µRack

Solution for condensing units and compact compressor racks

A cutting-edge system for compact and efficient compressor racks

µRack offers all the features needed for the control of small condensing units and compressor racks, guaranteeing reliability, efficiency and ease-of-use.

- Control of 1 suction line, up to 4 compressors and a first modulating compressor (with HFC/HFO refrigerants, an additional line with 2 compressors can be configured);
- dedicated functions for oil return: to protect the compressors;
- control of a condensation line: EC modulating fans and up to 4 ON-OFF fans.

µRack was created to renew the proposal of controls for condensing units and small compressor racks.

Usability has been revolutionised through advanced connectivity, which complements the precision control and energy-saving features developed and established in CAREL's range of compressor rack controllers.

Interaction with mobile devices

Advanced connectivity and next-generation user experience. The simplicity and effectiveness of the configuration from smartphones and tablets can reduce the unit's initial start-up time and simplify maintenance activities.

Energy savings

Features such as floating condensation, modulation of fans and cooling capacity (AC inverter, capacity control and PWM with SSR), and compressor speed control help minimise energy consumption.

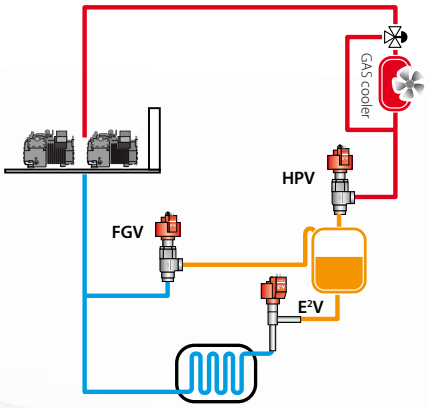
Compressor protection

Prevention of liquid return to the compressors with low superheating control to maximise machine reliability. Support for different types of compressors: piston and scroll.

NEW

µRack CO_2: simple control for transcritical CO_2

- **Management of the high pressure valve (HPV):** calculation of the optimal pressure and continuous modulation to ensure most efficient operating conditions at all times.
- **Flash gas valve (FGV) management:** pressure control in the liquid receiver.



- The HPV and FGV can be controlled via **EVD driver connected to the Fieldbus port** on µRack CO_2 or via a **0-10 V signal**.
- Possibility to use µRack CO_2 as a **stand-alone controller** for managing the HPV and FGV valves (even without setting control of the compressor and gas cooler lines).

Advanced connectivity across the entire range

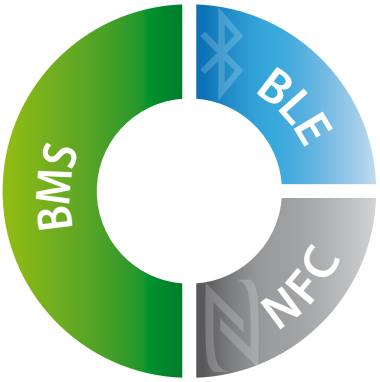
RED optimise

Different ways to interact with the refrigeration unit.

CAREL APPLICA

boss

- Local and remote monitoring of unit performance;
- operating and diagnostic data logs;
- RED cloud platform for data analysis.



- Real-time interaction with the unit;
- live parameter graphs.

- Read/write the values and change the configuration;
- interaction with the controller even powered off.

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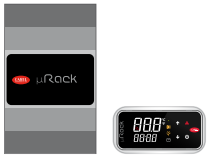
Available versions

The new µRack proposal offers customers a scalable range with increasing numbers of I/Os and features. It thus turns out to be a reliable control for both super-compact condensing units and larger cooling capacities.

Technical specification	Panel	Medium	Advanced	CO_2
				
Controller P/N	U20R00MRK0380	U20R00MRK0390	U20R00MRK0300	U00000MRT0400
Remote display P/N	-	-	AX2000PD20030	AX2000PD20030
Digital outputs	5x SPST 5A	6x SPST 5A	5x SPST 5A, 1x SSR 0,4A	5x SPST 5A
Analog outputs	2x 0-10 V	2x 0-10 V	2x 0-10 V	4x 0-10 V
Analog inputs	3x NTC/PT1000 2x 0,5-4,5 Vrat/4-20 mA/ NTC/NTC HT 1x 0-10 V/NTC/NTC HT/0,5-4,5 Vrat/4-20 mA/PT1000	3x NTC/PT1000 1x NTC 2x 0,5-4,5 Vrat/4-20 mA/ NTC/NTC HT 1x 0-10 V/NTC/NTC HT/0,5-4,5 Vrat/4-20 mA/PT1000	3x NTC/PT1000 1x NTC 2x 0,5-4,5 Vrat/4-20 mA/ NTC/NTC HT 1x 0-10 V/NTC/NTC HT/0,5-4,5 Vrat/4-20 mA/PT1000	3x NTC/PT1000 2x 0,5-4,5 Vrat/4-20 mA/ NTC/NTC HT 1x 0-10 V/NTC/NTC HT/0,5-4,5 Vrat/4-20 mA/PT1000
Digital inputs	5 voltage free	6 voltage free	6 voltage free	5 voltage free
Power supply	24 Vac/Vdc	24 Vac/Vdc	24 Vac/Vdc	115-230 Vac/Vdc
Connectivity	NFC + BLE	NFC + BLE	NFC + BLE	NFC + BLE
Serial ports	2 RS485	2 RS485	2 RS485	2 RS485
Montaggio	panel	on DIN rail	on DIN rail	on DIN rail
Codici alternativi senza BLE	UR0R00MRK0280	U20R00MRK0290	-	-

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