

High
Efficiency
Solutions.

CAREL

power solutions for refrigeration and air-conditioning

E^xV panel



control unit for
electronic expansion valves

carel.com



E^xV panel - power solutions for refrigeration and air-conditioning

The ideal solution for both new and existing systems.

Pre-wired with the CAREL electronic expansion valve driver, the powersolution electrical panel is plug&play for fast installation in the field.

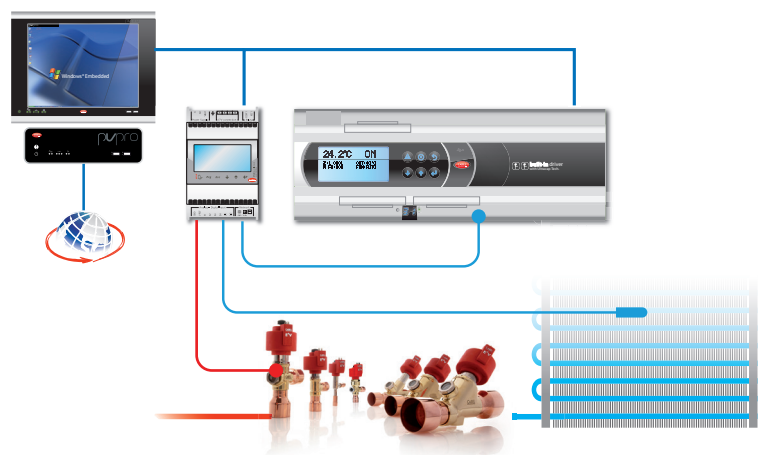
- Quick and easy to install
- Quality casing with a high level of protection
- Excellent solution for system retrofits
- Can be used with a wide range of electronic expansion valves
- Available in different models, including Ultracap version

E^xV panels are fitted with the new EVD Evolution driver, featuring advanced functions and a new user interface for even faster and easier operation and configuration:

- superheat control with auxiliary high pressure, low pressure and low superheat protection functions
- start-up with just 4 parameters: refrigerant used, model of valve, type of pressure probe and application (chiller, cabinet, etc.)
- Ultracap module for managing two valves
- self-adaptive algorithm
- algorithm for Digital Scroll applications
- connection diagram shown on the display
- detachable multi-language graphic display, with "help" on the parameters

- multiple unit of measure management (SI or Imperial)
- user management with password to access different levels of configuration
- copy parameter values to other EVD devices from the display
- LEDs for monitoring the main parameters
- use of ratiometric or 4 to 20 mA transducers (the latter can also be shared by multiple drivers)
- second digital input for defrost management
- possibility to use backup probes
- communication serial protocols: CAREL-master, pLAN, ModBus®.

The Twin version can control two electronic expansion valves independently, and represents the ideal solution for two-circuit units with different control functions (i.e. superheat and hot gas bypass).



Energy saving

Operation at the minimum possible condensing pressure means less work performed by the compressor, and a consequent reduction in energy consumption



Easy operation

Quick start with just 4 settings, graphic display with help on the parameters, easy driver and valve installation and maintenance



CO₂ Ready

CAREL control systems and E^xV valves can manage both subcritical and transcritical CO₂ cycles

Design

The E^xV panel is housed inside a sturdy fibreglass case (IK 09 protection against impact) that also guarantees IP65 ingress protection, and features a removable smoked glass door that can be fitted with lock. An innovative hinge system means the door can be opened flush with the wall, avoiding detachment and consequent breakage of the door in the event of accidental impact.

Opening the door provides access to the front of the electrical panel for disconnection, using a two-pole circuit breaker, and to the fuse carrier protecting the transformer, for inspection and maintenance.

Accessories

One of each of the following accessories is supplied with the electrical panel:

- NTC060HF01, type HF NTC probe;
- SPKC005310, pressure transducer with PACKARD connector, moulded cap over cable;
- SPKT0013R0, ratiometric pressure transducer with steel 1/4" female SAE connector
- valve cable included.

Different technical combinations are possible for the same application, therefore in addition to the finished products available in the catalogue, other combinations of features in addition to those proposed can also be requested. The wiring diagram, supplied in the chosen language, offers two connection possibilities for the driver digital inputs: as an alarm signal or to hold the valve in position in the event of power failures. All this makes the E^xV panel the best solution for retrofits and new electronic valve installations.

Benefits

One of the main advantages deriving from the use of EXV technology is the energy saving achievable as a result of better refrigeration cycle efficiency. These advantages have been demonstrated and validated in both refrigeration and air-conditioning applications, and guarantee extremely fast payback times when compared against standard mechanical technology.

-30%
energy consumption **

**Measurements taken in a medium-sized supermarket on cabinets and compressor racks operating with R404A.



Performance

Sophisticated control functions (LOP, MOP, Low SH, transcritical CO₂,...) and construction with advanced materials for optimum management of refrigerant flow, even in the most critical conditions



Multilanguage

System easy to understand and configure, with 10 languages available, in addition to English (always available)



Lower environmental impact

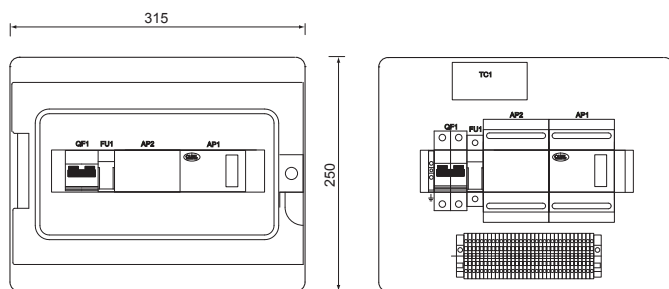
Compatibility with natural refrigerants (CO₂) and energy saving help reduce ozone layer depletion and greenhouse gas emissions

Technical specifications

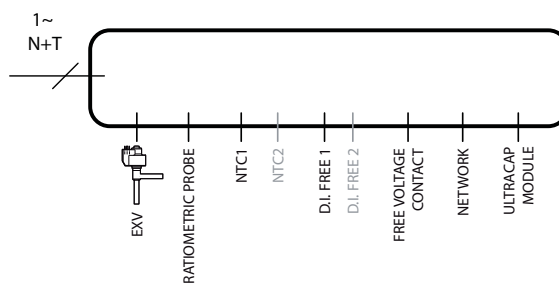
	EDVFN01001	EDVFN01002	EDVFN01003	EDVFN01004	EDVFN02005	EDVFN02006	EDVFN02007	EDVFN02008
Power supply								
230Vac (-15/10%) 50-60 Hz	●							
User interface								
EVDIS*	□							
EVDENV00E0	□							
Precision								
std. CAREL MTC: -50T50 °C -50T90 °C	●							
0-5 Vdc	●							
4-20 mA	●							
0-10 Vdc	●							
1 CAREL EXV valve	●				-	-	●	●
2 CAREL EXV valves	-				●	●	-	-
Inputs/outputs								
Digital inputs	2							
relays: voltage-free, output up to 230 Vac	1	1	1	1	2	2	1	1
Network								
tLAN	●	●	-	-	-	-	-	-
Modbus	-	-	-	-	●	●	-	-
RS485	-	-	●	●	●	●	●	●
Other features								
Casing dimensions (mm)	263x314x143							
Controller	EVD0000E30		EVD0000E50		EVD0000T50		EVD0000E50	
Ingress protection	IP65							
Packaging	single							
	relay rating: 5 A, 250 Vac resistive load; 2 A, 250 Vac inductive load							
Ultracap	-	●	-	●	-	●	-	●
Connection terminal block	-	-	-	-	-	-	●	●

- standard
□ optional

Dimensions in (mm)



Functional diagram



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