XER-PV models

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by Copeland Controls

XER-PV models for cold rooms with smart EEV control and XeCO2 compatibility



Dear Customer,

we are pleased to announce the expansion of our cold room portfolio with the XER-PV new models. These controllers are designed to deliver precise temperature regulation and simplified commissioning through PWM Electronic Expansion Valve (EEV) control, while optimizing plant efficiency thanks to compatibility with the XeCO2 system.
Designed for commercial refrigeration applications and ready for natural refrigerants, the XER-PV combines advanced control capabilities and integration into connected refrigeration systems in an all-in-one and cost-effective platform.

1. Elevate performance with advanced functions

1.1 Integrated EEV pulse control



The EEV integration ensures precise and efficient cooling performance by continuously regulating superheating for optimal system balance. Thanks to its auto-tuning algorithm, the valve automatically adapts to changing conditions, simplifying setup, reducing commissioning time, and maintaining maximum efficiency without manual adjustments.
Compared to traditional regulation methods, continuous control delivers:

- stable temperatures for improved food preservation;
- optimal superheat management across operating conditions;
- improved system efficiency.

1.2 Low installation cost and fast commissioning

These models offer a compact and competitive solution for natural refrigerant systems by integrating PWM valve management directly into the controller.
Installers can benefit from several key advantages, including:

- eliminates the need for an additional valve driver;
- auto-tuned valve parameters for fast startup and reduced manual adjustments.

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1.4 Integration in the XeCO2 system

The XeCO2 system ensures high efficiency and at the same time to work safely with overfeed evaporators. Together with XM700 controllers for cabinets, iProRACK controllers for compressor rack/motor-condensing units, and XWEB PRO monitoring and supervisor systems, the XER-PV models integrate into the XeCO2 system and optimize evaporator surface, increase cooling capacity and reduce the energy consumption.
These are the key points for this solution using XEV-PV controllers:

- advanced and adaptive superheat management synchronized with the compressor rack status;
- performance optimization through overfeed evaporators resulting in increased rack suction temperature;
- reduced energy consumption through "Optimized Defrost Duration" (ODD) algorithm which decreases defrost duration of up to -24%;
- high efficiency using a PWM valve;
- increased controller performances thanks to remote update.

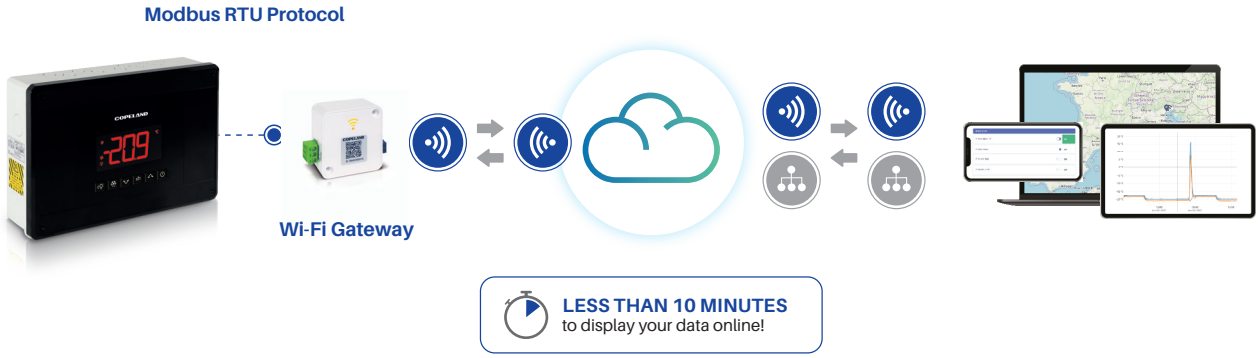
1.3 System reliability and safety

Controllers, through a gas leak detector (eg. CRLDS Series), can promptly signal possible refrigerant losses, maintaining safe conditions inside the cold room and avoiding machine stops due to gas leaks in the refrigeration circuit. A tempestive intervention reduces waste of gas and products inside the room and prevents its deterioration.



2. Copeland Equipment Manager ready

The XER family is compatible with the "Copeland Equipment Manager" service that allows the user to remotely access data on a Cloud platform through common mobile devices. The auto-detect system installed allows to connect the controller and receive the application data automatically within a few minutes, resulting in time and cost reduction for the installation.



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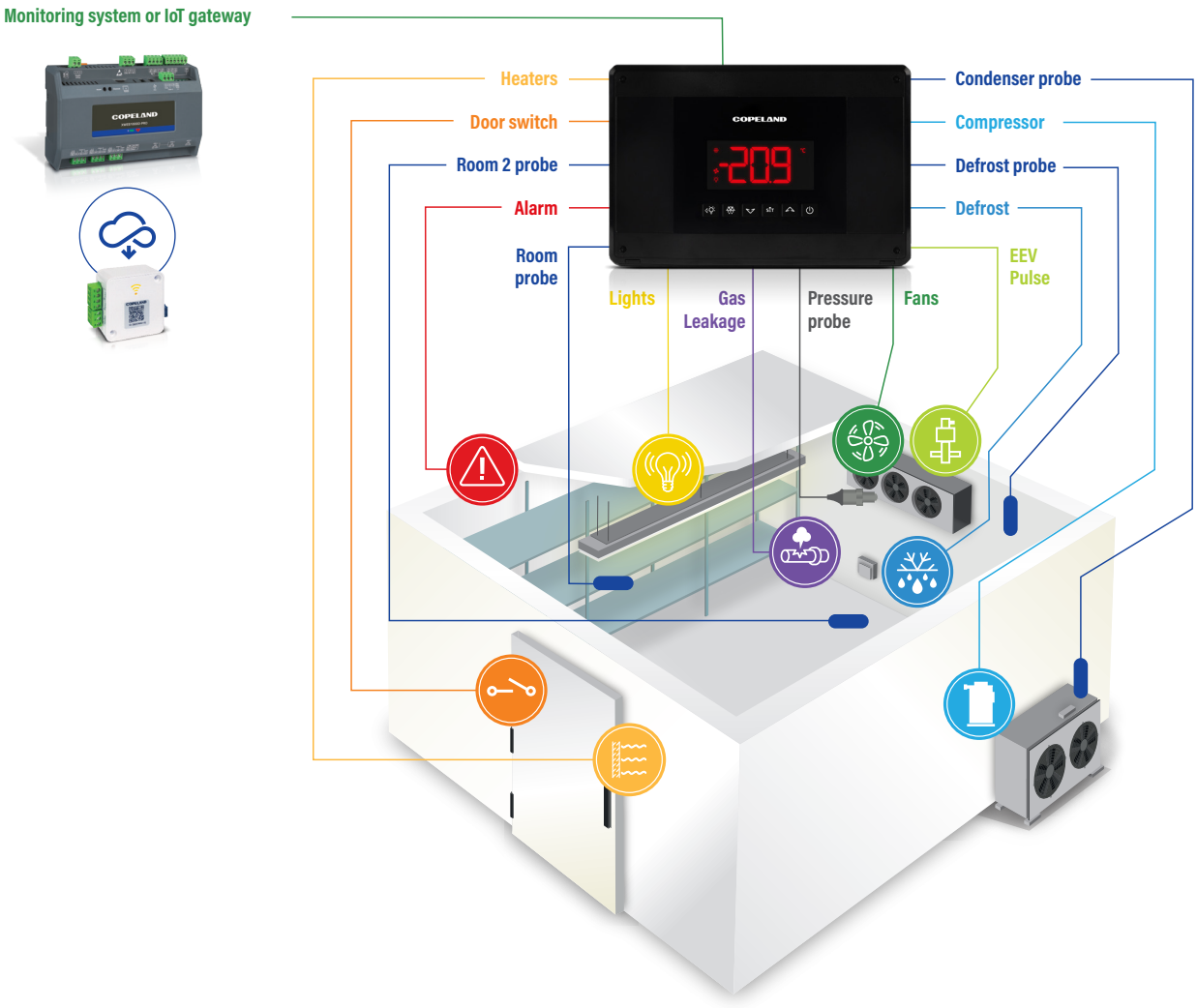
3. Application overview

Because of its high-performance hardware and enhanced functions, XER-PV is ready to answer most needs of the cold rooms currently on the market.



Note: this scheme represents all the available loads that can be managed by the XER controller, with up to 6 loads managed simultaneously.

4. Improved Ease of Use

In addition to the complete user manual, a compact version has been introduced, featuring a more intuitive structure and streamlined organization of content and parameter list, making key information easier to access and improving the overall user experience.

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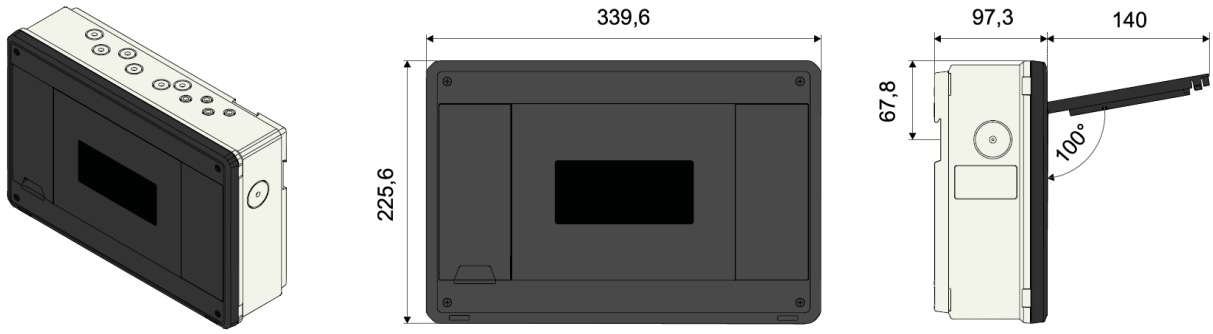
5. Technical features

MODELS	XER160PV	XER163PV	XER261PV
	EEV Pulse	contactor + EEV Pulse	circuit breaker + EEV Pulse
Display: n° digits	3	3	3
Alarm frame	present	present	present
Power supply	230Vac	230Vac	230Vac
Probe inputs	4 NTC, PT1000 all configurable 1 4÷20mA, 0÷5Vdc	4 NTC, PT1000 all configurable 1 4÷20mA, 0÷5Vdc	4 NTC, PT1000 all configurable 1 4÷20mA, 0÷5Vdc
Digital inputs	2 configurable	2 configurable	2 configurable
Relay outputs	2x20A SPST + 1x16A SPST + 1x16A SPDT + 1x8A SPDT all configurable + 1xSSR (200mA)	1x20A SPST +1x16A SPST + 1x16A SPDT +1x8A SPST + 1x8A SPDT all configurable + 1xSSR (200mA) 1x7,5kW (2500V 230Vac x3 (AC1))	2x20A SPST + 1x16A SPST + 1x16A SPDT + 1x8A SPST + 1x8A SPDT all configurable + 1xSSR (200mA)
Hot Key output	present	present	present
0÷10Vdc output	optional	optional	optional
PWM output	optional	optional	optional
Serial outputs	TTL + RS485 opt	TTL + RS485 opt	TTL + RS485 opt
24Vdc power source	optional	optional	optional
Real Time Clock	optional	optional	optional
Connectors	screw	screw	screw

5.1 Dimensions



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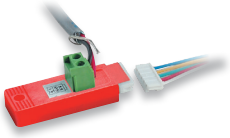
6. Main accessories



XJ485USB-KIT

USB to RS485 serial converter.



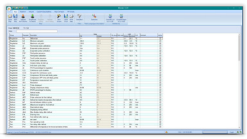
XJ485CX

Serial interface converts the TTL output into an RS485.



HOT KEY 64K

Key for a quick and easy parameter update.
On request: cable and connector for external connection.



WIZMATE PROG-TOOL KIT

Programming tool for a quick and easy parameter update.



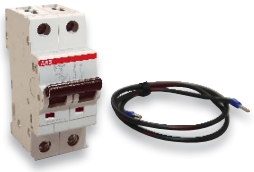
KIT CABLE GLANDS

Cable gland kit.



KIT CONTACTOR

Kit for the management of the three-phase contactor. It includes: contactor, feed-through terminal blocks and wires (for XER163PV).



KIT CIRCUIT BREAKER

Kit for unit safety. It includes: circuit breaker, feed-through terminal blocks and wires (for XER261PV).



KIT POWER SOURCE

Power source for external devices. It includes: AC/DC power source 230Vac/24Vdc (15W), DIN bar, screws.

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7. How to order

XER_ 6_PV - 5BCD0F

B			C	D			F				
	Probe inputs	Display	Measurement unit/RS485		Box type	Ext. Hot Key port		RTC	Freq/ PWM	Analogue output	24Vdc power source
N	NTC/PT1000/NTC/4÷20mA	Red	0= °C/No	0	Standard	No	0	No	No	No	No
R	NTC/PT1000/NTC/4÷20mA	Blue	1= °C/Yes	1	Standard	Yes	1	No	No	No	Yes
P	NTC/PT1000/0÷5V	Red	A= °F/No	2	Black	No	2	No	No	Yes	Yes
Q	NTC/PT1000/0÷5V	Blue	B= °F/Yes	3	Black	Yes	3	No	Yes	Yes	No
							4	Lithium battery	No	No	No
							5	Lithium battery	No	No	Yes
							6	Lithium battery	Yes	Yes	Yes
							7	Lithium battery	Yes	Yes	No

8. Pricing

Please contact our sales department for prices and further information.

9. Availability and orders

XER-PV samples are available. Finish products can be ordered starting from the end of January 2027. Please contact our sales department for delivery time.

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