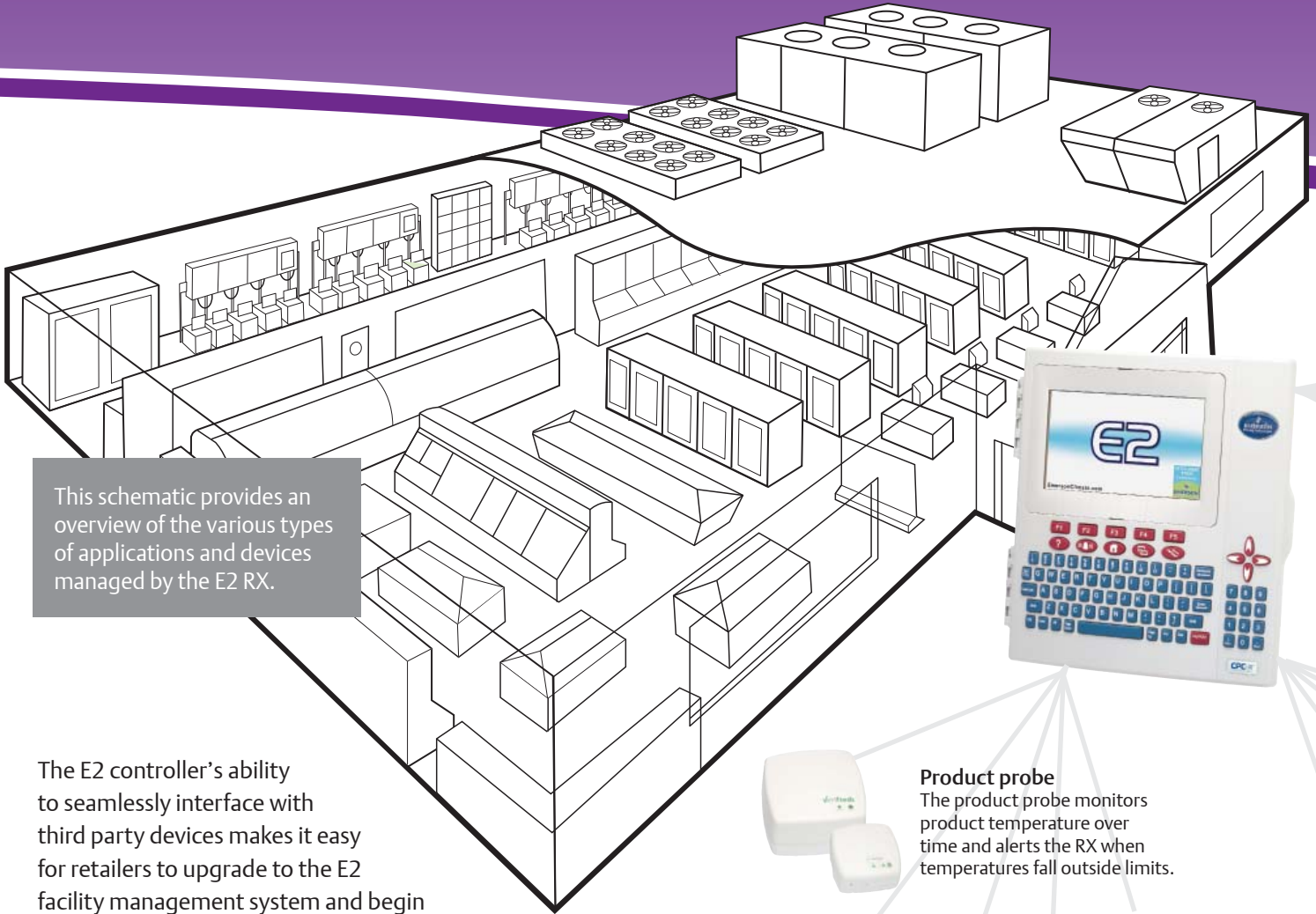


Emerson's E2 RX series

Refrigeration control system



For complete refrigeration system management



This schematic provides an overview of the various types of applications and devices managed by the E2 RX.

The E2 controller's ability to seamlessly interface with third party devices makes it easy for retailers to upgrade to the E2 facility management system and begin safeguarding perishable products, enhancing equipment performance and reducing energy and maintenance costs. The E2 RX:

- Ensures that store fixtures maintain consistent temperatures to minimize product shrink and preserve food quality.
- Provides control algorithms and error messages designed to minimize compressor downtime and increase asset life.
- Enables integration with the monitoring and remote service offerings designed to further reduce operational costs

Enhancements

The E2 RX now comes equipped with 128 MB of RAM and a 500 MHz processor, providing retailers with faster application access and greater data logging capacity. A widened screen displays a system status bar containing a convenient breakdown of system advisories, network connectivity status and system configuration. The addition of a USB port allows users to make firmware updates more easily, as well as perform simple backup and restore functions.

Product probe

The product probe monitors product temperature over time and alerts the RX when temperatures fall outside limits.



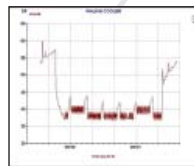
Lighting

The RX manages refrigerated case lighting to reduce energy consumption and maintenance costs.



Graphs

The RX displays status graphs for a variety of log groups to indicate historical patterns and issues.



Third party connectivity

In addition to built-in applications, the RX supports connection to third party equipment using Echelon, Modbus and BACnet.



Power Monitoring

The RX comes equipped with extensive demand shedding features, as well as detailed power usage logs to help retailers spot trends and optimize facility operations. In addition to kWh, retailers can use Emerson's energy meter to access a variety of attributes including power quality, maximum demand, power factor, phase loss, over current, over voltage and accumulated usage.



Emerson's E2 RX controllers are designed to optimize the performance of refrigeration systems using sophisticated control algorithms built into a variety of applications and devices.



XR series

The RX connects with Emerson's XR controller series to offer case control and monitoring for medium and low temperature refrigerated applications. RX integration also enables remote accessibility and alarm management to protect food quality.



Anti-condensate heater controller

The ACC's closed-loop algorithm ensures doorframe heaters are run only when necessary to provide maximum energy savings. The RX contains an application that shows the percentage of heater run time to help retailers understand how much energy was conserved.



Indoor relative humidity sensor

The E2 uses data from the relative humidity sensor to maximize anti-condensate control.



Multiflex boards

Multiflex boards provide a flexible I/O system for use with the RX. Analog and digital inputs are supported, as well as relay and analog outputs.



XEV valve driver

The RX communicates with Emerson's XEV valve driver to improve system efficiency by maintaining superheat at an optimized setting. The XEV regulates refrigerant flow in response to temperature and pressure sensor readings to maximize performance. Additionally, a fast recovery algorithm corrects superheat problems more rapidly than traditional systems after verifying a superheat anomaly.



Refrigerant leak detectors

The RX receives immediate notification from Emerson's single and multi-zone refrigerant leak detection devices when a leak is detected in a refrigeration system. The RX also enables programming of multiple setpoints for each device to customize leak detection levels.



Advanced scheduling

The RX allows retailers to create advanced schedules based on occupancy and other factors to maximize energy savings. Retailers can create up to 64 schedules with 15 custom events per schedule. Additionally, holiday scheduling allows retailers to override standard time schedules with up to four different holiday schedules, each with up to 24 days for special events.



Condensers

The RX enhances the performance of both air-cooled and evaporative condensers using split condenser control and fast recovery strategies.



Suction groups

The RX manages up to four compressor racks with up to 16 compressors via advanced algorithms, with a variety of refrigerants and control strategies. Sophisticated algorithms allow retailers to fine tune control strategies to achieve optimum compressor life and energy savings.



Circuits/display cases

The RX's flexible control options allow retailers to choose between standard refrigeration control and distributed case control. Both options provide temperature control, monitoring, defrost management and alarming for out-of-tolerance conditions. The RX can support up to 64 case control units for up to 70 types of cases, including deli, multi-deck ice cream and reach-in dairy cases, as well as produce islands. Selecting case types in the RX allows retailers to assign default parameters and save time in equipment setup.

Application	RX Models		
	RX-100	RX-300	RX-400
Ethernet Support	Yes	Yes	Yes
Echelon Support	No	Yes	Yes
Analog combiners		128	128
Analog Sensor Control	24	64	72
Anti-sweat	8	16	64
Circuits (Case Control)		48	64
Circuits (Standard)	48	48	64
Condensers	1	1	2
Demand Control			
Digital Sensor Control	24	64	72
Digital Combiners		128	128
Eng. Unit Converter	4	128	128
Enhanced Suction Control	4	4	4
Facility Status Display	7	7	7
Flexible Combiners	64	128	128
Heat/Cool Control		16	16
Holidays	4	64	64
HVAC Simulator		16	16
Logging Groups	8	32	32
Loop/Sequence Control	4	16	24
Modular Chiller Control*		1	2
Onboard IO	1	1	1
Power Monitoring	1	16	16
Pulse Accumulation		16	16
Rack Simulator		4	4
Standard Suction Control	4	4	4
TD Condenser Fan Control	4	64	64
Time Schedules	4	64	64
4AO	2	16	16
8RO	16	32	32
8DO	4	16	16
16AI	16	16	16
CCB*		99	99
MultiFlex CUB		31	31
MultiFlex ESR		31	31
MultiFlex PAK		16	16
RLDS	1	16	16

Intelligent Store® architecture

Integrating facility hardware with Emerson's ProAct® service offerings allows retailers to capitalize on their infrastructure investments and further reduce operational costs. Over time, efficiencies gained from infrastructure investments will erode if not properly maintained. Emerson's facility experts offer free analysis of operational data and prescribe a customized set of solutions to target areas needing improvement. For free operational cost analysis, contact us at RetailSolutionsMarketing@Emerson.com. For more information on Emerson's ProAct services, visit EmersonClimate.com.

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