Hall 7A

Chillventa Specialist Forums 2022
Chillventa Fachforen 2022
CONNECTING EXPERTS.

CHILLVENTA
CAREL
NEW µRack
the latest controller for compact compressor racks, ready for the digital era
DRIVEN BY THE FUTURE
Sustainability in action
Federico Ferrari
12/10/2022

Application background

REFRIGERATION

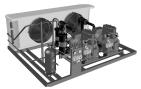
Store format

FOOD SERVICE | **FOOD RETAIL**

Pastry shop | Professional kitchen | *Convenience store* | *Supermarket* | *Hypermarket*

Cold chain control

Compact condensing unit | **Condensing units** | **Racks**



Market Segmentation

Merchandiser | Food Process | Food Storage and Display | Scientific application | **Plug/Semi-ins** | **Remote showcases** | **Cold rooms**

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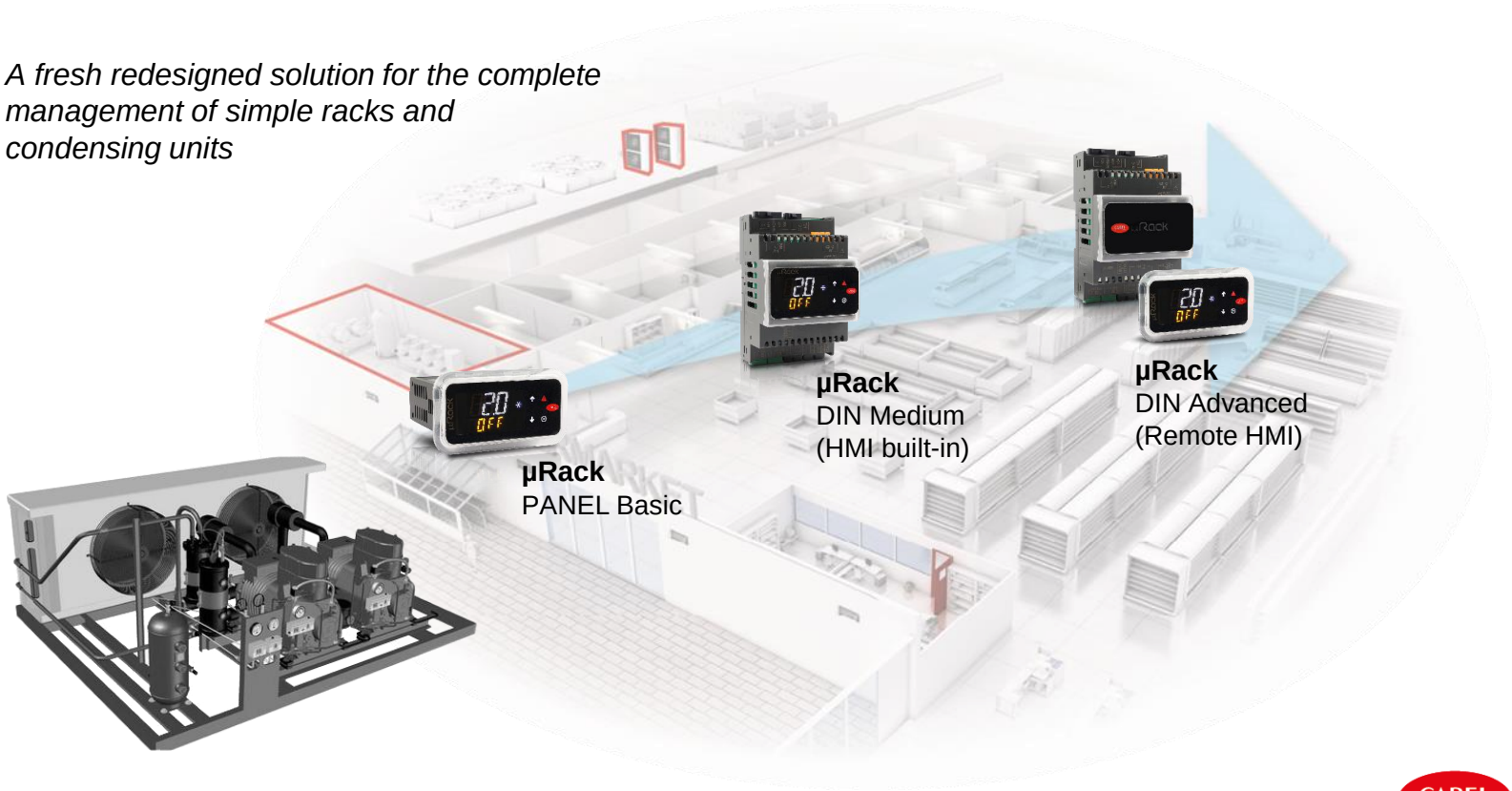
µRack range

A fresh redesigned solution for the complete management of simple racks and condensing units



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Key benefits

Simplified unit interaction

NFC and **Bluetooth** connectivity enables the use of **APPLICA**, CAREL's smartphone application for products configuration

Direct connection to supervisory system

The **built-in BMS** allows the direct integration with CAREL's BOSS and third-party supervisory system. RED Optimise digital services offer avanced features such as **floating suction algorithm**.

Flexible controller

Full range of hardware options.
Wide refrigerants compatibility (HFC, HCFC, HFO, CO2)
Built-in SSR availability for PWM compressor modulation

High efficiency in simple application

Modulating fans and compressors with 0-10V signal and through the integration of modulating Modbus devices (via Fieldbus).
Floating condensing algorithm for energy saving.

Complete software suite

A single offer which includes **software tools** for a total integration from technical office, production line and field operation.

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uRack features

Product technical overview

- **Complete rack/CDU management**
  - 2 independent suction lines regulation;
  - Up to 6 compressors, 1st modulating for each line: 0-10V, Dig. Scroll, unloaders;
  - Single condenser regulation;
  - Up to 4 fans or modulating with 0-10V signal;
  - High/Low pressure protection;
  - Low suction superheat active protection;
  - Floating suction and condensing.
- **Hardware in pills**
  - 24Vac/dc power supply;
  - **Panel mounting** controller;
  - 6 analog inputs and 5 digital inputs;
  - 2 analog outputs and 5 digital outputs;
  - Microfit and removable screw connectors.
- **Direct connection to supervisory system** with BMS port
- **NFC and Bluetooth connectivity**

Panel

Medium
+1 AI
+ 1 DO

Advanced
+1 AI
+ 1 SSR

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Revolutionized user experience

Avant-garde user interface:

- Wide LED display with multicolor icons
- Four backlit touch buttons
- Frontal and screwless mounting

  IP65 frontal protection class

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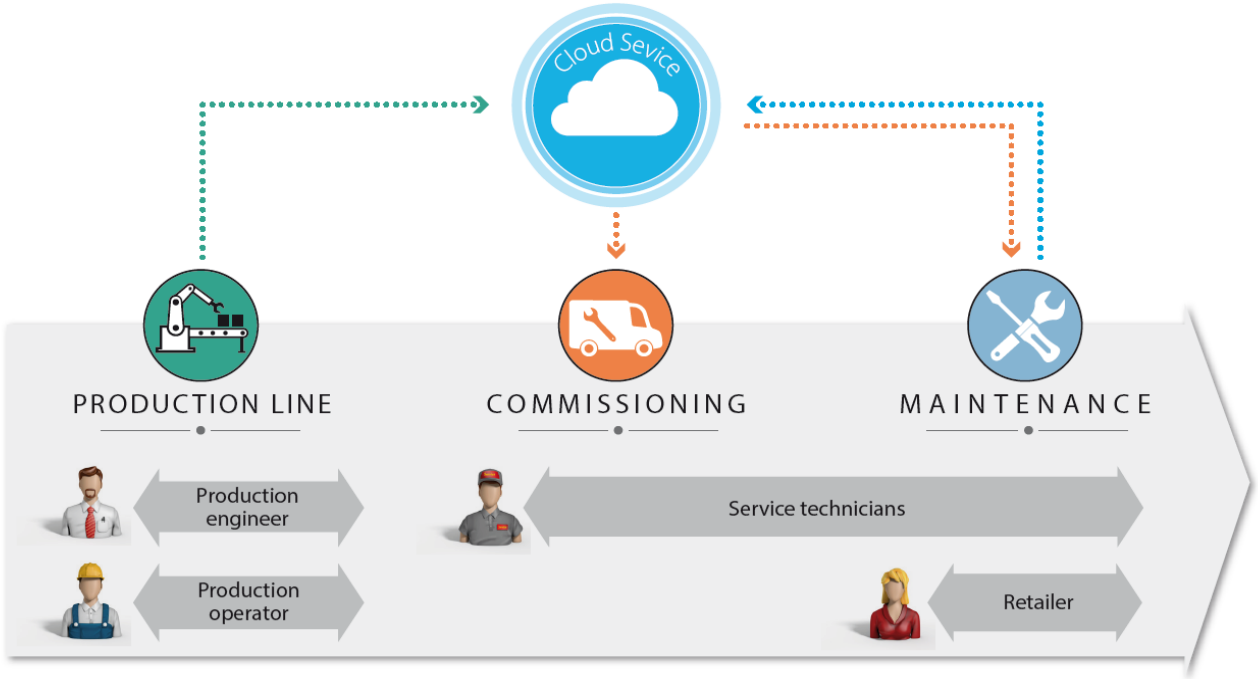
Total connectivity solutions

A complete system architecture allows the units to be managed throughout their entire life cycle



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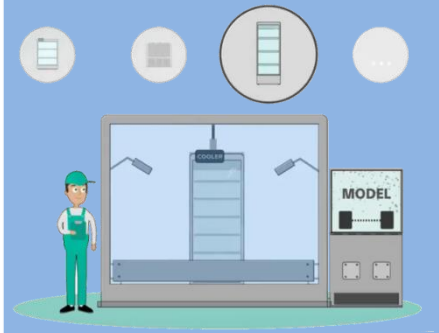
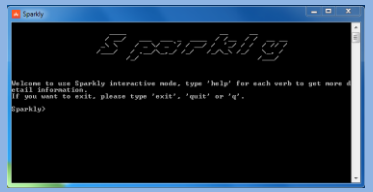
Software suite tools

PRODUCTION LINE



SPARKLY

- Automatic read/write of specific unit information (production date, serial number, type)
- Complete unit configuration and end-of-line testing.
- Ready for integration.



- Sparkly is a **command line tool** to interact with CAREL device.
- It is lightweight component **developed to fit the production lines needs**.
- Comes without UI to be embedded in the existent customer's production line.

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Software suite tools

TECHNICAL OFFICE

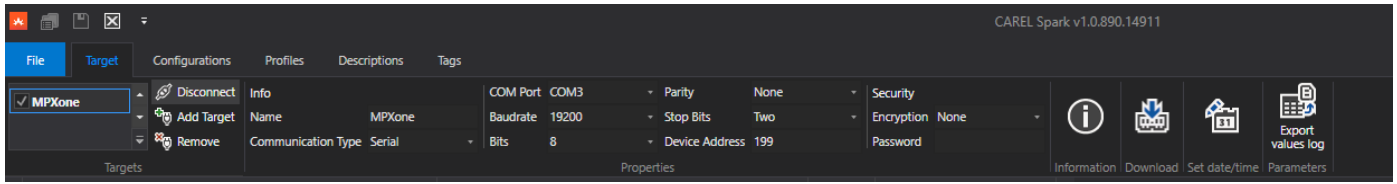
SPARK

Definition of user profiles, passwords and corresponding parameters visibility.

Create and manage configurations.

Attach documentation.

- Stand alone software to program working units cabled with dedicated in-line PC



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Software suite tools

SERVICE OPERATIONS

APPLICA

Real time display of operating conditions.

Commissioning wizard.

Immediate access to the most up-to-date documentation in multimedia format.

Retrieval of logs from the controller (temperatures, alarms and events).

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