



refrigeration and retail controllers

Solution for transcritical CO<sub>2</sub> condensing units



## pRack pR100T Solution for transcritical CO<sub>2</sub> condensing units

pRack pR100T is a compact, powerful controller that provides complete management of small CO<sub>2</sub> systems. It features a simple and intuitive user interface and represents the ideal controller for condensing units and convenience stores.

CAREL's experience in the field of CO<sub>2</sub> refrigeration, with an increasing number of Green supermarkets using the pR300T, has led to the development of a powerful controller featuring high reliability and high energy efficiency, even for small units.

### pRack pR100T: strengths

Compact complete solution, from compressor management right up to control algorithms for controlling transcritical valves:

- Management of one or two compressors
- Variable speed device management
- Gas cooler management

- Control algorithm for high pressure valve and flash gas valve
- Serial communication via Fieldbus
- Supervision via BMS card
- Simple and intuitive graphic interface with built-in or external display

### CO<sub>2</sub> solution

Using a natural refrigerant, such as CO<sub>2</sub>, gives a green solution with low environmental impact and small carbon footprint.

pRack pR100T includes advanced algorithms for CO<sub>2</sub> solutions to guarantee high energy efficiency.

pRack pR100T can set safety functions and manage alarms to ensure system reliability even at the high operating pressures typical of CO<sub>2</sub> applications.



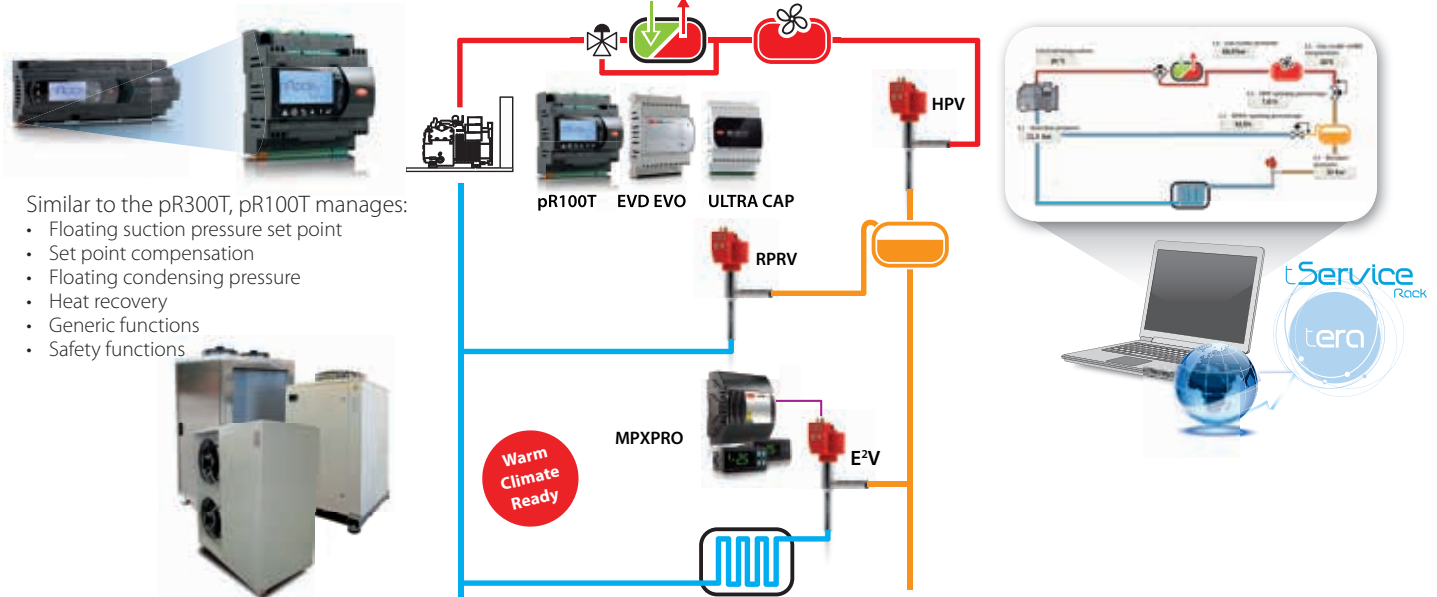
### CAREL VALVES FOR CO<sub>2</sub> SOLUTIONS

- The range of CAREL E<sup>3</sup>V valves offers a wide choice of capacities, even for small CO<sub>2</sub> systems, with pressure ratings up to 140 bars/2030 psi.
- E<sup>2</sup>V-C and E<sup>3</sup>V-C can be installed either as the high pressure valve or the flash gas valve in transcritical applications.



*Ultracap technology maximises system safety in the event of blackouts.*

## Transcritical CO<sub>2</sub> condensing units



- Similar to the pR300T, pR100T manages:
- Floating suction pressure set point
  - Set point compensation
  - Floating condensing pressure
  - Heat recovery
  - Generic functions
  - Safety functions



- ### HPV and RPRV Valves
- E<sup>2</sup>V-C & E<sup>2</sup>V-C Can be installed either as the high pressure valve or the flash gas valve in transcritical applications;
  - EVD evolution is a driver to control the electronic expansion valve in refrigerant circuits
  - Ultracap technology maximizes system safety in the event of power failures.

- ### MPXPRO
- built-in driver for the management of E<sup>2</sup>V proportional electronic expansion valves;
  - advanced algorithms for energy saving and optimized evaporator efficiency;
  - commissioning tools to assist the work of installers and maintenance personnel.

## Completing the proposed solution



PlantWatchPRO



Energy Meter



ChillBooster



Gas or Leak detector

## Product P/Ns

Size	P/N	Description
	PRK10TY3C0	pRack pR100T compact, pGD1 built-in
	PCOS004850	RS485 serial connection card



### User simplicity

Developed with special focus on being easy to use, pRack pR100T features details, procedures and tools to aid users.



### Energy saving

pRack pR100T features ESS – Energy Saving Suite, a group of functions designed for energy saving that can also be applied together with the supervisory system.



### System optimisation

Management of modulating devices to guarantee maximum efficiency in the control of operating pressure and to ensure greater system stability.



### ECO-Friendly

Choosing the pRack range means fitting your systems with green solutions and being at the forefront in the transition to natural refrigerants, at the same time ensuring high energy efficiency.

## Headquarters ITALY

**CAREL INDUSTRIES HQs**  
Via dell'Industria, 11  
35020 Brugine - Padova (Italy)  
Tel. (+39) 0499 716611  
Fax (+39) 0499 716600  
carel@carel.com

## Sales organization

CAREL Asia - [www.carel.com](http://www.carel.com)  
CAREL Australia - [www.carel.com.au](http://www.carel.com.au)  
CAREL China - [www.carel-china.com](http://www.carel-china.com)  
CAREL South Africa - [www.carelcontrols.co.za](http://www.carelcontrols.co.za)  
CAREL Deutschland - [www.carel.de](http://www.carel.de)  
CAREL France - [www.carelfrence.fr](http://www.carelfrence.fr)  
CAREL Iberica - [www.carel.es](http://www.carel.es)

## Affiliates

CAREL HVAC/R Korea - [www.carel.com](http://www.carel.com)  
CAREL Russia - [www.carelrossia.com](http://www.carelrossia.com)  
CAREL India - [www.carel.in](http://www.carel.in)  
CAREL Sud America - [www.carel.com.br](http://www.carel.com.br)  
CAREL U.K. - [www.careluuk.co.uk](http://www.careluuk.co.uk)  
CAREL U.S.A. - [www.carelususa.com](http://www.carelususa.com)

CAREL Czech & Slovakia - [www.carel-cz.cz](http://www.carel-cz.cz)  
CAREL Korea (for retail market) - [www.carel.co.kr](http://www.carel.co.kr)  
CAREL Ireland - [www.carel.com](http://www.carel.com)  
CAREL Thailand - [www.carel.co.th](http://www.carel.co.th)  
CAREL Turkey - [www.carel.com.tr](http://www.carel.com.tr)