Natural Refrigerant Training Summit

Building a Sustainable Workforce

E3 Controls Introduction

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NORTH AMERICAN Sustainable Refrigeration Council

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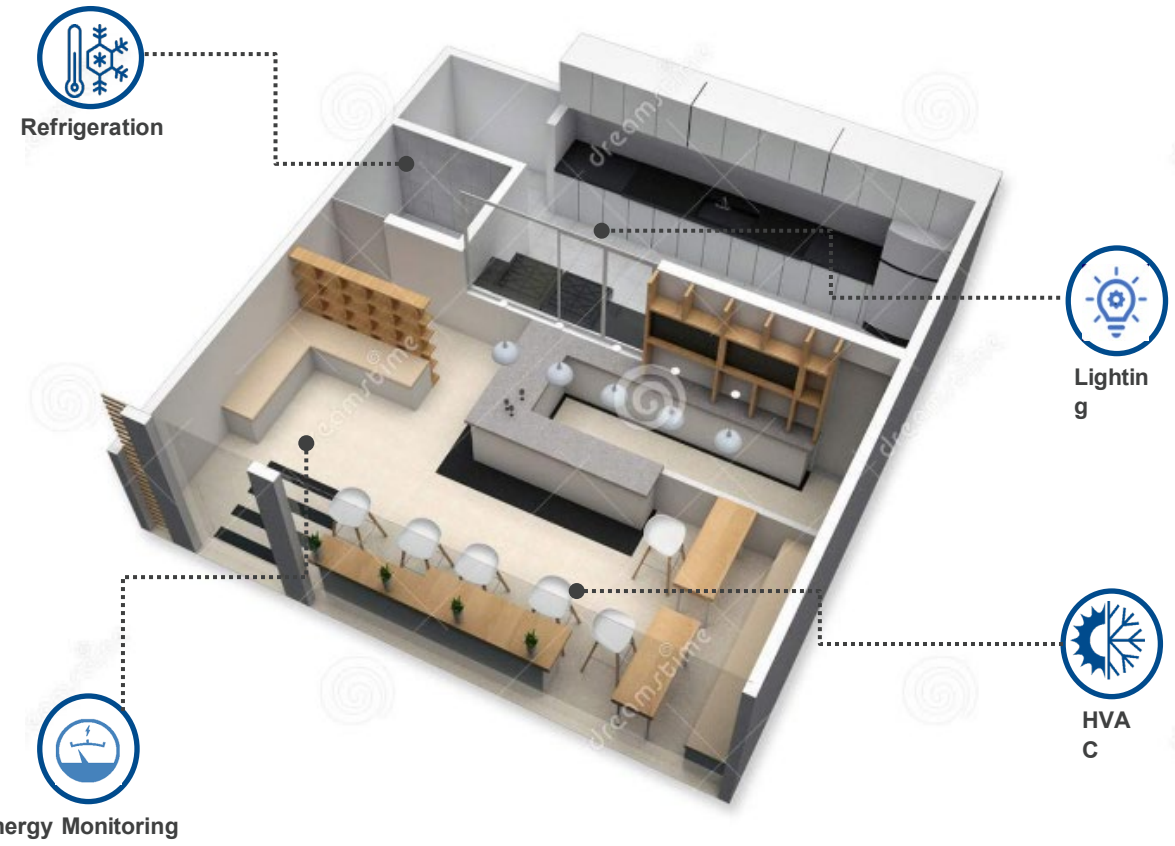
Supervisory Control

What Does Emerson Supervisory Control System Do?

New Store

Remodel



- Built In Display
- Communicates to Modbus, BACnet Devices
- Multiple Ethernet Ports
- Onboard Graphics

- Cost flexibility
- Ideal for space constrained areas
- Flexible display options
- Onboard I/O
- Flexible mounting

- HVAC Control
- Refrigeration Control
- Lighting Control
- Energy Metering
- Remote Monitoring
- Operational Optimization
- Energy Savings

Touch Screen's 10, 15, 21 Inch Models Available

2. Optional Touch Screen and Sizes Available

Wall-Mounted Control Screen and Interface

- Optional Sizes/Price point and user experience
- Primary access for local-level users
- Touchscreen color display
- Icon- and menu-driven operation
- Intuitive functions are familiar to all; no special training required
- View-only default
- Password protected access to advanced functions for managers and technician user modes
- Access to advanced functions requires authorization

Network Architecture

Local Display HMI

Phone
Tablet

HVAC
Monitoring
and Control

Refrigeratio
n Monitoring

Utility
Monitoring

Power
Monitoring

Lighting
Control

Network Layout _ Flexibility with Existing and New Controllers

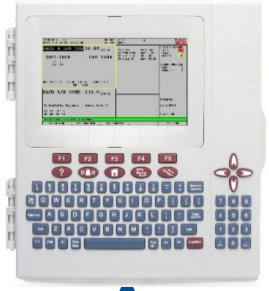
Tablet or Mobile

Touchscreen's

Aggregator

PC

Refrigeration (RX)



Refrigeration (RX)

Refrigeration (RX)

Building (BX)

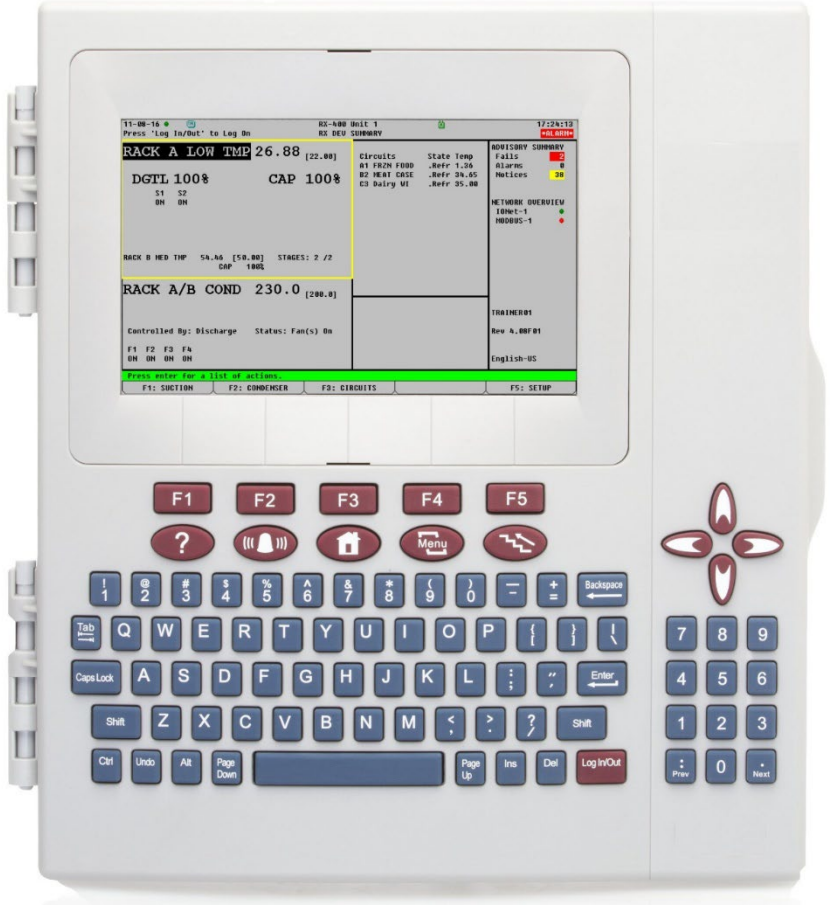
E3 vs E2e

Introduction to the Platform

E3 vs E2

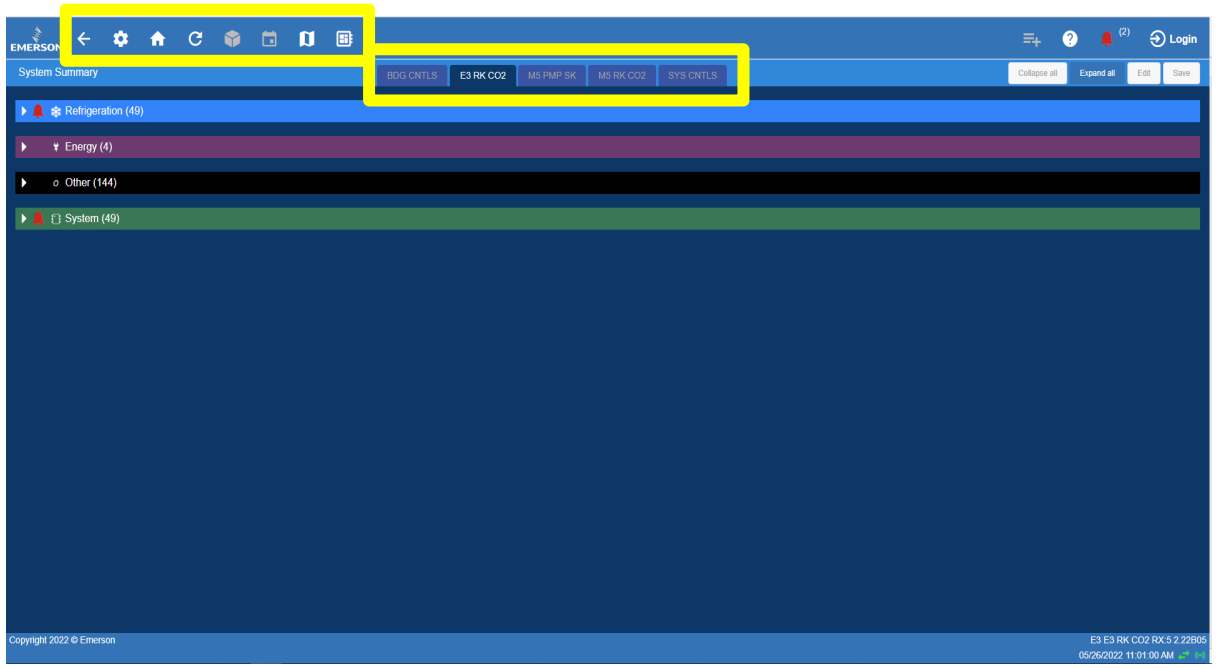
E3 front view

E2e front view

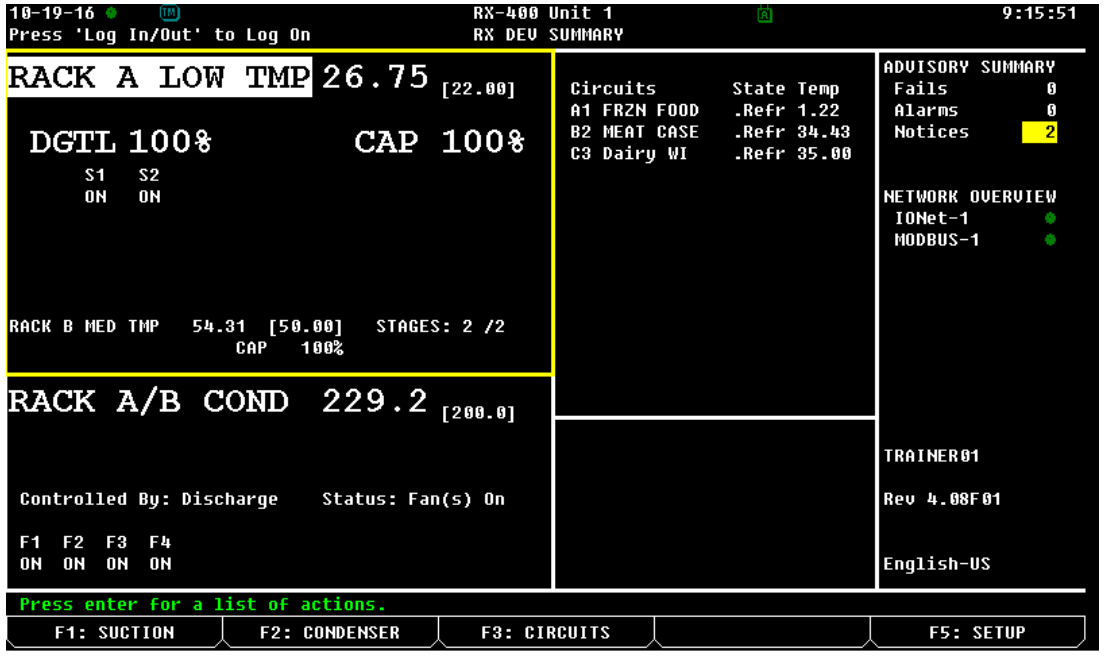


E3 vs E2

E3 software: Supervisory Control Software



E2 Software:



The E3 operates on a shared software platform with Site Supervisor. This new format offers intuitive navigation that technicians will find familiar and easy to use.

E3 Controller is a Drop-in Replacement for the E2 Product

- **True E2 Drop-in Replacement**
  - **Identical** wiring holes, mounting points and vents
  - Enclosure fits into existing panel cut-out
- **Updated Integrated Display**
  - **Larger** 10” capacitive color touch-screen
  - User-friendly interface with on-screen keyboard
- **Equivalent COM Port Configuration and Power Connections**
  - **Total of four COM ports** for connected devices with two isolated COM ports
  - Easily swap out an E2 with no need for rewiring
- **Fully Backward Compatible With MultiFlex and IONet Boards**

E3 Technical Specifications

Operating Temperature	-40°F to 149°F (-40°C to 65°C)
Operating Humidity **Storage Humidity**	5% - 95% RH non-condensing at 90°F 5% - 100% RH
24 VAC	24 VAC ±20%, 50/60 Hz, Class 2, 80VA
Dimensions	12” L x 12.5” W x 3.75 H”
4 RS485 ports	COMM 1 = RS485 Com 2 A and B COMM 2 = RS485 Com 6 (isolated) COMM 3 = RS485 (isolated) COMM 4 = RS485 Com 4 A and B
2 Ethernet ports	Ports 0,1
2 USB ports	J2, J3

Hardware Enhancements and Modified Applications

Hardware Enhancements

E2 Hardware	E3 Hardware
500 MHz Single Core	1.6 GHz Quad Core
128 MB RAM	2 GB RAM
1 Ethernet Port (1 MAC/PHY)	2 Ethernet Ports (2 MAC/PHY)
3 RS-485 COM Ports	4 RS-485 COM Ports (2 Isolated)
Plug for Optional I/O Daughter Card	Plug for Optional I/O Daughter Card

Modified Applications in E3

E2 Application Name	New E3 Application Name
Eng. Unit Converter	Localization
Heat/Cool Control	Thermostat or Sensor Control
Power Monitoring	Utility Monitoring
Pulse Accumulator	Utility Monitoring
Time Schedule	Scheduler

Twelve times faster processing power and 16X additional memory built in to E3 and SS for faster response time and increased storage.

Model Cross Reference for Supervisory Control Platform (SS/E3) vs E2

E3 or Site Supervisor to E2 Cross-Reference Guide									
	E3 / Site Supervisor Models								
E2 Models	Small Format Controller SF	Refrigeration Controller RXS	Refrigeration Controller RXSe	Building Controller BXS	Building Controller BXSe	Combination Controller CXS	Combination Controller CXSe	Service Replacement SR	Site Aggregator SA
RX300		✓						✓	
RX400			✓					✓	
BX300				✓				✓	
BX400					✓			✓	
CX100	✓							✓	
CX300						✓		✓	
CX400						✓	✓	✓	
Overlay E2									✓

New Service Replacement (SR) Model

- **Max** number of all applications RX, BX, CX, 400 level
- **Save time** when emergency replacement needed
- **Reduce complexity** of carrying/stocking multiple types for service calls
- **Simplify** your enterprise with one controller that does the max of everything

Site Aggregator (SA)

- True System Supervisor. Dedicated processing power and memory for logging and analytics
- Single view of controllers, compatible with E2's and Supervisors
- Overlay Existing E2 network

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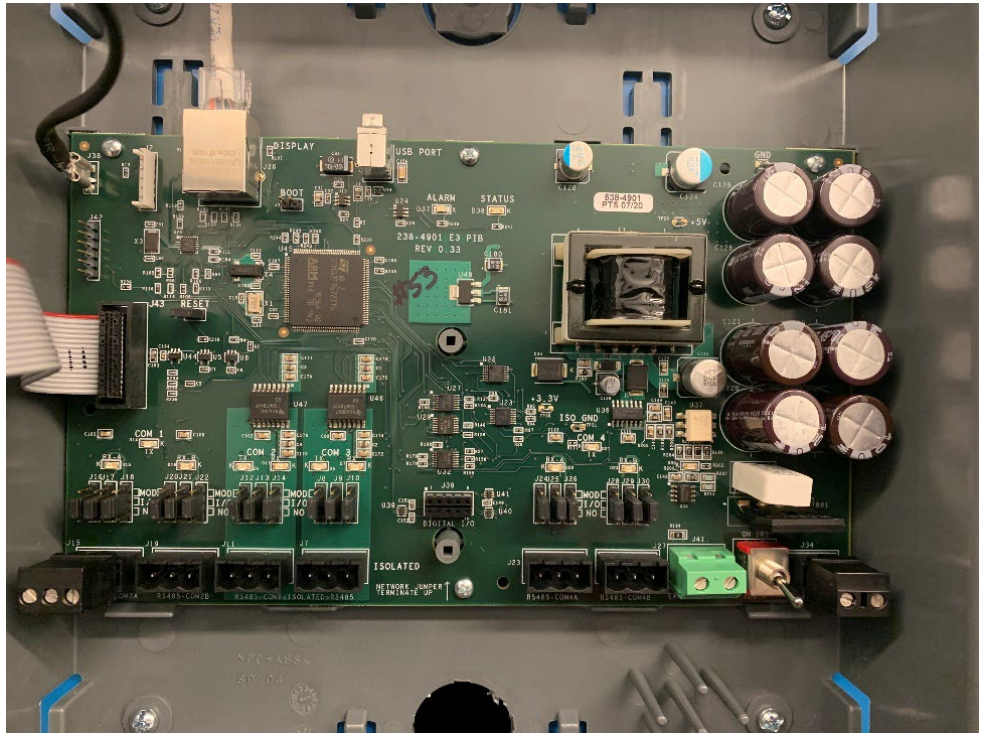
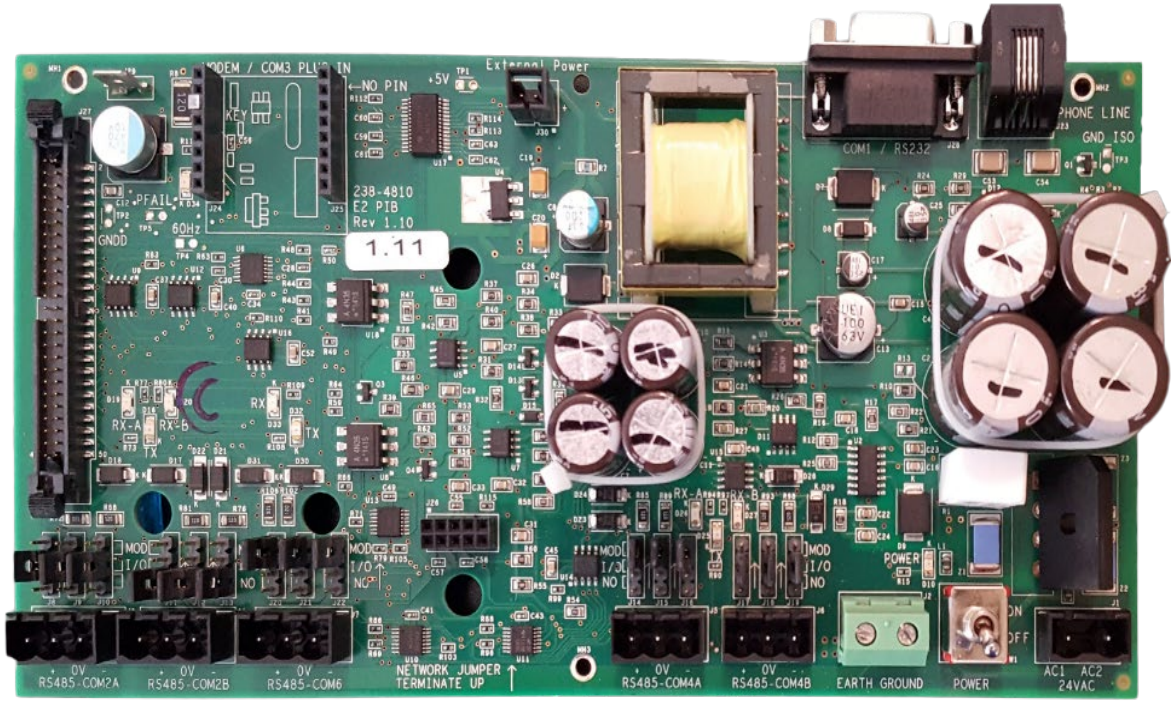
E3 vs E2

E3 PIB



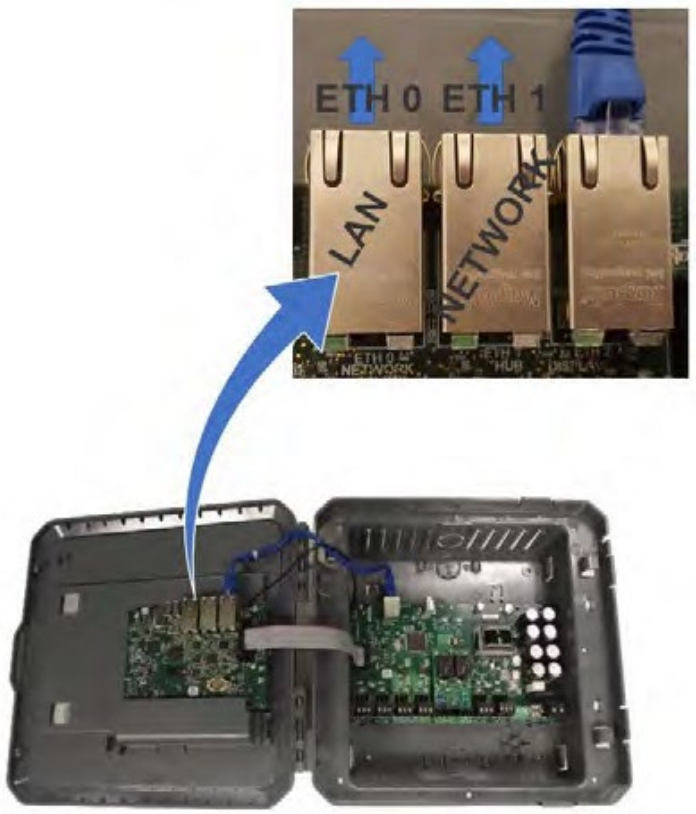
E2 PIB



The E3 PIB has been designed to resemble the E2e PIB. This makes the swap easier as the technician is familiar with the layout of wiring and com port terminations. USB on the E3 PIB can be used for making configuration changes to the E3's IP settings.

E3 vs E2 Network Connections

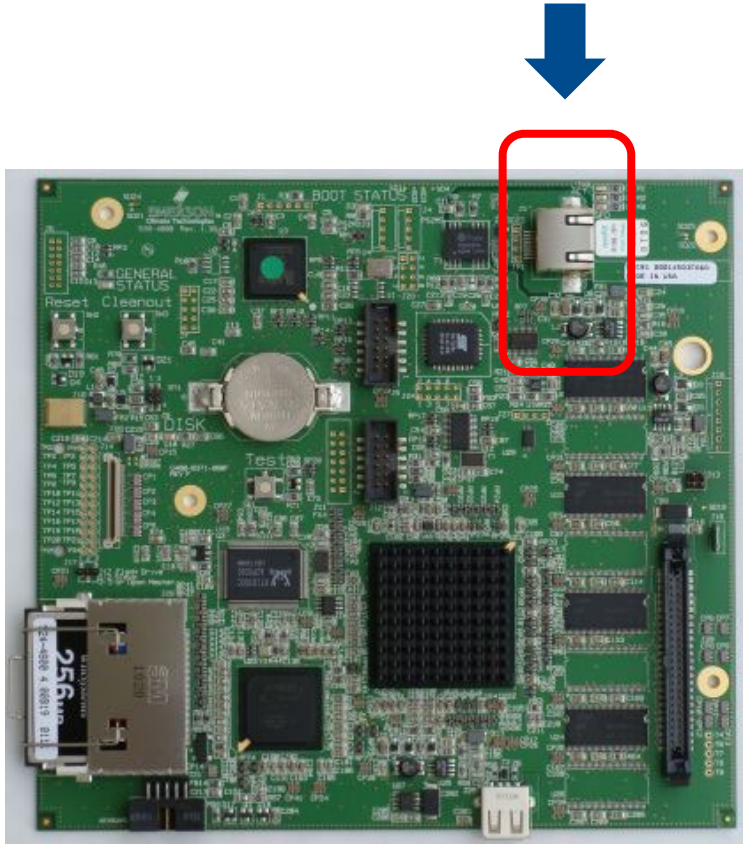
E3 Ethernet Connections



E3 Ethernet Connections

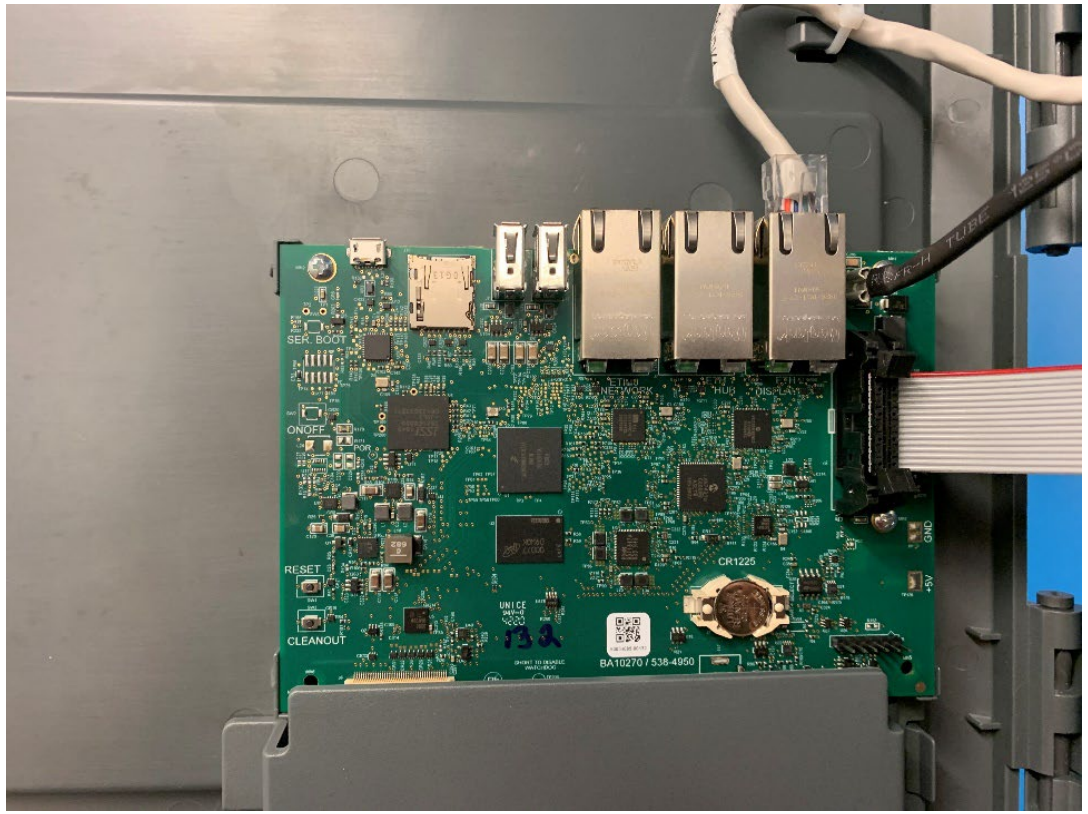
- The E3 provides an additional Ethernet connection on back of the door. ETH 0 is used to connect to corporate LAN.
- ETH 1 is designed to be used for directly connecting to PIB and laptop or PC and network devices.
- This allows a user to be hard wired to the E3 device while still connected to the store's corporate network. Added security has been incorporated by keeping the ETH1 and ETH 0 connections physically separated.

E2 Ethernet Connections



E3 vs E2

E3 Back of door



E2 Back of door

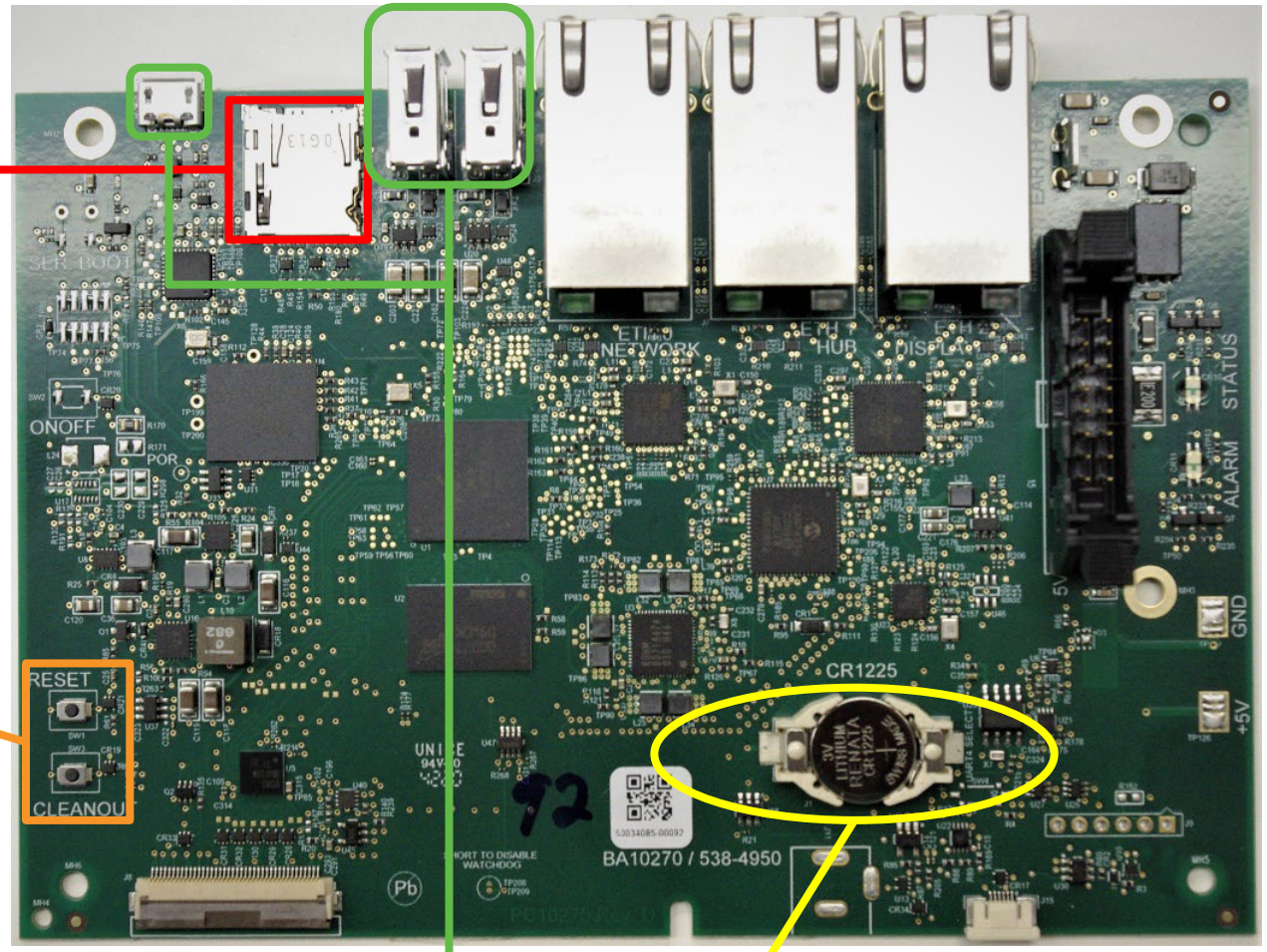
Two USB ports are available on the door of the E3 and can be used for backup/restoring of the setpoint files, and firmware updates.

E3 Back Of Door

- E3 Ethernet connections

SD Card

Archive log data, backup and restore of setpoints files



Reset and Cleanout

Performs a manual reset and cleanout of the device

For Site Supervisor the ‘Cleanout’ is done via software in the Logs and Statistics page.

USB and Micro USB Drives

File and Firmware updates, setpoints file backup and restore.

Battery

Protects log and alarm data during power loss

EMERSON.

Supervisory Control Software Differences

Features and Benefits

Connecting to the E3 thru Internal Webpage

All configuration can be accomplished through the E3's Built-in Display, Remote Display or laptop, PC. No Software Needed

- IP Address 192.168.1.250 – Port 1
- IP Address 192.168.0.250 – Port 0

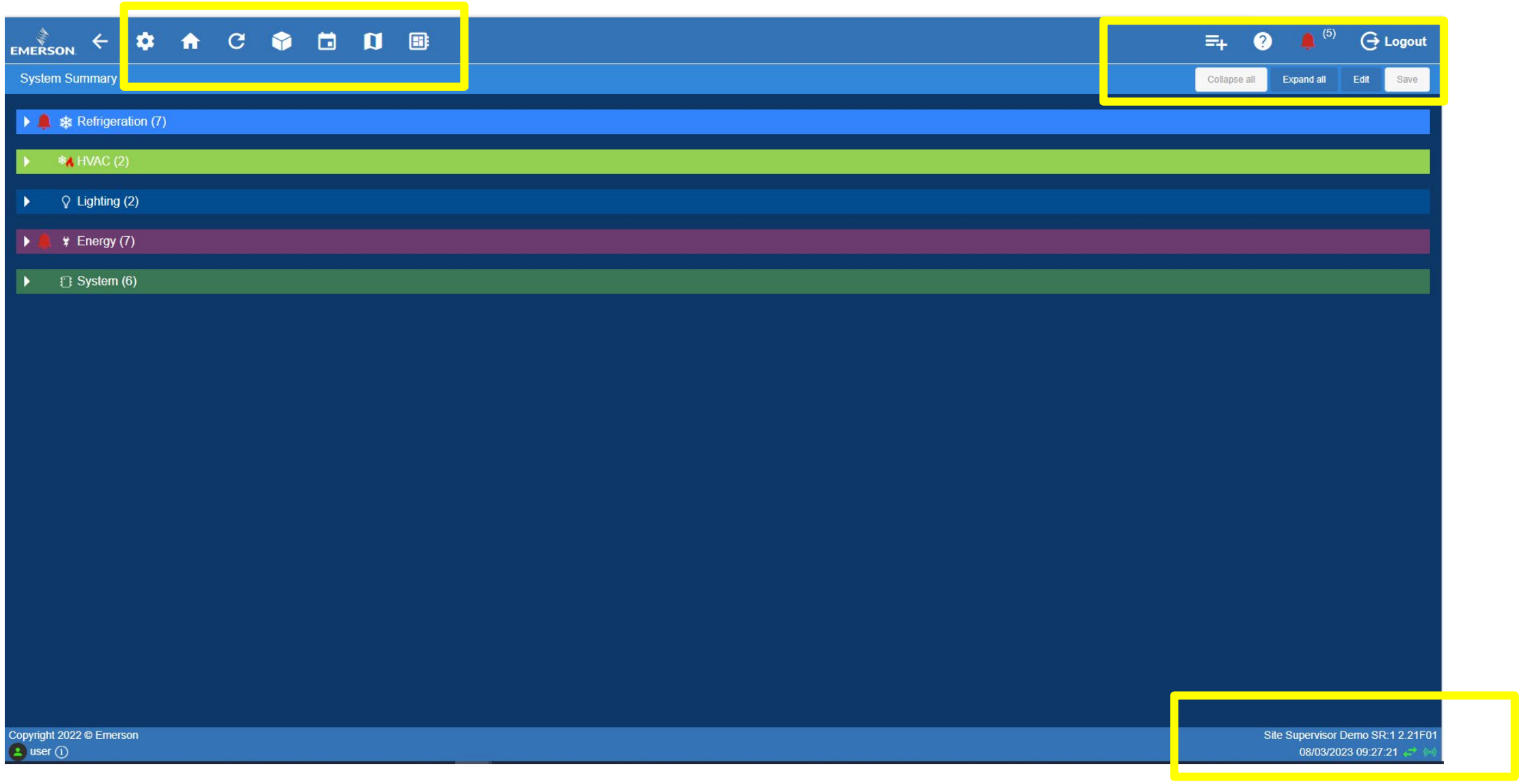
New Control Software Features

Software Features

Supervisory Control Software provides the Same Control Function as E2, and includes new:

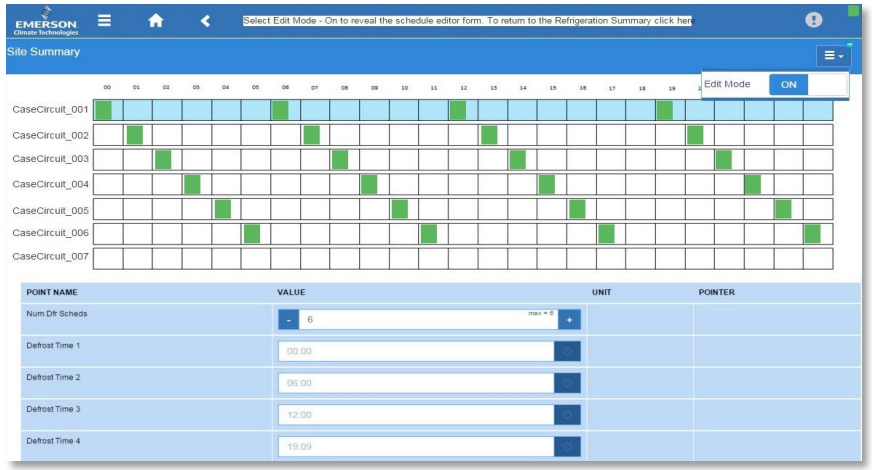
- Faster Response and Navigation
- Text and Email Alerting
- Prioritized Alarms
- Floor Plan Views
- Aggregate Devices
- Enhanced Upstream Communication Capabilities
- Intuitive Navigation with Graphical Interface
- Increased Security
- Increased Network Functionality
- No Additional Software Needed

Internal Webpage

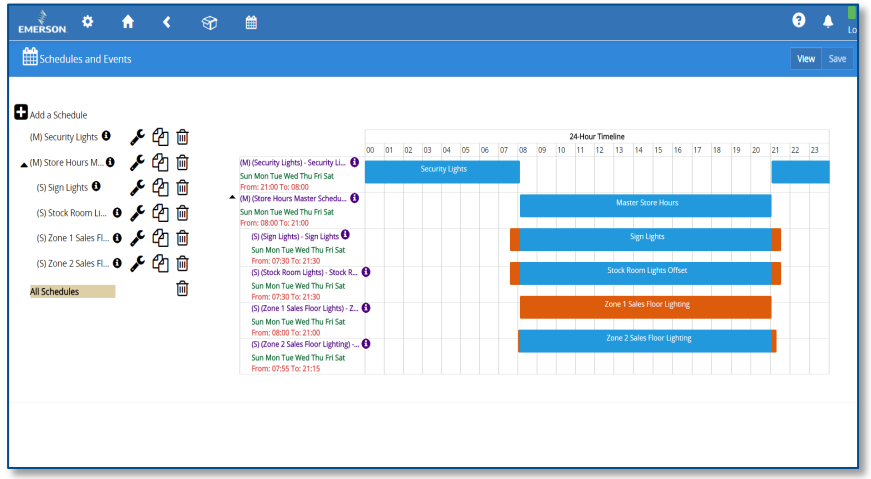


Supervisory Control Differentiators vs. E2

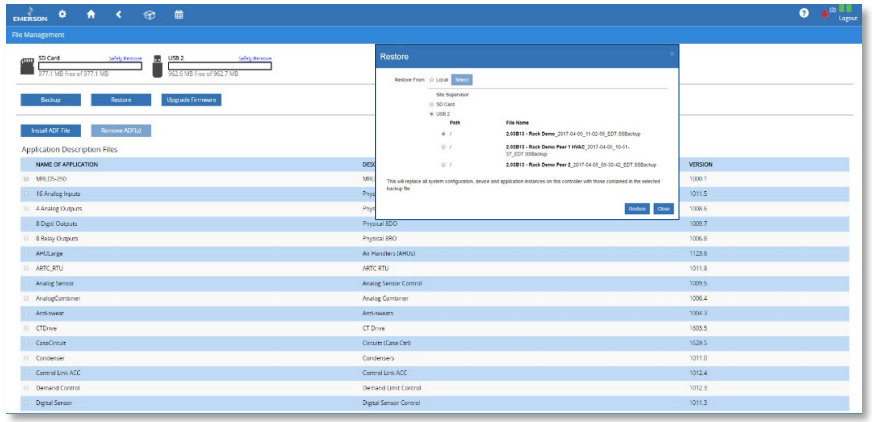
Graphical Defrost Summary



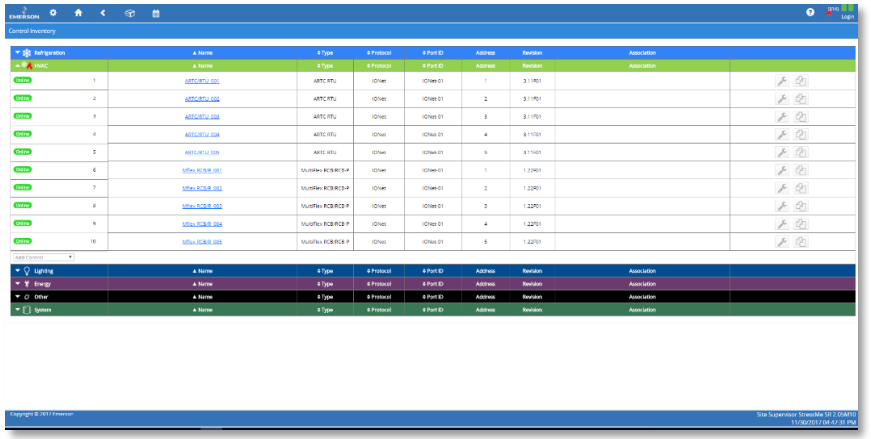
Graphical Schedule



File Management



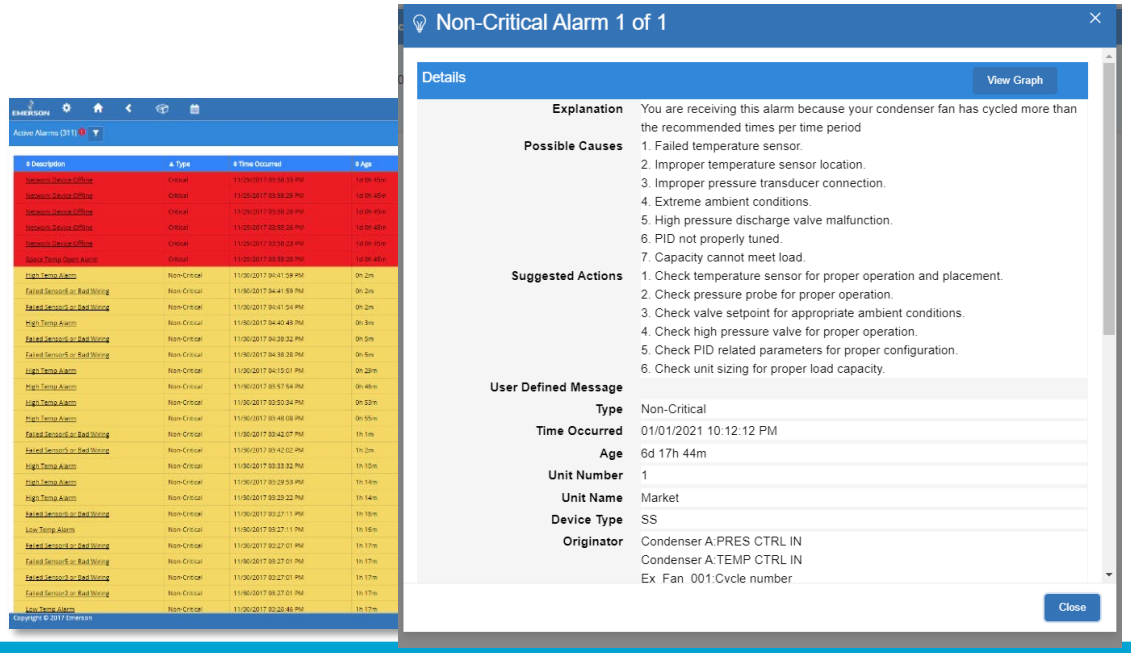
Site Inventory



Fast Troubleshooting via Smart Alarms and Custom Graphing

Smart Alarms

- Provides high level explanation, possible causes, and suggested actions to take. Can enter custom user defined messages.



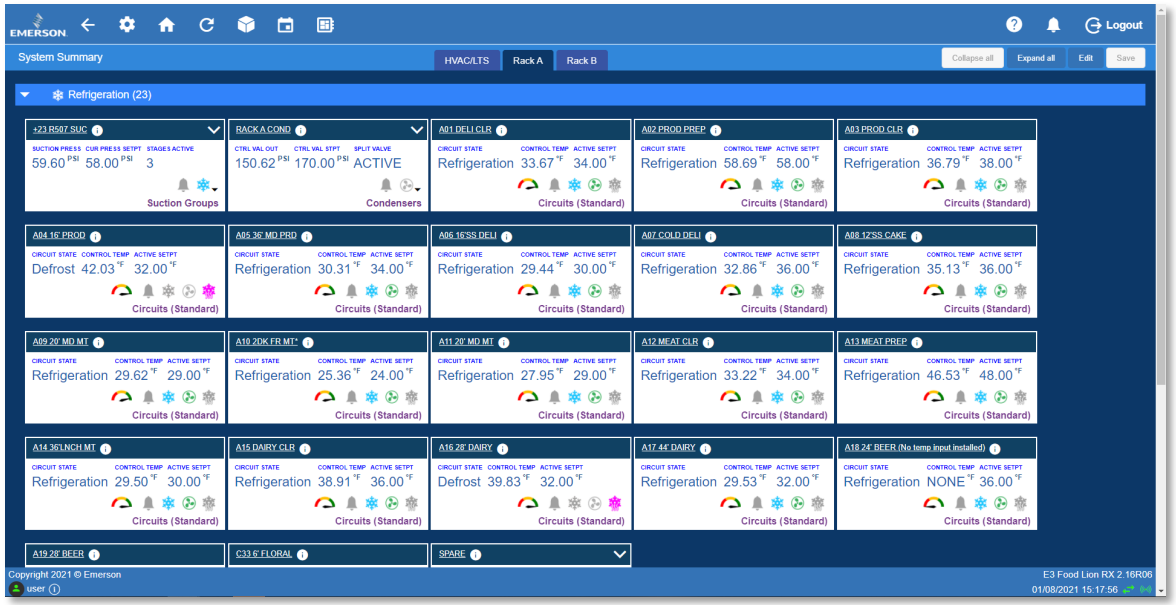
Graphical System Status Pages

- Monitor system status and performance visually with graph-based reports that identify historical patterns, trends and issues.

Benefit: Faster Trouble Shooting, Saving Time

Performance Meter, A Simple Way to Recognize Site Performance

- Case performance rolls-up into circuit performance. Graph or download performance data for detailed analysis. Up to 13 months of performance history for seasonal performance comparison is available.



CO2 Control Additions

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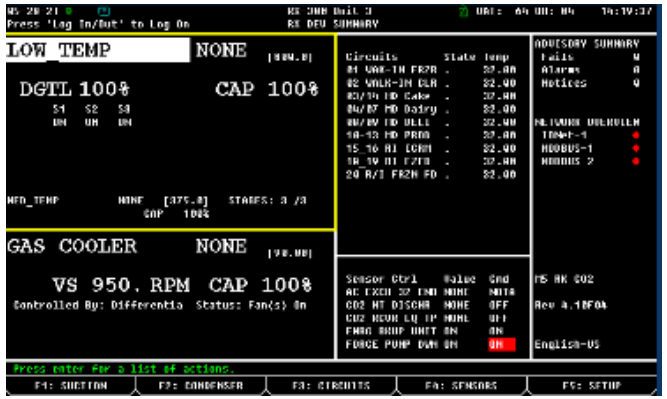
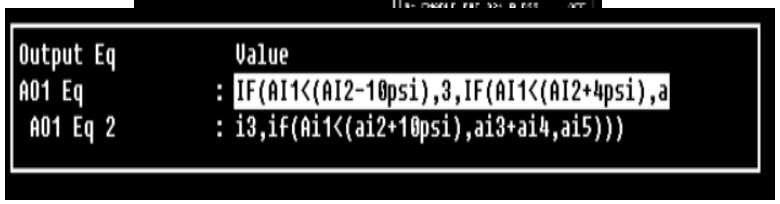
One CO2 System Application

E2e Control

Enhanced
Suction
Groups
+ or -
20 Flex
Combiners
For
liquid Injection
HG Injection
Oil Management
Circuit Shutdown
Heat Reclaim

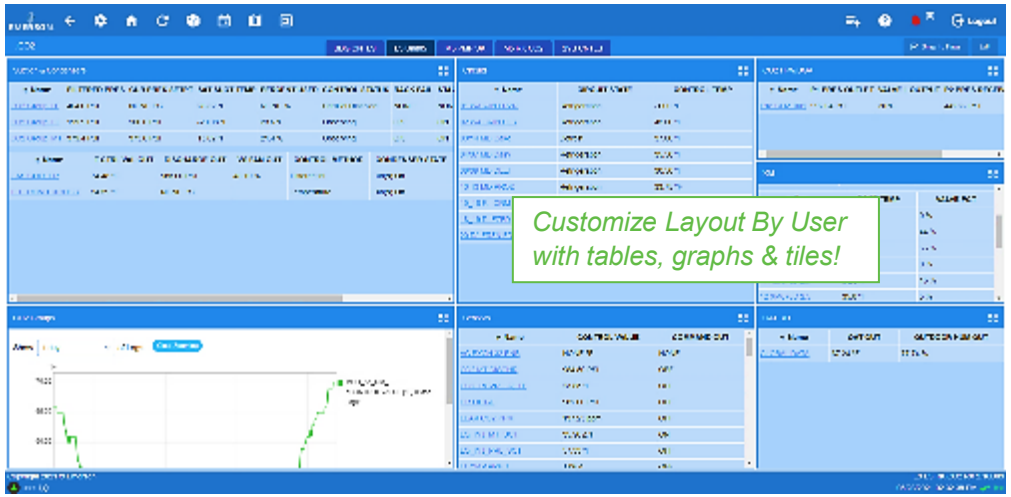


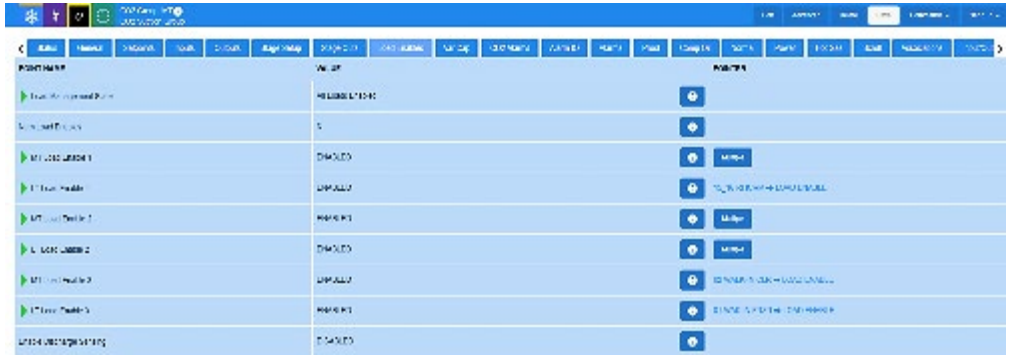


Hard To Read
Hard to Write

Enhanced
Suction
Groups
+
Native
Algorithms
for CO2
Booster
Control
+
Custom
System
Layout
Feature

New E3 CO2 Suction Group Control

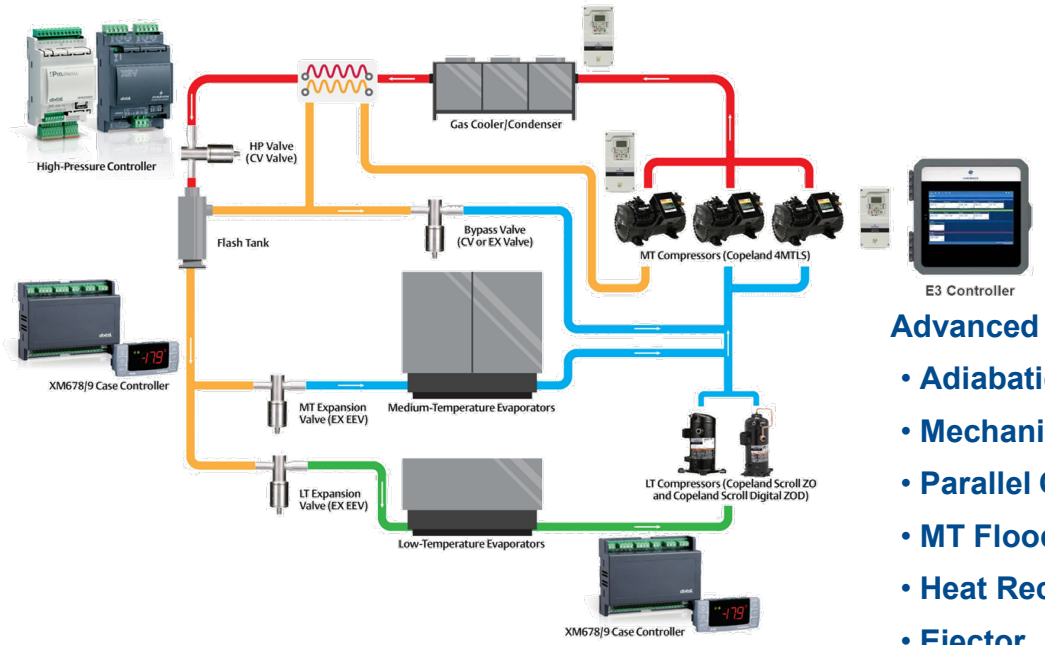




Simplified Control Configuration

Emerson CO_2 Solution Offering

Centralized CO_2 Booster System



Advanced CO2 Technologies:

- **Adiabatic Condensers**
- **Mechanical Subcooling**
- **Parallel Compression**
- **MT Flooded Evaporators**
- **Heat Reclaim,**
- **Ejector Control/Management**

Controls:

- Rack Controller
- Updated High Pressure & Bypass Valve Control with Visibility Into Rack Controller
- Case Controls

Compression:

- LT Compression
- MT Compression
- Core Sense Protection
- VFD Drives

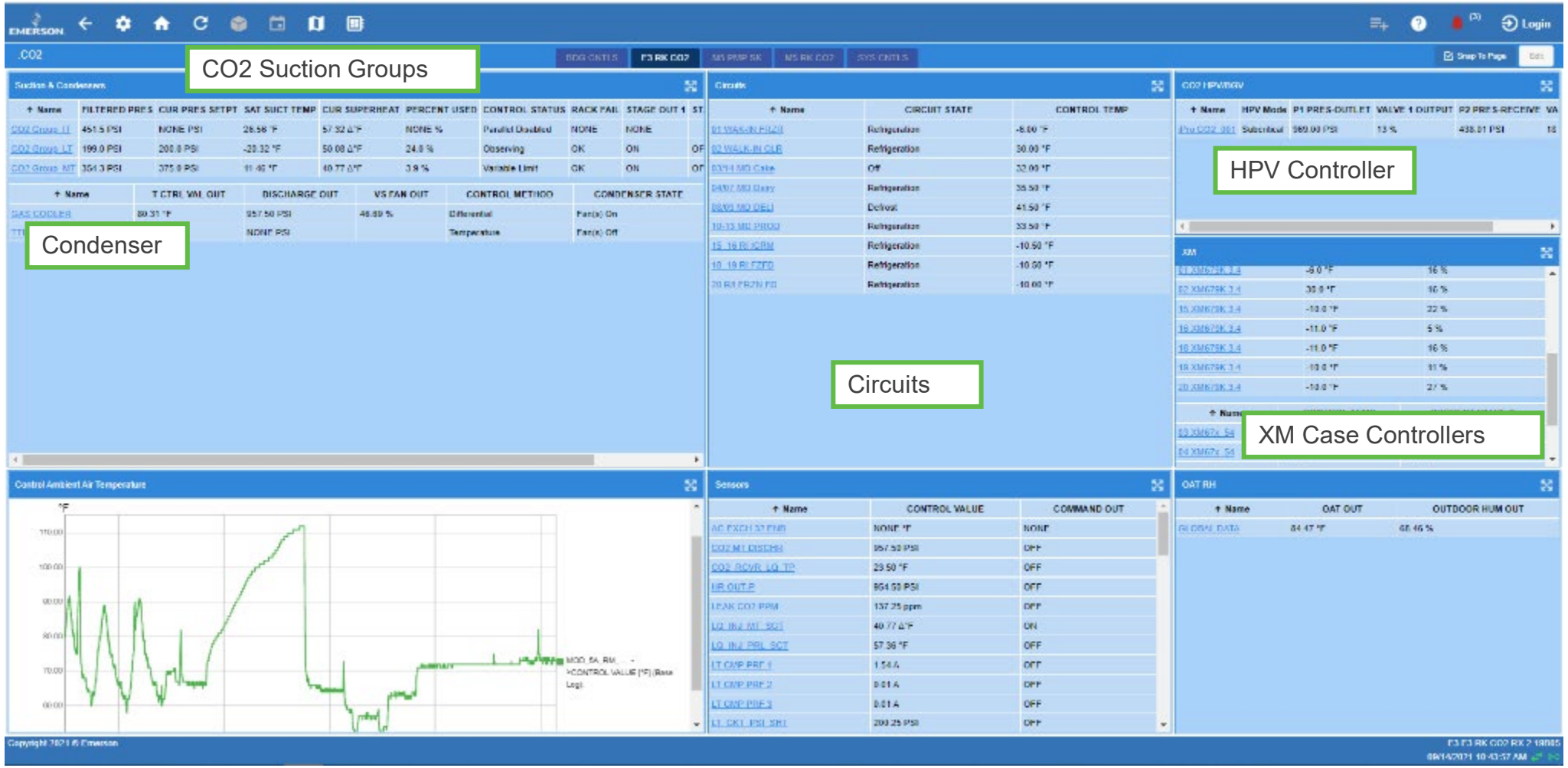
System Components:

- High Pressure Valves
- Case Controls
- System Protectors

Emerson Breadth of CO_2 Products

Comprehensive Portfolio Offering To Accelerate Industry Adoption Of CO_2 Solutions

Software User Interface Can Be Customized To User Preference



Match Traditional “CX” View for Facility Or Refrigeration Specific for Service Technician

Separate Customizable Status Screens For LT, MT, and Parallel Compressor CO2 Suction Groups

Pull In Data From Any Application

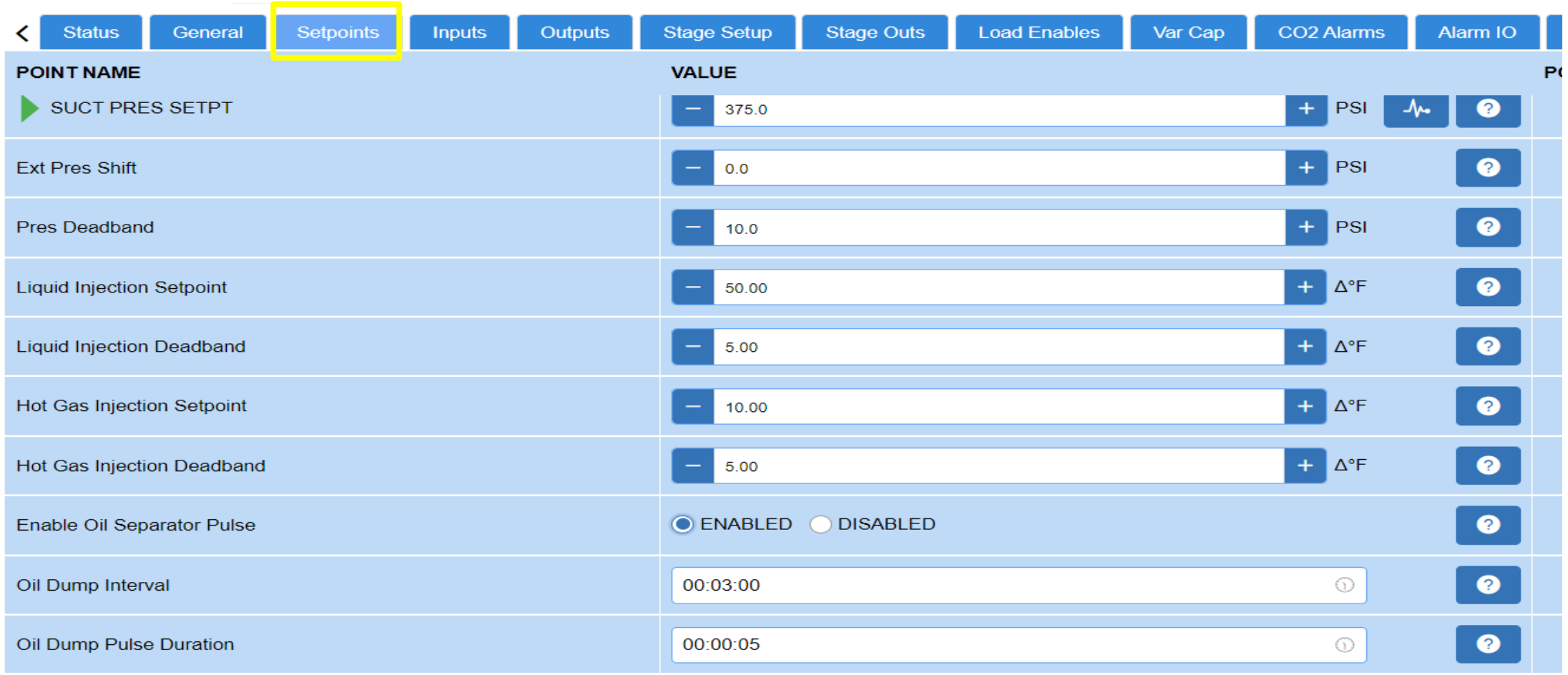
Separate Customizable Status Screens For HP/BPV Controller

Pull In Data From Any Application

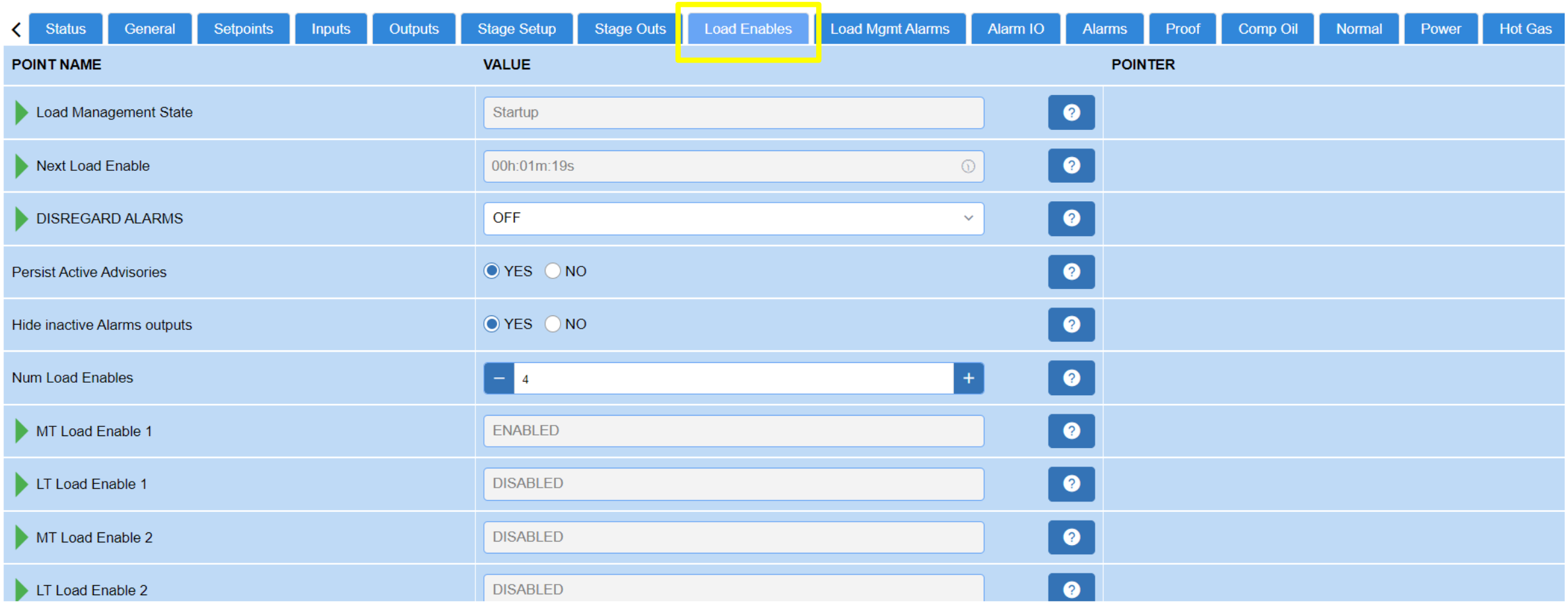
Tabs With New CO2 Features

New CO2 Application

Tabs With New CO2 Features

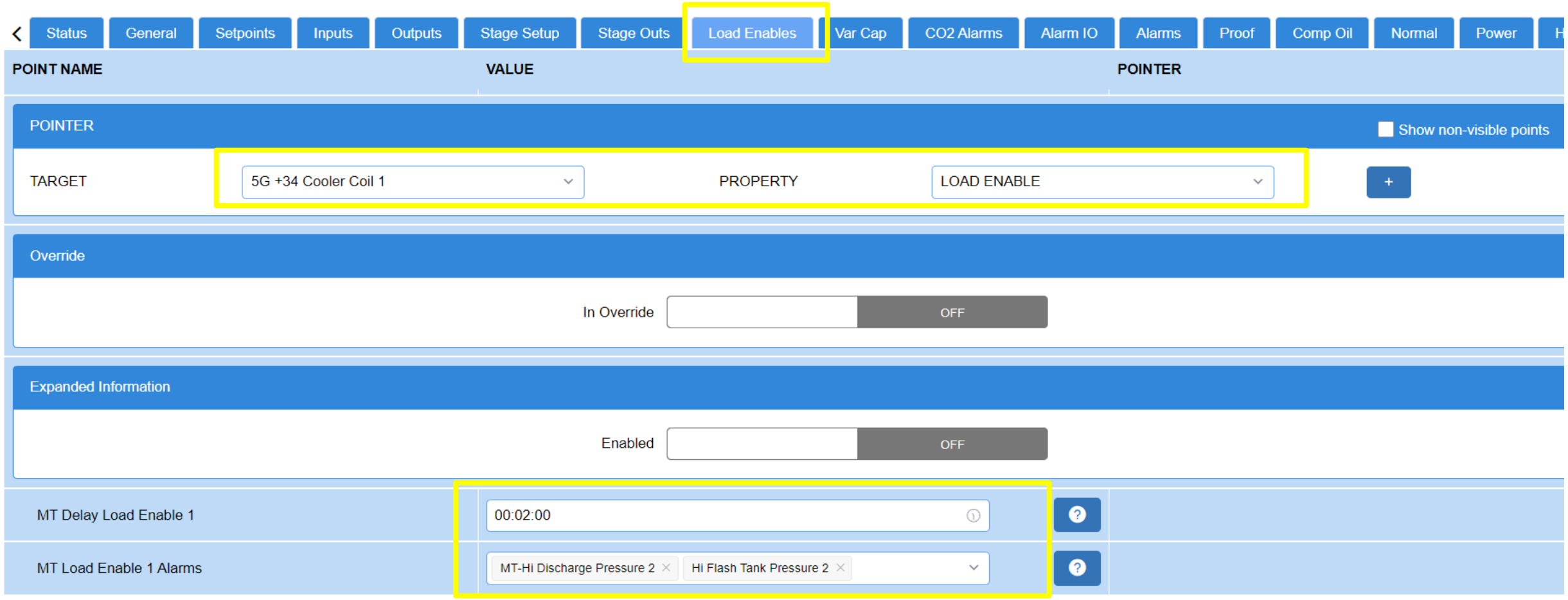


Tabs With New CO2 Features



New CO2 Application

Tabs With New CO2 Features



New CO2 Application

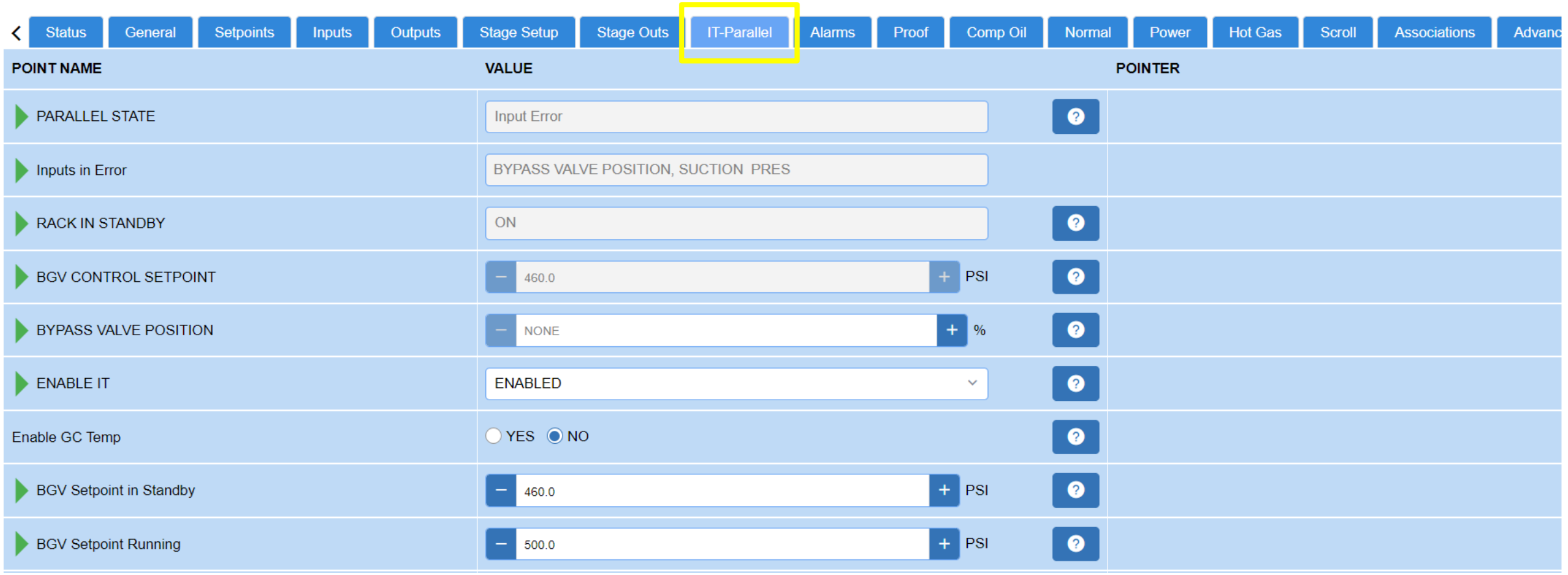
Tabs With New CO2 Features

Status | General | Setpoints | Inputs | Outputs | Stage Setup | Stage Outs | Load Enables | Var Cap | CO2 Alarms | Alarm IO | Alarms | Proof | Comp Oil | Normal | Power

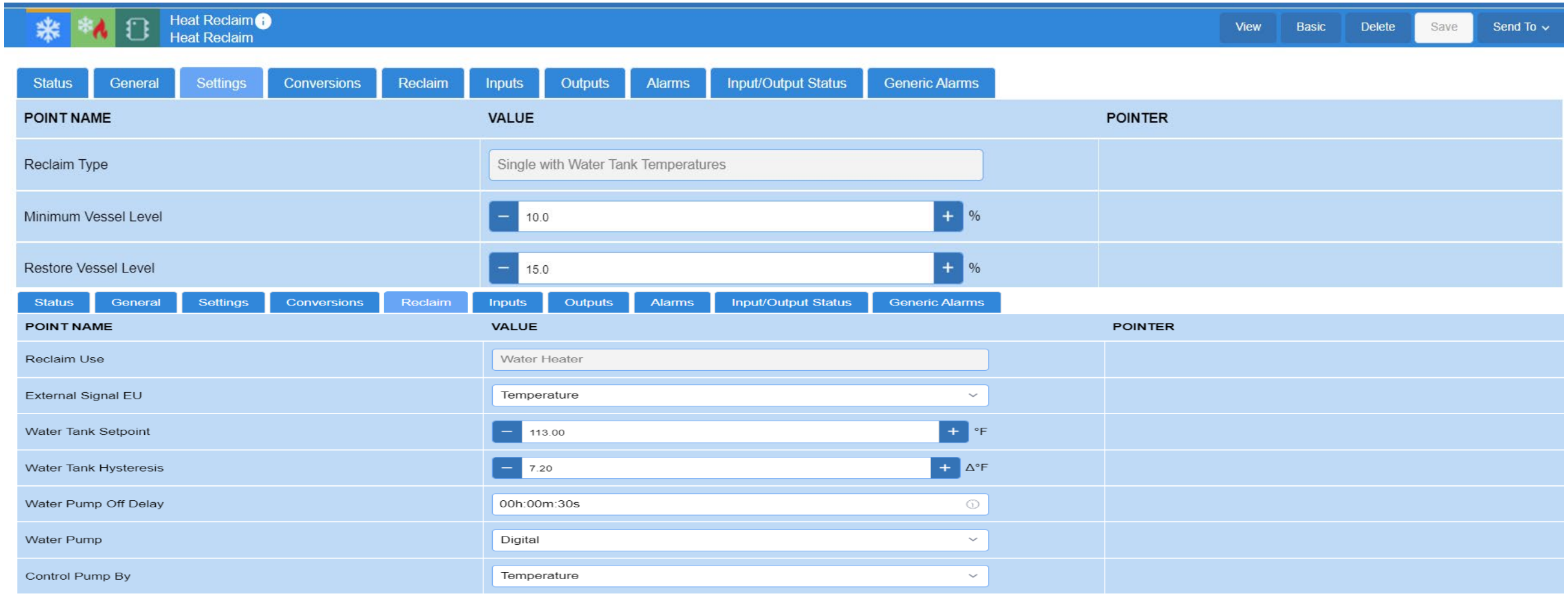
POINT NAME	VALUE	POINTER
High Superheat Alert	Non-Critical	
Low Superheat Alert	Non-Critical	
Low Superheat Alarm 1	Non-Critical	
Category	Refrigeration	
Display Message		
Repeat Rate	00:00	
Monitor Alarm	ON / OFF	
Low Superheat Alarm 1	10.00 Δ°F	
Low Superheat Alarm 1 Delay	00:10:00	
Low Superheat Alarm 1 Deadband	10.00 Δ°F	

New CO2 Application

Tabs With New CO2 Features



Tabs With New CO2 Features Heat Reclaim



New CO2 Application

HP and BP Valve Control

HPV and BPV Control

- The High-Pressure Valve (HPV) operates in two normal-control Modes; Subcritical and Transcritical
  - The Mode is defined by Control Temperature (T1)
  - In the Subcritical Mode, the valve modulates to maintain a Subcool Setpoint
  - In Transcritical Mode, the High-Pressure Valve starts modulating to maintain a Setpoint defined by an Efficiency Table and using only the Pressure Input to control (P1)
- The Bypass Valve (BGV) operates to maintain an adjustable Pressure Setpoint.
  - The control reading is from The Flash Tank (P2)
- Both the High-Pressure Valve and the Bypass Gas Valve have Safety Modes
- The Safety Control Point In Both Valves Is The Receiver Pressure (P2)
  - If the Receiver Pressure is higher than a High Pressure Setpoint, the HPV will Close and the BPV Opens
  - If the Flash Tank Pressure is too low, the HPV will Open and the BGV Closes

HPV and BPV Inputs

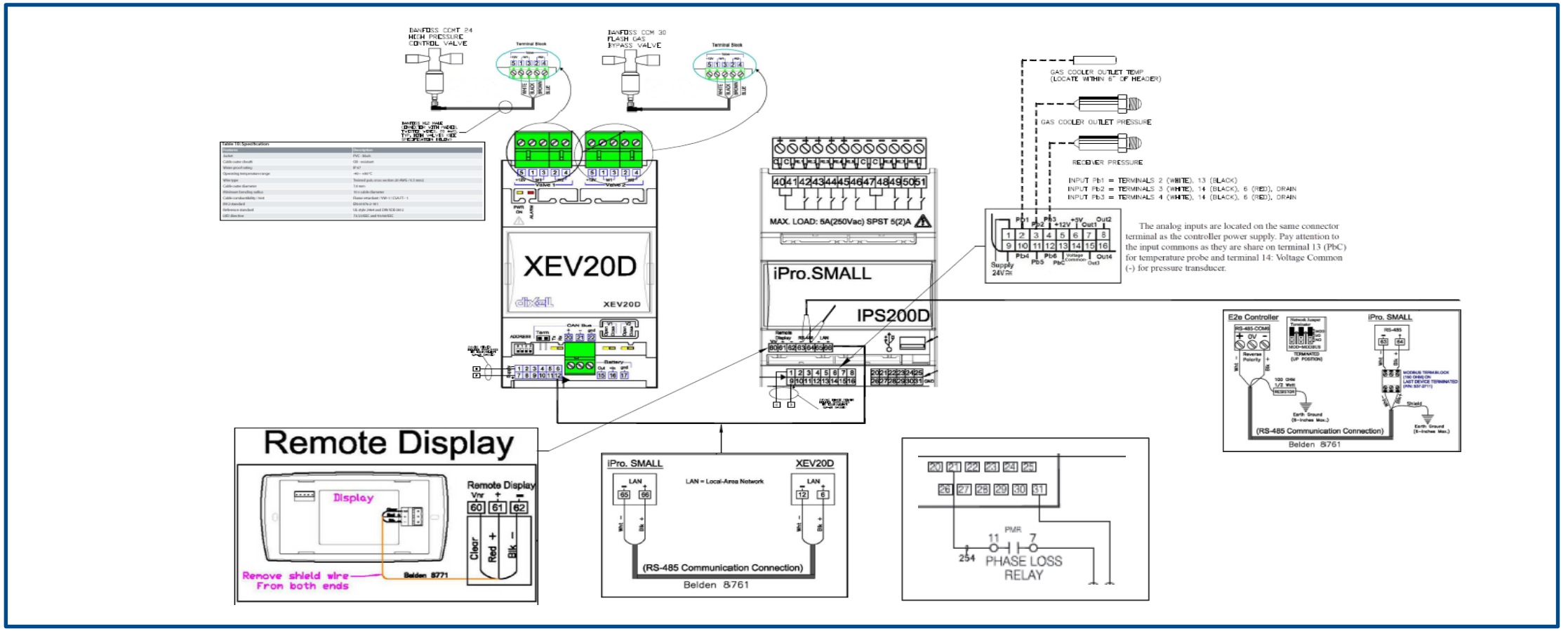
Analog Inputs:

DESCRIPTION	TYPE	USER CONFIGURABLE	USER DEFINABLE	DEFAULT INPUT
P1 Gas Cooler Pressure (req)	AI	YES	YES	AI01
T1 Cooler Gas Temp (req)	AI	YES	YES	AI02
P2 Receiver Pressure (req)	AI	YES	YES	AI03
T2 Bypass Cooler Gas Temp	AI	YES	YES	TBD
T3 Ambient	AI	YES	YES	TBD

Digital Inputs:

DESCRIPTION	TYPE	USER CONFIGURABLE	USER DEFINABLE	DEFAULT INPUT	DEFAULT VALUE
HTR RECLAIM	DI	YES	YES	DI01	OFF/CL
ENABLE	DI3	YES	YES	DI03	OFF/CL
CTS T2 ENABLE	DI	YES	YES	DI02	OFF/CL

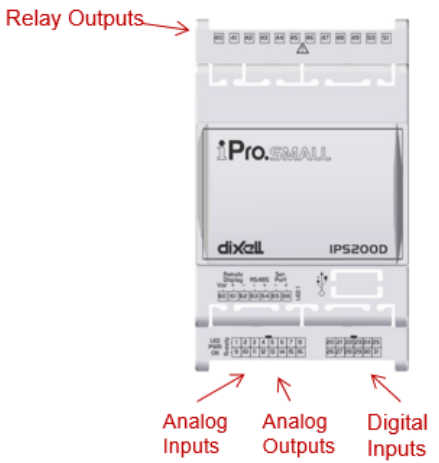
Wiring Diagram



HP And BP Valve Controller Operation

HPV and BPV Hardware - Controller

- **High Pressure CO2 Controller based on Dixell iPro small Platform, all sensors connected to IPro only**
  - Uses the iPro model IPG200D
  - Communicates with E2 over Modbus
  - 3-5 Analog Inputs functions
    - T1 Gas Cooler Temp
    - P1 Gas Cooler Pressure
    - P2 Receiver Pressure
    - T2 Gas Cooler Bypass Temp (optional)
    - T3 Ambient (Optional)
  - 3 Digital Inputs functions
    - HTR Heat Reclaim Setpoint Shift
    - Enable/Shutdown
    - CTS for T2 Enable
  - 4 Relay Outputs Alarms – Low Pressure , High Pressure, Shutdown, General Sensor Fail
  - 2 Analog Outputs (0-10Vdc) for HPV and BGV
  - DIN rail mountable
- **Compatible with Visograph Remote Display**
  - A Visograph can be used to configure controller
  - Installed in panel



HPV and BPV Hardware - Valve Driver

- **XEV20D Driver – is a stepper valve driver intended for bipolar or unipolar stepper valve**
  - Optional to drive the HPV and/or BGV if preferred
  - Communicates using LAN network
- **Technical Data**
  - Power Supply 24VAC/DC 40VA
  - DIN rail mountable
  - Voltage Copper constant current
  - max 0.9mA per valve output

Part Number	Material Item Kit Description
	iPro High Pressure Controller
818-9002	Viziograph Display
318-7201	iPro Small Connectors
318-5003	XEV20 Controller
318-8022	XEV20 Wiring Harness
800-2720	2000 PSI Transducers
501-1122	Temp Sensors

HPV and BPV Operation

- **Subcritical Mode:**
  - When the Control Temp is below the Mode Setpoint minus Hysteresis
  - When the Control temp is above the Mode Setpoint, In Transcritical
  - PID Loop control using a Calculated Subcool Value, from the Pressure-1 (P1) And Temperature-1 (T1) to maintain the Subcool Setpoint.

Subcritical Parameter	Description	Default Value
HPV Mode Setpoint	Setpoint for Subcritical and Transcritical mode	87 DF
HPV Mode Hysteresis	Control Temperature Hysteresis	5 DDF
HPV Subcool Setpoint	Subcool Setpoint in Subcritical Mode	5 DDF
HPV RS-Temp	Subcritical proportional band offset	0 DDF
HPV PB-Temp (P)	Subcritical proportional band	30 DF
HPV INC (I)	Integral sampling time	180 Sec
HPV DDER (D)	Derivative time	0 Sec

HPV and BPV Operation

- **Transcritical Mode:**
  - When the Control temp is above the Mode Setpoint, System in Transcritical
  - Stop maintaining a Subcool Setpoint and switch to Pressure Setpoint from Transcritical Table. PID loop start controlling using The Pressure (P1)
  - Transition from subcritical to Transcritical:
    - Locks last known PID valve percentage and allows a linear-ratio transition between the two PIDs by the TransMaxtime

Transcritical Parameter	Description	Default Value
HPV Mode Setpoint	Setpoint for Subcritical to Transcritical mode	87 DF
Transcritical Setpoint	Setpoint fromTranscritical table	From Table
HPV RS-Press	Subcritical proportional band offset	0 PSI
HPV PB-Press (P)	Subcritical proportional band	170 PSI
HPV INC (I)	Integral sampling time	180 Sec
HPV DDER (D)	Derivative time	0 Sec
TransMaxTime	Transition Time of the Two Sub and Trans PID	120 Sec

HPV and BPV Operation

- **Transcritical Setpoint:**
  - Control Temperature Value determines setpoint
    - T1 (gas cooler outlet temp) or T2 (gas cooler temp bypass) calculation setpoint

Reference Table

Gas Cooler T1 or T2 Transcritical Setpoint			
C	Bar	F	PSI
21	65	69.8	942.5
22	65	71.6	942.5
23	65	73.4	942.5
24	65	75.2	942.5
25	65	77	942.5
26	65	78.8	942.5
27	66.1	80.6	958.7
28	69.2	82.4	1002.7
29	72.2	84.2	1047.0
30	75.3	86	1091.5
31	78.3	87.8	1135.9
32	81.4	89.6	1180.2
33	84.4	91.4	1224.2
34	87.4	93.2	1267.7
35	90.4	95	1310.7
36	93.3	96.8	1352.8
37	96.1	98.6	1394.1
38	98.9	100.4	1434.4
39	101.6	102.2	1473.5
40	104.2	104	1511.2
41	106.7	105.8	1547.4
42	109.1	107.6	1582.0

HPV and BPV Display

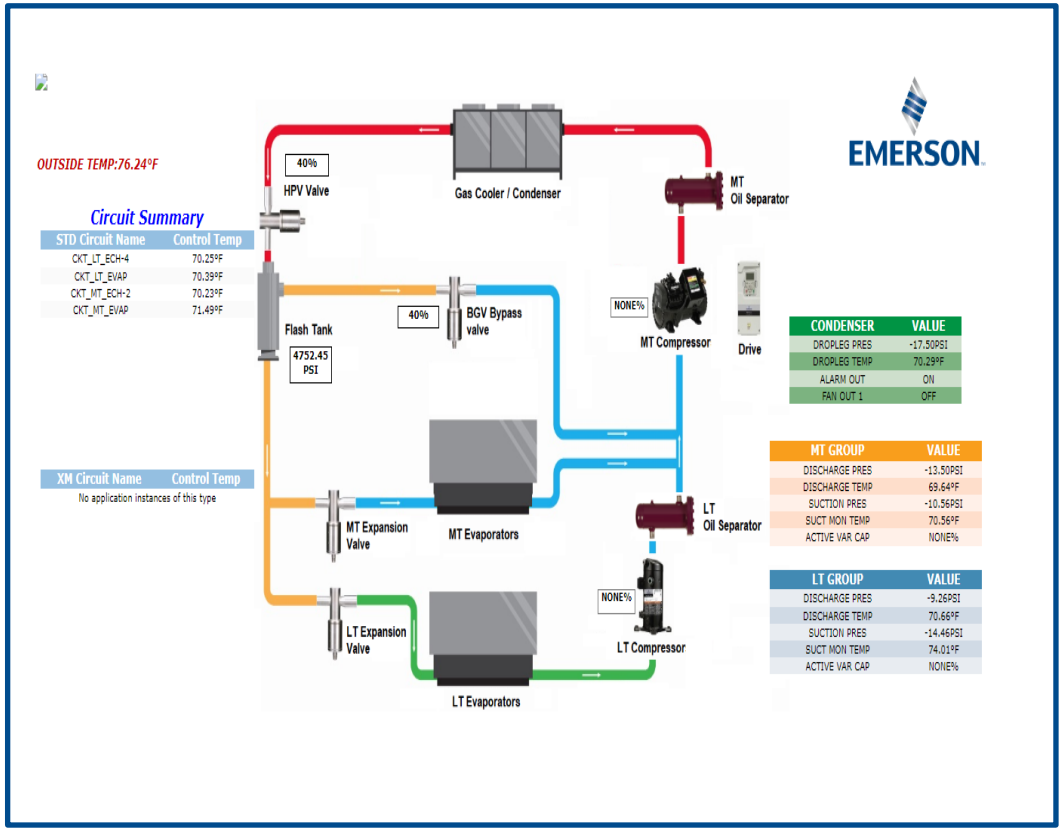
- **Menu Driven Local Display With Ability To Change:**
  - The Modbus Address, Baud Rate, Screens Update, Time And Date, I/O, And Valve Setup
- **Status Screen Shows Both HPV And BGV With Their Corresponding Control Values And Parameters.**
  - HPV Dual And Failure/Alarm Operation Modes
  - Online/Offline Status On The XEV20
- **The I/O Configuration Screen Shows Type Of Sensors & Polarities**
- **Setup Screens Protected**

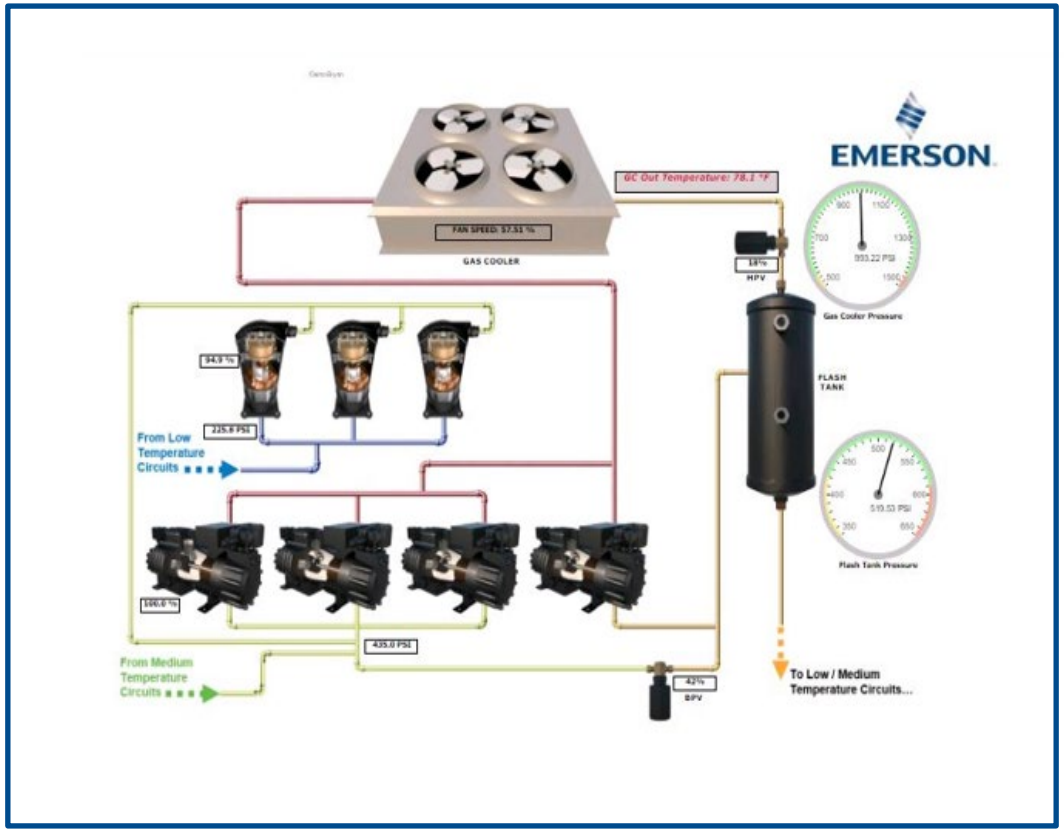
HPV and BPV Safety Fallback Operation

- Low Receiver Pressure – HPV Opens & BGV Close
- High Receiver Pressure – HPV Closes & BGV Opens
- Pressure Sensor Fail – Use Network value if available, else fix opening %
- Temp Sensor Fail - Use network temp if available, else use Alternate sensor (T1/T2) or predetermined failsafe %

Safety Parameter	Description	Default Value
Hi PSI Set	High receiver pressure setpoint (depends on system design)	620 PSI
Hi Hy	High receiver pressure hysteresis	15 PSI
Lo PSI Set	Low receiver pressure setpoint	450 PSI
Lo Hy	Low receiver pressure hysteresis	15 PSI
HPV% Open Fail-SC	Valve % open during Subcritical with sensor fail	0 %
HPV% Open Fail-TC	Valve% open during Transcritical with sensor fail	0 %
HPV% Open Fail Lo	Valve% open during low pressure safety mode	15 %
BGV% Open Fail	Valve% open during high pressure safety mode	100 %

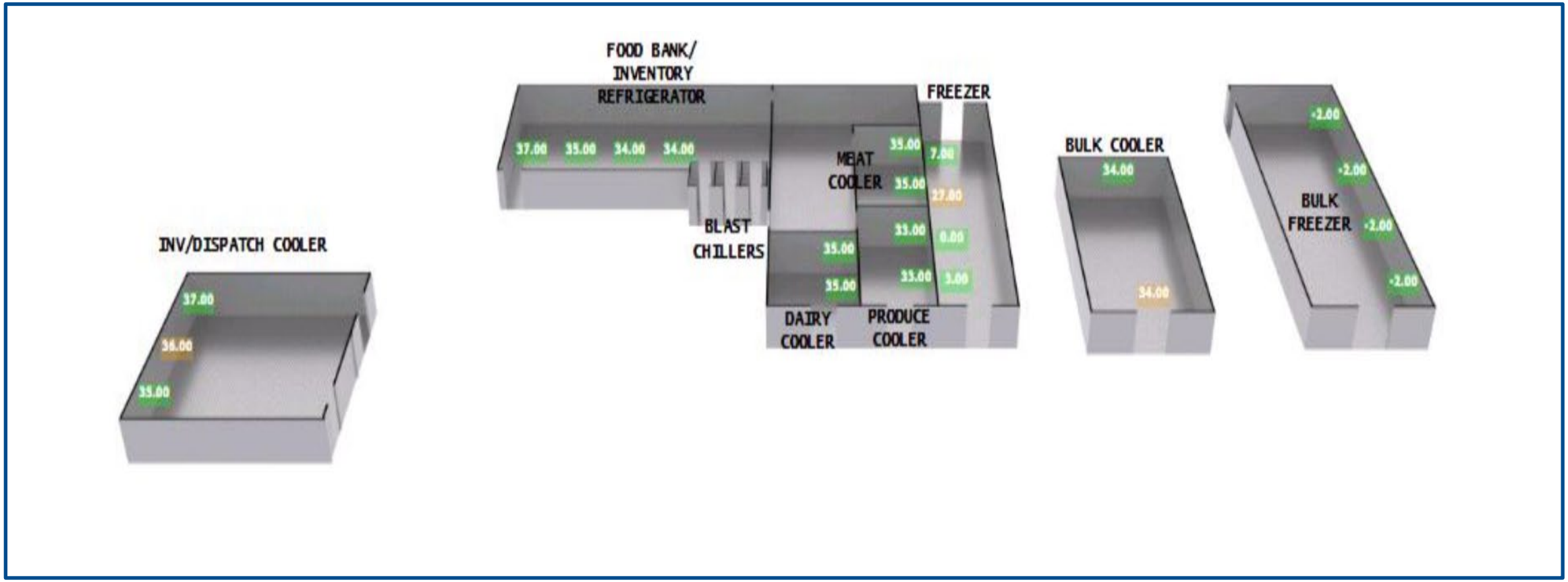
Custom Graphics to E3 Screen





Can Add Multiple Graphics

Custom Graphics to E3 Screen



Can Add Multiple Graphics

Case Control for CO2 Systems

EMERSON

AI→ Analog input
DI→ Digital input
RO→ Relay output
SH→ Superheat
EEPR→ Electronic Evaporator Pressure Regulator

Case Control Portfolio Overview

Value

XR35CX

4 AI (1 config), 1 DI, 2 RO, Modbus

XR75CX

4 AI (1 config), 1 DI, 4 RO, Modbus

XM670

4 AI, 3 DI, 6 RO, Modbus

XM679

6 AI, 3 DI, 6 RO, Modbus, SH control
PWM EEV

XM678

6 AI, 3 DI, 6 RO, Modbus, SH control
Stepper EEV

CO_2 Capability – In Development

CC-200

6 AI, 4 DI, 5 RO, Modbus/BACnet (RS485-IP), SH control PWM or Stepper EEV (3 Max), EEPR, & Mobile App

Electronic Expansion Valves Required for CO2 Case Control

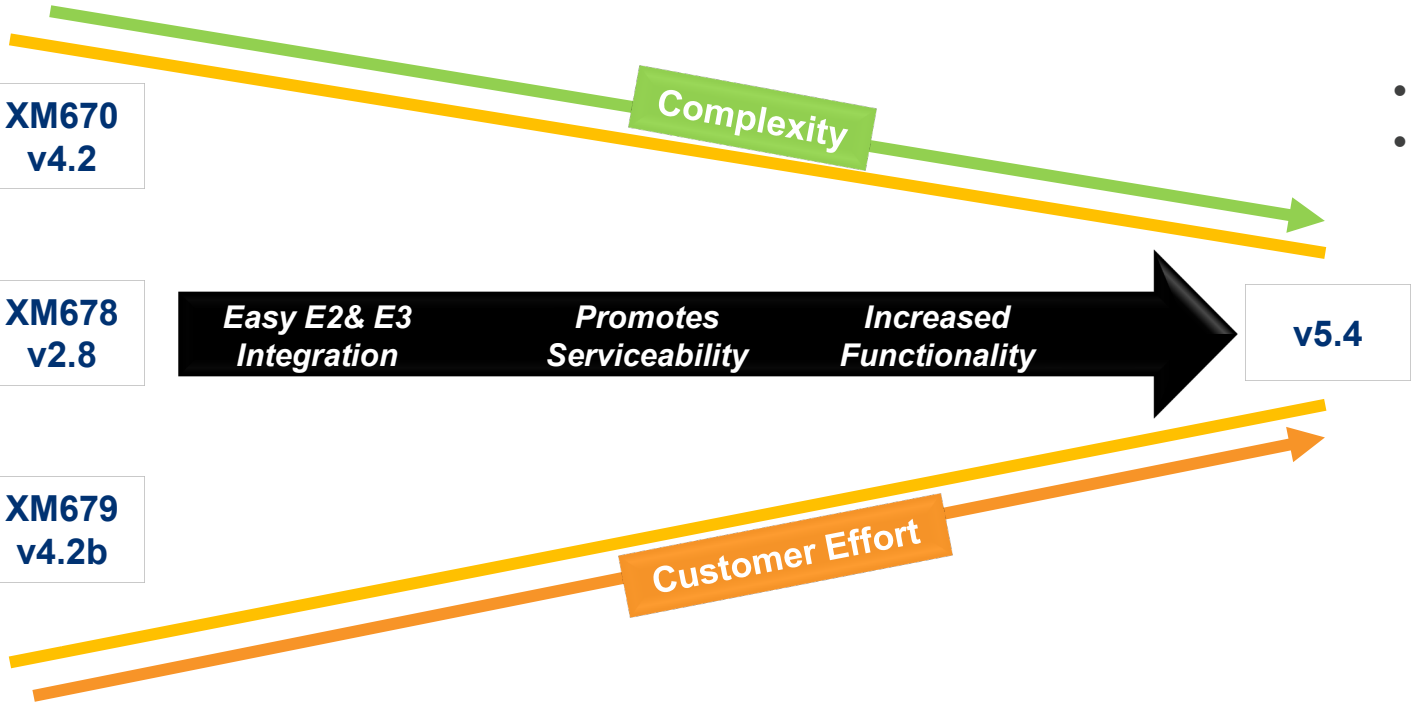
Functionality

XM Version 5.4

XM670 v4.2

XM678 v2.8

XM679 v4.2b



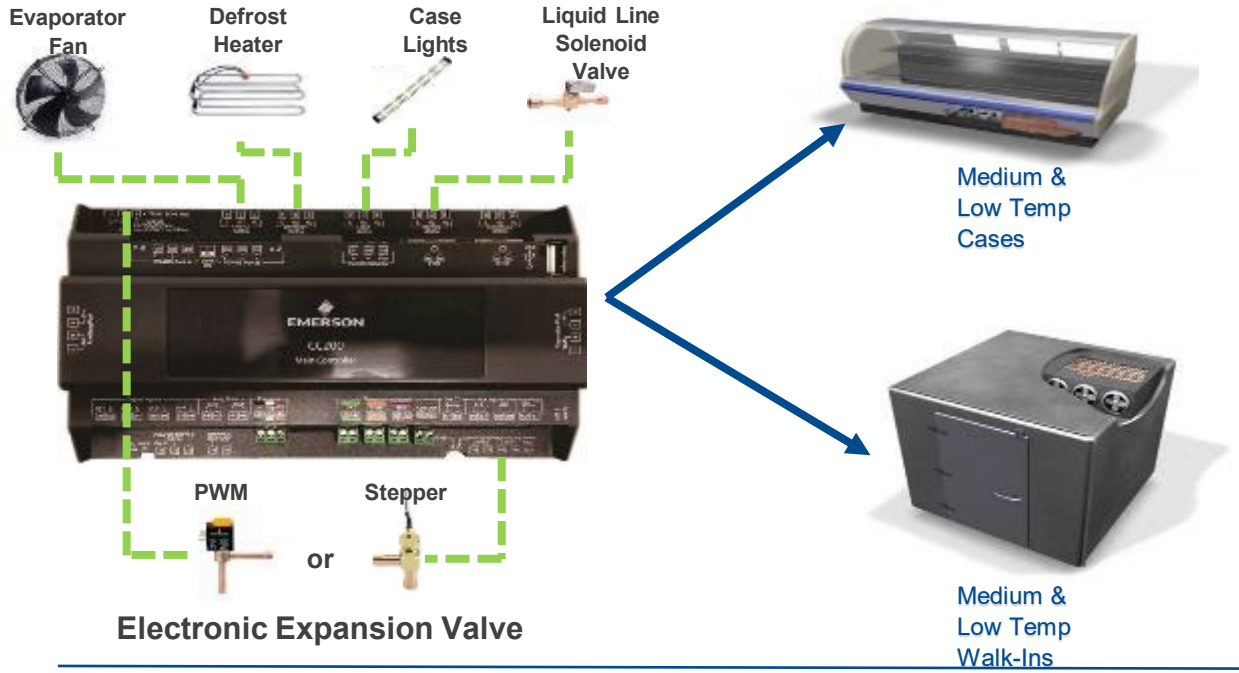
- One integration file for all 3 models
- Supports one integration for futures version
- Simplified parameter list
- Support firmware upgrade in the field

Model	PN	Valve
XM670K	318-6521	TXV
XM678D	318-6601	Stepper
XM679K	318-6702	Pulse

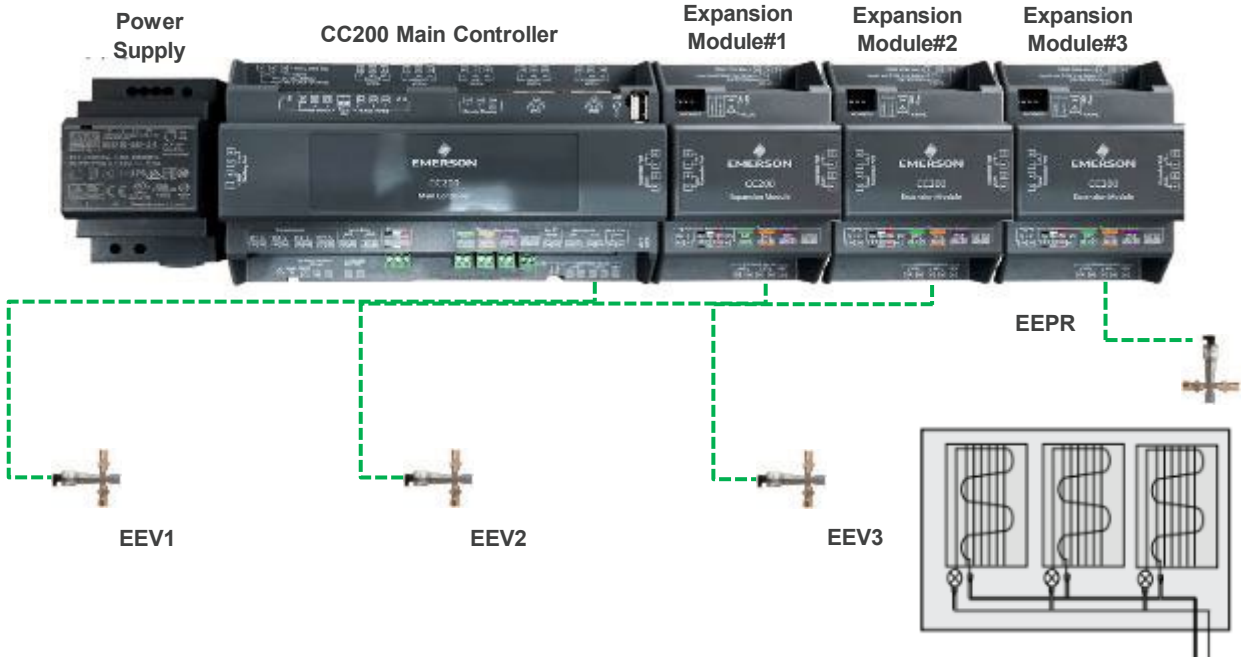
Benefits Focused on Reducing Complexity and Customer Effort

CC-200 Technical Overview

One Evaporator



Multiple Evaporators



Relay Outputs *(Main Controller)*

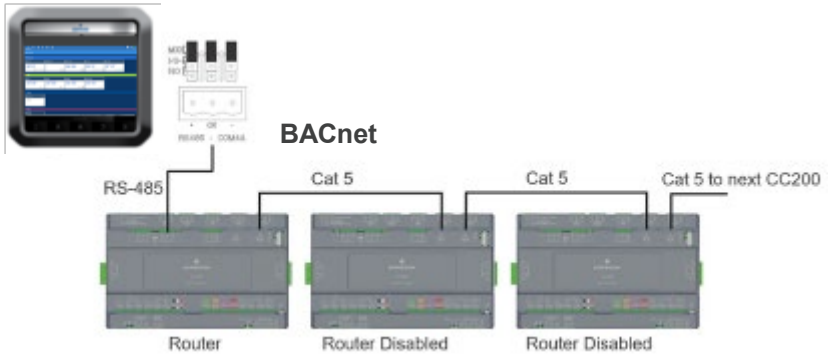
- Relay Outputs
  - Defrost
  - Refrigeration (LLSV)
  - Evaporator Fans
  - Lights
  - Auxiliary

Digital Inputs *(Main Controller)*

- Configurable DI1-DI4 (Free voltage)
  - Door Switch
  - Service Switch
  - Dual Temp Switch
  - Defrost Term Switch
  - Leak Shutdown
  - Satellite 1 or 2 for E2e

Analog Inputs *(Main Controller & Expansion Module)*

- Probe Inputs (non configurable)
  - Discharge Air Temperature (1 to 3)
  - Return Air Temperature (1 to 3)
  - Suction Pressure (1 to 3)
  - Defrost Termination (1 to 3)
  - Suction Temperature (1 to 3)
  - Fan and Defrost Amps
- Configurable Inputs (AI1 and AI2)
  - External fan CT
  - Coil Inlet Temp
  - Product Temp
  - Circuit Suction Temp



CC200 Case Control Platform

Mobile App
- Test mode – Functional test for production
- Test mode -- Contractor installation testing

Communication protocols
- Compatible with E2, Site Supervisor and E3
- Can integrate into other BMS systems
  - BACnet MSTP, BACnet IP, Modbus RTU, Modbus IP

Modular Form Factor
- Modular- Plug in expansion modules
- Small footprint Fitting - allowed space OEM & legacy EMR controllers
- One power source & reduced IO wiring effort

Interface
- Displaying all necessary information depending on user
- Setting ctrl in an intuitive way locally/remotely
- Testing I/O at start-up and at the OEM

Innovating Standalone Technologies
- Supporting Stepper and Pulse valve technology with auto tuning SH control (temp-temp/Press-temp)
- Supporting Antisweat control, leak detection, demand defrost

Emerson Retail Solutions Apps and Popular Sites

Training

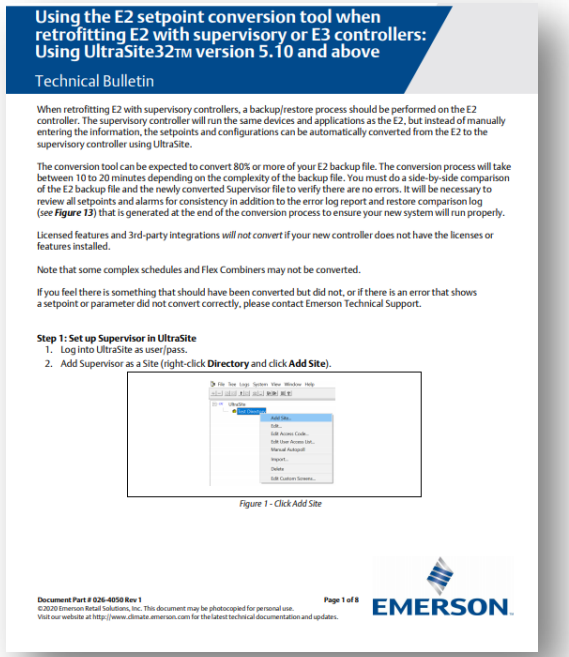
https://emersonbeta.myshopify.com/pages/instructor-led-courses

Software Updates

https://climate.emerson.com/en-us/products/controls-monitoring-systems/facility-controls-electronics/facility-and-system-controls/

EMERSON.

Technical Support Material


Using the E2 setpoint conversion tool when retrofitting E2 with supervisory or E3 controllers: Using UltraSite32™ version 5.10 and above

Technical Bulletin

When retrofitting E2 with supervisory controllers, a backup/restore process should be performed on the E2 controller. The supervisory controller will run the same devices and applications as the E2, but instead of manually entering the information, the setpoints and configurations can be automatically converted from the E2 to the supervisory controller using UltraSite.

The conversion tool can be expected to convert 80% or more of your E2 backup file. The conversion process will take between 10 to 20 minutes depending on the complexity of the backup file. You must do a side-by-side comparison of the E2 backup file and the newly converted Supervisor file to verify there are no errors. It will be necessary to review all setpoints and alarms for consistency in addition to the error log report and restore comparison log (*see **Figure 13***) that is generated at the end of the conversion process to ensure your new system will run properly.

Licensed features and 3rd-party integrations *will not convert* if your new controller does not have the licenses or features installed.

Note that some complex schedules and Flex Combiners may not be converted.

If you feel there is something that should have been converted but did not, or if there is an error that shows a setpoint or parameter did not convert correctly, please contact Emerson Technical Support.

Step 1: Set up Supervisor in UltraSite

1. Log into UltraSite as user/pass.
2. Add Supervisor as a Site (right-click **Directory** and click **Add Site**).

Figure 1 - Click Add Site

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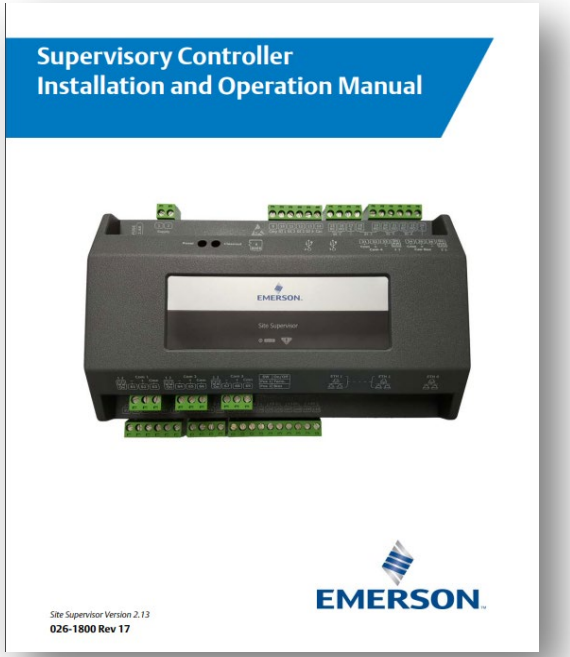
[Conversion Tool]


Supervisory Controller
Installation and Operation Manual

EMERSON

Site Supervisor Version 2.13

026-1800 Rev 17

EMERSON

[Supervisor Controller Manual]


Site Supervisor Controller

Quick Setup Guide

The Site Supervisor is a system that combines energy management with the ability to monitor various facility systems and provide alerts when there are issues that need attention. This system provides HVAC control, Refrigeration System Monitoring and Control, as well as Lighting Control. In addition, the Site Supervisor can monitor and report energy consumption and take action to reduce the energy demand during peak periods. This can have a direct impact on utility bills by reducing total energy costs. Site Supervisor ensures that the HVAC and lighting systems are on and off at the appropriate times. This ability to monitor store conditions can potentially minimize energy consumption.

For a copy of the full Site Supervisor Guide (P/N 026-1800), visit the Site Supervisor page on the Emerson website: **http://climate.emerson.com/en-us/products/controls-monitoring-systems/facility-controls-electronics/facility-and-system-controls/site-supervisor-facility-control** to download or contact Emerson Electronics and Solutions Customer Service at *770-425-2724*.

Figure 1 - Site Supervisor

Ethernet Connection

1. **ETH1** is designed to be used for directly connecting to laptop, PC, or optional touchscreen with a CAT5 network cable.
2. The default IP for **ETH1** is 192.168.1.250.
3. The optional Site Supervisor Display touchscreen default IP is 192.168.1.200 and will connect automatically to the Site Supervisor when plugged into **ETH1**. *It is recommended that you do not change these defaults.*

Figure 2 - Site Supervisor ETH 1 Ports

4. ETH0 should be reserved for the secure network connections: store or corporate networks. Ask your network administrator for the correct network IP address for **ETH0**.
5. **ETH0** and **ETH1** are physically separated for added security. Directly connecting to **ETH1** will not access the secure network connection on **ETH0**.

Figure 3 - Site Supervisor ETH 0 Port

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EMERSON

[Supervisor Quick Setup Guide]

24/7 Technical Support

Email - coldchain.technicalservices@emerson.com

Phone Number – 833-409-7505 (opt 2)

[Offline Manager] - [offlinemanager.emerson.com]

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Share Your Feedback!

To receive an electronic training certificate:

1. Scan or visit nasrc.org/session-surveys
2. Provide your name and email at the end of the survey

Please Note: *You will not receive a certificate unless you share your name on the survey form.*

E3 Introduction

Mike Hill

Emerson