half digits
signal lights	ON, compressor, continuous cycle, defrost, fan, light, HACCP, aux

Electrical specifications

power supply, MTSB board	230Vac +10% -15%, 50/60Hz, 3VA
power supply, MTST terminal	with transformer, 230/24Vac +10% 15%, 50/60Hz, 4VA

terminal block, MTSB board

screw terminals (signals), cross-section: max 1.5mm²

screw terminals (power), cross-section: max 2.5mm² and faston max 6.3mm

terminal block, MTST terminal

screw terminals, cross-section: max 1.5mm² and min 0.5mm²

Connection between MTST terminal and MTSB board, max. distance 100m with shielded cable.

Serial connection using FCSE00000 serial board to Carel 485 supervisory systems

Inputs

type	2 digital with free contact 3 analogical (Carel NTC 10kΩ at 25°C) for ambient, defrost and product probe
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precision

±1°C

Models

MTST00V100 (terminal)
MTSB000010 (power board)

relay outputs
compressor
defrost
fans
light output
aux output
alarm output

SPST relay, 2HP
SPST relay, 16A res./250Vac
SPST relay, 10A res./250Vac
SPST relay, 16A res./250Vac
SPST relay, 10A res./250Vac
SPDT relay, 10A res./250Vac

