

Supervisory Control Systems

Applications and Capacities

Building Controls



HVAC

Retailers can group air handler and rooftop units in zones for simplified control. The system provides networked control for heating and cooling setpoints, occupancy schedules, emergency override, indoor air quality, alarms and remote unit reset, and supports management of variable speed drives.



Lighting

The system combines advanced scheduling features, light level sensors and override buttons to help optimize lighting system control for floor and parking lot lighting and exterior signage.



Power Monitoring

The system 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.

Advanced Controls



Multiflex boards

Multiflex boards provide a flexible I/O system with analog and digital inputs supported, as well as relay and analog outputs.



Graphs

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



Advanced scheduling

The system allows retailers to create advanced schedules based on occupancy and other factors to enhance 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.

Refrigeration Controls



Condensers

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



Suction groups

The system 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 improved compressor life and energy savings.



Circuits/display cases

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.



Refrigerant leak detectors

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



Anti-condensate heater controller

The ACC's closed-loop algorithm ensures doorframe heaters are run only when necessary to provide maximum energy savings using data from the relative humidity sensor to maximize anti-condensate control. The system contains an application that shows the percentage of heater run time to help retailers understand how much energy was conserved.

Connectivity



Third party connectivity

In addition to built-in applications, the Building Supervisor supports connection to third party equipment using Modbus.



System Supervisor Features Include:

- Performance meter
- 13 performance months logging
- Smart alarming
- Site aggregation of status and data of multiple controllers

Emerson Supervisory Control Application and System Capacity Matrix

Application	Site Supervisor SF	Site Supervisor CX	Site Supervisor Expansion CXe	Building Supervisor BXS300	Building Supervisor Expansion BXSe	Refrigeration Supervisor RXS300	Refrigeration Supervisor Expansion RXSe
Ethernet Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes
AHU Large		6	8	6	8		
AHU Small	4						
Analog Combiner	64	128	128	128	128	128	128
Analog Sensor Control	12	24	48	64	72	64	72
Anti-sweat	4	8	16	16	48	16	64
Case Control Circuit		12	24			48	64
Condenser		1	2			1	2
Control Link ACC	8	16	16			63	63
Demand Control	1	1	1	2	2		
Digital Combiner	64	128	128	128	128	128	128
Digital Sensor Control	12	24	48	64	72	64	72
Emerson T-Stat	8	32	64	32	64		
Energy Meter	8	30	30	30	30	30	30
Enhanced Suction Control**		1	4			4	4
Flexible Combiner	64	128	128	128	128	128	128
HVAC Zone	4	6	12	32	40		
Irrigation	2	2	2				
Lighting Control	6	24	48	24	48		
Logging Group	12	32	32	32	32	32	32
Loop/Sequence Control	8	16	28	16	28	16	24
MRLDS	24	24	24	24	24	24	24
Multiflex 4AO	2	16	16	16	16	16	16
Multiflex 8DO	4	16	16	16	16	16	16
Multiflex 8RO	16	32	32	32	32	32	32
Multiflex 16AI	16	16	16	16	16	16	16
Multiflex ARTC/RTU		32	32	32	32		
Multiflex ESR		31	31			31	31
MultiFlex RCB/RCB-P Controller		32	32	64			
RLDS	1	16	16	16	16	16	16
Standard Circuit	6	12	32			48	64
Standard Suction Control**		1	4			4	4
TD Condenser Fan Control		16	28	16	28	64	64
Time Schedule	8	16	32	64	64	64	64
Utility Monitoring	8	8	16	32	64	16	16
Wireless Gateway	1	1	1	1	1	1	1
Wireless Module	99	99	99	99	99	99	99

**The number shown for the controllers indicates the total number of Suction Group applications available. A controller can support any combination of standard Suction Groups and Enhanced Suction Groups that do not exceed the total number for either type. For example, an RXS supports two (2) Enhanced Suction Controls and two (2) Standard Suction Controls (a total of 4) or three (3) Enhanced Suction Controls and one (1) Standard Suction Control (a total of 4).