



## 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 2 suction line, up to 4 compressors and a first modulating compressor (with HFC/HFO refrigerants up to 6 compressors: 4MT-2LT);
- 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 condensing stage control, fan modulation, heat recovery and compressor speed control help minimise energy consumption.

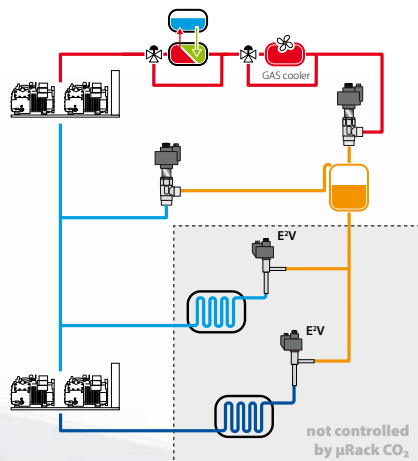


## Compressor protection

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

## μRack CO<sub>2</sub>: simple control for transcritical CO<sub>2</sub>

- **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.



- **Single-stage heat recovery:** function that exploits the heat normally expelled from the gas cooler to produce hot water (domestic or industrial uses) or for heating/ventilation systems.

Advanced

CO<sub>2</sub>

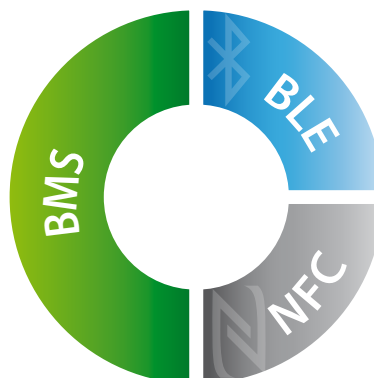
Advanced connectivity across the entire range



Different ways to interact with the refrigeration unit.

•boss

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



APPLICA

- Real-time interaction with the unit;
- live parameter graphs.
- Read/write the values and change the configuration;
- interaction with the controller even powered off.



## Available versions

The new  $\mu$ Rack 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 <sub>2</sub>                                                                                                 |
|------------------------------|-----------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
|                              |                                |                                          |                                         |                              |
| 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<br>2x 0,5-4,5 Vrat/4-20 mA/<br>NTC/NTC HT<br>1x 0-10 V/NTC/NTC HT/0,5-<br>4,5 Vrat/4-20 mA/PT1000 | 3x NTC/PT1000<br>1x NTC<br>2x 0,5-4,5 Vrat/4-20 mA/<br>NTC/NTC HT<br>1x 0-10 V/NTC/NTC HT/0,5-<br>4,5 Vrat/4-20 mA/PT1000 | 3x NTC/PT1000<br>1x NTC<br>2x 0,5-4,5 Vrat/4-20 mA/<br>NTC/NTC HT<br>1x 0-10 V/NTC/NTC HT/0,5-<br>4,5 Vrat/4-20 mA/PT1000 | 3x NTC/PT1000<br>2x 0,5-4,5 Vrat/4-20 mA/<br>NTC/NTC HT<br>1x 0-10 V/NTC/NTC HT/0,5-<br>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                                                                                                             | -                                                                                                                         | -                                                                                                               |

## Headquarters

CAREL INDUSTRIES HQs  
Via dell'Industria, 11  
35020 Brugine - Padova (Italy)  
carel@carel.com



### Arion S.r.l.

Sede operativa:  
Via Pizzo Camino, 28  
24060 Chiuduno (BG) - Italy  
www.arionsensors.com

### HygroMatik GmbH

Lise-Meitner-Straße 3  
24558 Henstedt-Ulzburg - Germany  
www.hygromatik.com

### RECUPERATOR

Via Valfurva 13  
20027 Rescaldina (MI) - Italy  
www.recuperator.eu

### C.R.C. S.r.l.

Via Selva di Pescarola 12/9  
40131 Bologna - Italy  
info@crc-srl.net  
www.carel.com

### Klingenburg GmbH

Brüsseler Str. 77  
45968 Gladbeck - Germany  
www.klingenburg.de

### Sauber

Via Don Doride Bertoldi, 51  
46047 Porto Mantovano (MN) - Italy  
www.sauberservizi.it

### ENGINIA S.r.l.

Viale Lombardia, 78  
20056 Trezzo Sull'Adda (MI) - Italy  
www.enginiasrl.com

### Klingenburg International Sp. z o.o.

ul. Metalowców 5  
PL-58-100 Świdnica, Poland  
www.klingenburg.pl

### Senva

1825 NW 167th Pl, Beaverton,  
OR 97006, Stati Uniti  
www.senvainc.com

## Authorised distributor

# CAREL

To the best of CAREL INDUSTRIES S.p.A. knowledge and belief, the information contained herein is accurate and reliable as of the date of publication. However, CAREL INDUSTRIES S.p.A. does not assume any liability whatsoever for the accuracy and completeness of the information presented without guarantee or responsibility of any kind and makes no representation or warranty, either expressed or implied. A number of factors may affect the performance of any products used in conjunction with user's materials all of which must be taken into account by the user in producing or using the products. The user should not assume that all necessary data for the proper evaluation of these products are contained herein and is responsible for the appropriate, safe and legal use, processing and handling of CAREL's products. The information provided herein does not relieve the user from the responsibility of carrying out its own tests, and the user assumes all risks and liabilities related to the use of the products and/or information contained herein. © 2025 CAREL INDUSTRIES S.p.A. All rights reserved.