



EMERSON™

iProRACK controller for CO2 transcritical compressor racks

New functions in 6.4 version

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Emerson's new 6.4 version of Dixell™ iProRACK for transcritical rack systems features enhanced performances, and it is the perfect solution for freezing plants with great cooling capacity.

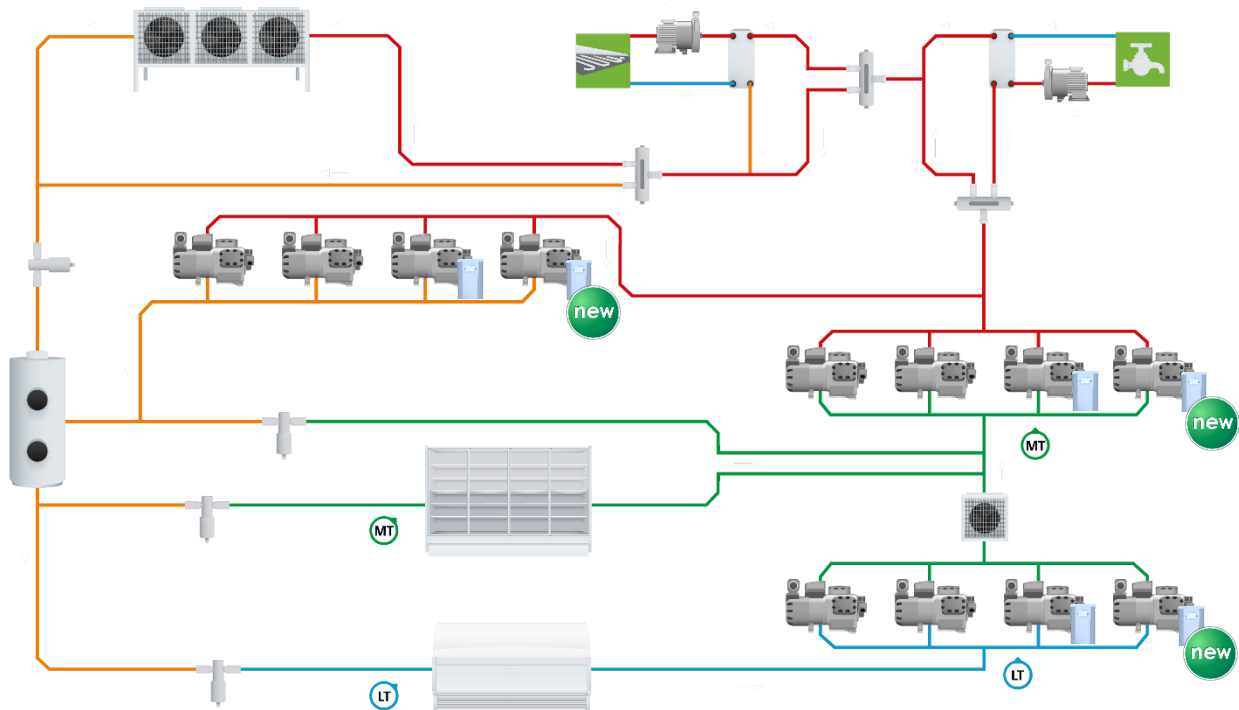
The new iProRACK has optimized technology for growing needs of eco-sustainability, energy efficiency and integration of refrigeration, heating and air conditioning systems.

The new release is ideal for applications in big plants, thanks to its new, high performing functions and advanced management of compressors and inverters, as well as the expanded range of compatible valves.

1. Application scheme

The iProRACK 6.4 version manages the MT line and the LT line with CO₂ refrigerant with booster configuration, dual heat recovery, gas cooler bypass, de-superheater and parallel compression.

Now it is also possible to manage up to two inverter compressors for MT and LT lines, as well as for the parallel compressor line.



2. Main features

- new** Up to 12 compressors for the MT line, two of which with inverter
- new** Up to 12 compressors for the LT line, two of which with inverter
- new** Up to 6 compressors for the parallel line, two of which with inverter
 - Up to 3 safety protections for each compressor
 - Integrated oil injection management based on oil level and/or differential pressure
 - High pressure valve management (through XEV20D driver or analog output)
 - Flash gas valve management (through XEV20D driver or analog output)
 - Single or dual heat recovery management for hot water and heating system
 - Gas cooler bypass management to increase energy efficiency during heat recovery
 - Compatibility with adiabatic systems thanks to an advanced gas cooler fan management
 - Liquid injection for better control of compressor discharge temperature
 - Hot gas injection for an optimized suction superheating management
 - Up to 8 auxiliary functions managed by temperature probe and digital input (liquid level, fan management, regenerative exchanger and much more)
 - Up to 3 de-superheaters
 - Liquid receiver dynamic set to reduce the number of activations of medium temperature compressors
 - Liquid ejector management
 - Vapor ejector management

- Compatibility with the XeCO2 system to be able to work with flooded evaporators
- “Compressor guard” function to prevent liquid return to the compressor

- **Discharge temperature control with liquid injection through PWM signal for the stepper valve**
- **Value of cooling capacity**
- **Compatibility with the new CV-family Alco valves**
- **Optimized inverter regulation**

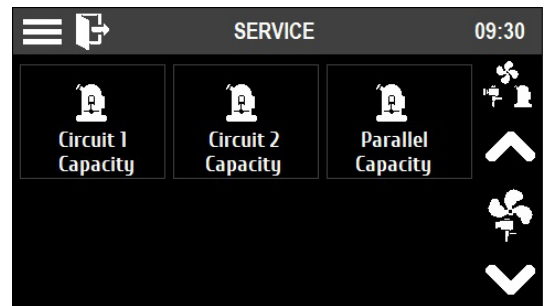
**New
functions
v. 6.4**

2.1 Discharge temperature control with liquid injection through PWM signal

Liquid injection, which is usually used to reduce compressor discharge temperature, is now more stable and precise thanks to the direct management of stepper valves through PWM signal.

2.2 Value of cooling capacity

The value of cooling capacity in each suction line (NT, LT and parallel compressor lines) can be displayed via keyboard (through a dedicated menu) and it is available as a ModBUS variable with real-time values that allow an accurate consumption calculation of the plant.



2.3 Compatibility with Alco valves



Thanks to the compatibility of the product with the new CV Alco valves, Emerson offers a full, optimized and reliable package for CO2 transcritical applications.

2.4 Optimized inverter regulation

The new inverter regulation allows to have an even more stable suction pressure, which results in consumption optimization.

3. Prices

Please contact our sales department for prices and further information.

4. Availability and orders

The iProRACK series, 6.4 version, is now available. Previous versions are automatically replaced with the new codes. Please contact our sales department for delivery time and selection of the right components required for the application.

IPRC215D-10000E	10DIN format controller for CO2 transcritical applications
IPRC315D-10001E	10DIN format controller with SSR relays for CO2 transcritical applications
IPRC208D-10010	4DIN format controller for CO2 transcritical applications
VTIPR-00000B	Visotouch keyboard with 4.3" display for IPRC use and configuration
IPX206D-10000	4DIN format expansion: it communicates with the IPRC through the serial line and it is used to increase the number of inputs and outputs required by the system
IPX215D-10000	10DIN format expansion: it communicates with IPRC215D and IPRC315D through the serial line and it is used to increase the number of inputs and outputs required by the system
XEV20D-11100	Driver for high pressure and flash gas valve management: it communicates with the IPRC through the serial line; the 4 temperature analog inputs can be used as an expansion module of IPRC
XEC EVO-01000	Battery back-up: in case of power loss, it allows the closure of the two valves connected to the XEV20D