



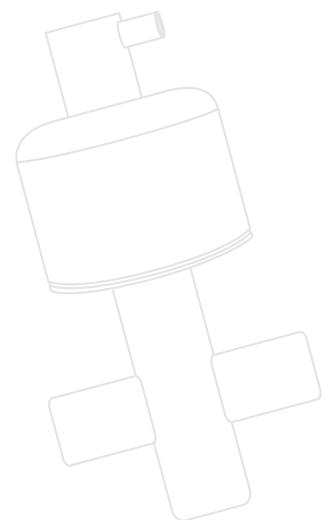
D: 4 DIN Rail



100x64mm

XEV SERIES: SUPERHEAT REGULATION

- Drivers for ON/OFF (pulsed) and stepper electronic expansion valve management
- ON/OFF (pulsed) expansion valve support with 30W max power and coil c.a.
- Temperature analog inputs (NTC, PTC, Pt1000)
- Pressure analog inputs (0-5V, 4-20mA)
- Possibility to broadcast via LAN the pressure signal to multiplexed cabinets
- Alarm management (visual, relay)
- Cool Defrost for defrost time reduction
- Superheat adaptive control
- Sub-cooling management (XEV32D)
- Hot Key or Prog Tool Kit connector for quick and easy programming
- Serial connection to monitoring systems
- 20VA max power absorption
- Display with red LED (10.5mm high) and icons



HOW to ORDER

XEV11/12D

X	E	V	1		D	-	A	B	C	D	E
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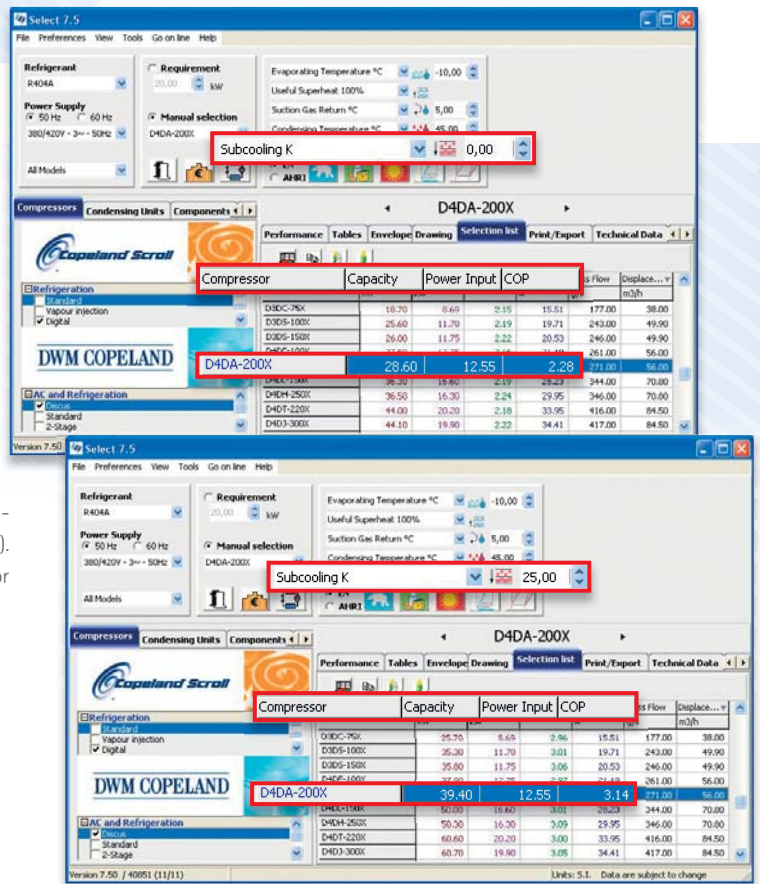
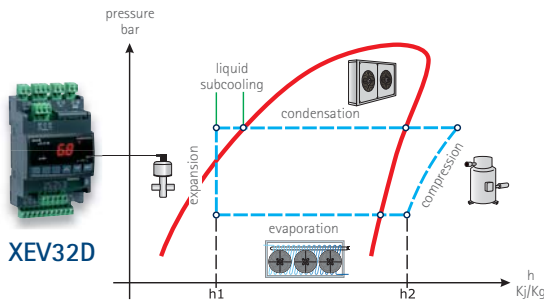
XEV21/22/32D

X	E	V			D	-	1	B	C	D	0
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A	B	C	D	E
Power supply	Temperature probe	Pressure probe	Measurement unit	Buzzer
2 = 24Vac	P = Pt1000	0 = 0-5V	C = °C/Bar	0 = No
4 = 110Vac	N = NTC	1 = 4-20mA	F = °F/PSI	1 = Yes
5 = 230Vac		2 = PP11		
		3 = PP30		
		4 = PPR15		
		5 = PPR30		

SUB-COOLING

During the refrigeration cycle shown in the following diagram, the temperature of the liquid refrigerant entering by the thermostatic valve is important. Decreasing this value results in many economic advantages because it increases the "refrigerating effect" (h_2-h_1). For this reason it's important to introduce the concept of sub-cooling of the refrigerating fluid as "saturated liquid". This process, if properly managed, can improve LT plant operation (also more than 25%), against a meagre power of the NT compressor rack (about 8%) and an appropriate exchanger. The XEV32D driver, thanks to special algorithms, ensures the sub-cooling optimization, which increases the plant COP (Coefficient Of Performance). Screens show as, with the same compressor, the sub-cooling management increase the refrigeration power (COP increasing). For this reason it's possible to consider the use of a smaller compressor (less absorbed power).



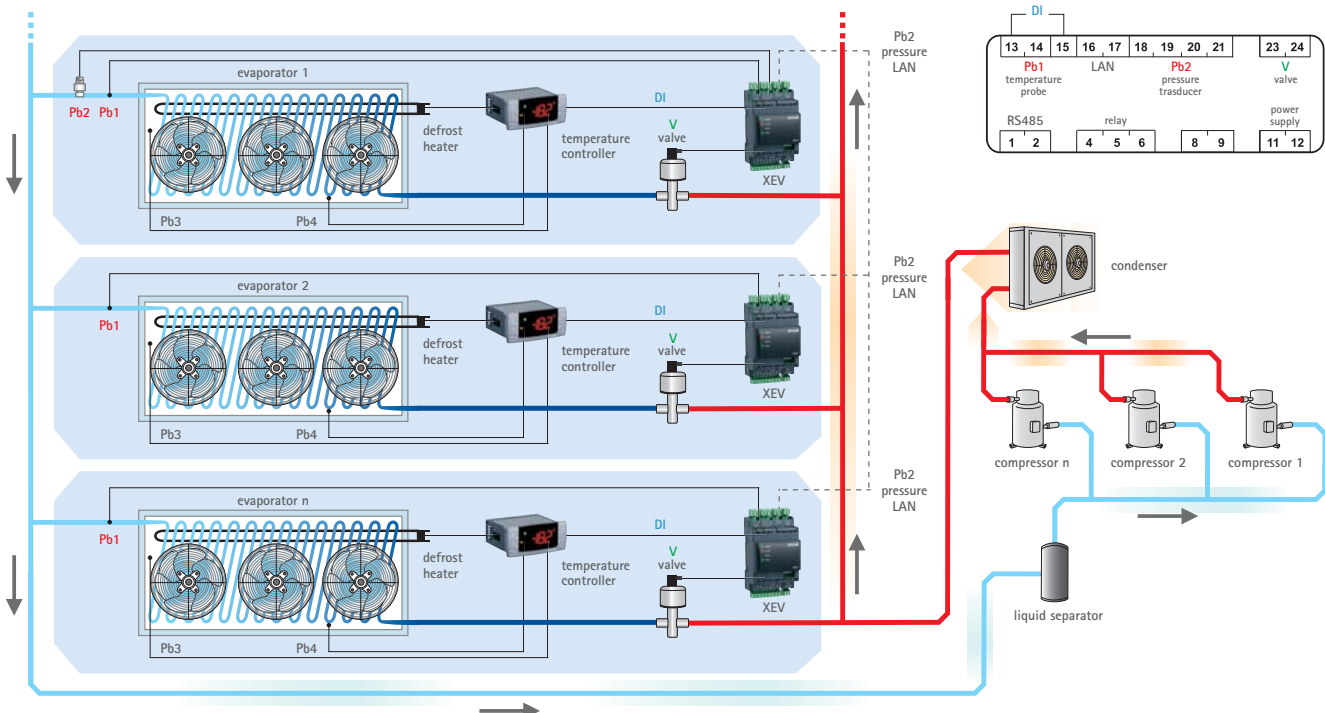
Pressure-enthalpy diagram shows the refrigeration cycle and the sub-cooling zone.

REFRIGERATION CIRCUIT

The diagram shows the different ways to connect the XEV drivers to a generic application like a single cooling unit or multiplexed cabinet. The valve is driven by the XEV module that is in turn commanded, by the activation of the digital input, from the temperature controller.

SINGLE SYSTEM: section 1 of the schematic diagram shows how connections would be arranged for a single cooling system.

MULTIPLEXED CABINET: to reduce installation costs, it is possible to use a single suction pressure transducer as shown in the overall schematic diagram. This transducer's pressure signal is repeated to the other controllers across a digital LAN connection that guarantees optimal noise immunity.





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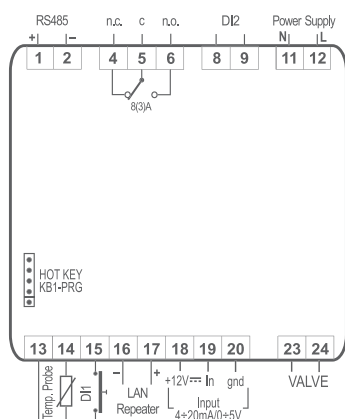


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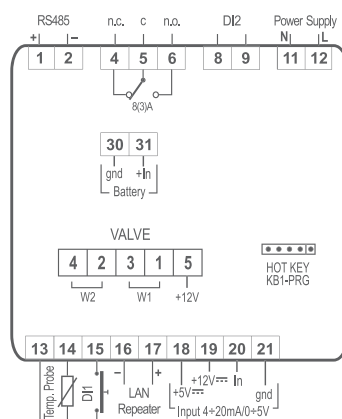
XEV11D	ON/OFF electronic expansion valve driver
XEV12D	ON/OFF electronic expansion valve driver with integrated display
XEV21D	Stepper electronic expansion valve driver
XEV22D	Stepper electronic expansion valve driver with integrated display
XEV32D	Stepper electronic expansion valve driver with integrated display and sub-cooling management
KB1 PRG	Programming keyboard for XEV11D and XEV21D modules

FEATURES	XEV11D	XEV12D	XEV21D	XEV22D	XEV32D	KB1 PRG
Display: n° digits		± 3 d.p.		± 3 d.p.	± 3 d.p.	± 3 d.p.
Keyboard: push buttons		3		3	3	6
Power supply	24, 110, 230Vac	24, 110, 230Vac	24Vac/dc	24Vac/dc	24Vac/dc	from controller
Probe inputs						
Suction pressure	4-20mA, 0-5V	4-20mA, 0-5V	4-20mA, 0-5V	4-20mA, 0-5V	4-20mA, 0-5V	
Suction temperature	NTC, Pt1000	NTC, Pt1000	NTC, Pt1000	NTC, Pt1000	NTC, Pt1000	
Output liquid temperature					NTC, Pt1000	
Digital inputs						
Free of voltage	pres	pres	pres	pres	pres	
High voltage	pres	pres	pres	pres	pres	
Relay outputs						
Alarm	8A config	8A config	8A config	8A config	8A config	
Other						
Valve driver output	ON/OFF up to 30W	ON/OFF up to 30W	stepper	stepper	stepper	
Hot Key/Prog Tool Kit output	pres	pres	pres	pres	pres	
Remote keyboard output	KB1 PRG		KB1 PRG			
Serial output	RS485	RS485	RS485	RS485	RS485	
Alarm recovery by LAN	pres	pres	pres	pres	pres	
Buzzer	opt	opt				
Battery backup input			pres	pres	pres	

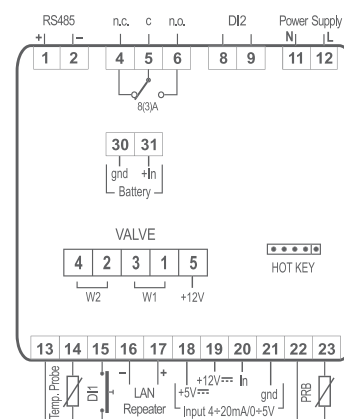
XEV11D - XEV12D



XEV21D - XEV22D



XEV32D



ACCESSORY

CAB/KB11

Cable for the connection between the keyboard and the XEV driver, 1m

