i-Controller 2.0 to Site Supervisor / E3 Communication Connection Guide

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IMPORTANT: Please Read before Continuing

Before beginning the Flō i-Controller integration over the Modbus protocol, obtain a license key for each i-Controller along with the Flō RTU Application Description File (ADF), PN: 531-0367, for Flō i-Controller from Emerson Retail Solutions.

CAUTION: Before connection, ensure there is no earth ground on the wires used for the RS485 connection. Do not ground any of the wires connected to the RS485 port on the i-Controller. Doing so will result in damage to the i-Controller hardware.

Step 1a: Connect Flō i-Controller 2.0 to Site Supervisor

The Flō i-Controller uses an RS485 network to communicate to Site Supervisor (SS) controller over the Modbus protocol. Perform the following steps to connect the RS485 cable.

1. Connect the RS485 network cable to the three-terminal connector on the Site Supervisor COM port you choose to assign as the Modbus port. Wire from the Site Supervisor to the unit's LVTB terminal block. Wire SS + RS485 to TB 25, SS - RS485 to TB 26 and COM to TB 27.
2. The Flō i-Controller 2.0 is prewired to the LVTB. (See below figure for reference)

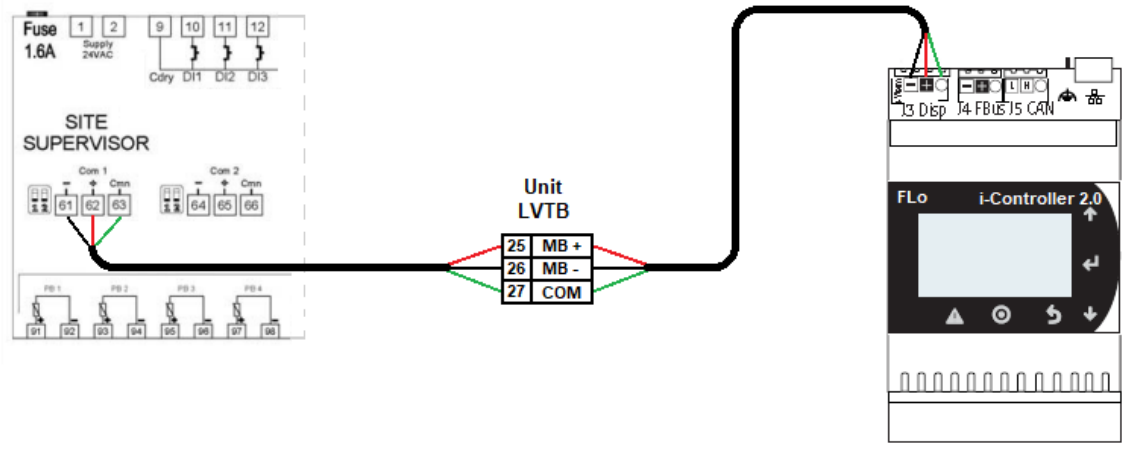

Figure 1. Connection the RS-485 Communication Wire on Site Supervisor

Step 1b: Connect Flō i-Controller 2.0 to E3

The Flō i-Controller uses an RS485 network to communicate to E3 site controllers over the Modbus protocol. Perform the following steps to connect the RS485 cable.

1. Connect the RS485 network cable to the three-terminal connector on the E3 COM port you choose to assign as the Modbus port. Wire from the E3 to the unit's LVTB terminal block. Wire E3 + RS485 to TB 26, E3 - RS485 to TB 25 and COM to TB 27.
2. The Flō i-Controller 2.0 is prewired to the LVTB. (See below figure for reference)

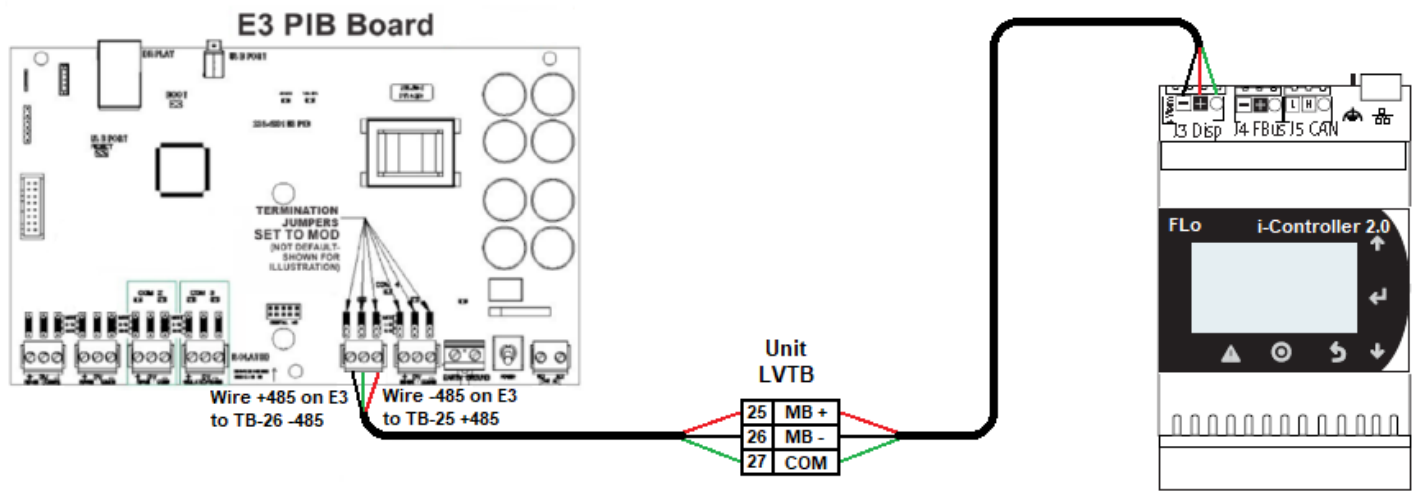

Figure 2. Connection the RS-485 Communication Wire on Site E3

Step 2: Setting the Modbus Address on Flō i-Controller 2.0

1. On the display of the Flō i-Controller, navigate to the Settings menu/Communications/BMS Config.
2. On the BMS Config screen, press enter key and use the Up and Down arrows to change the Flō i-Controller Modbus Address value. Press the enter button to save value.

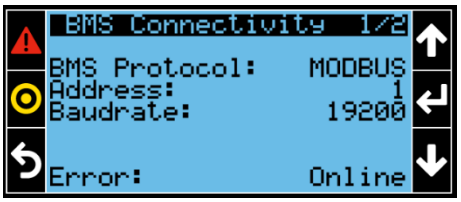

Figure 3. i-Controller 2.0 BMS Config Screen 1 of 2

3. If BMS protocol is not already set for Modbus, use the Down arrow to proceed to page 2 to change the BMS protocol. Press the enter button and use the Up and Down arrows to change the BMS protocol to Modbus. Press enter button to save value.

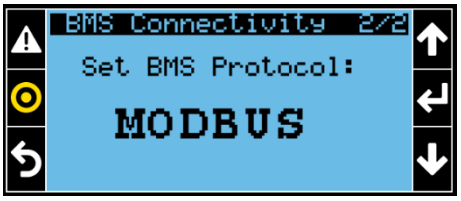

Figure 4. i-Controller 2.0 BMS Config Screen 2 of 2

Step 3: Configuring the Site Supervisor / E3 Site Controller

Communication Port

Configure the COM port where the RS485 Flō i-Controller Modbus cable will be connected.

1. Log on to the Site Supervisor / E3 with administrator access.
2. Navigate to Settings/General System Properties COM Ports tab.
3. On the COM Ports tab, select desired COM port.
4. Below, shows Flō i-Controller 2.0 default Modbus settings. Enter settings and save.

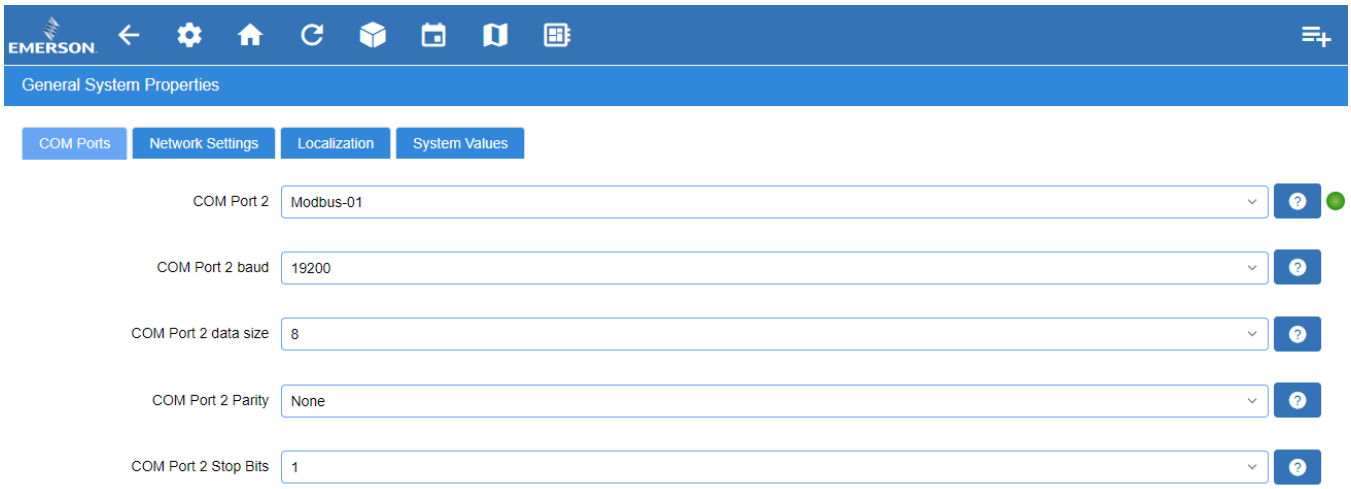

Figure 5. SS / E3 Communication Port Configuration screen

5. After completing the steps above the COM port has been configured.

Uploading the ADF File

Once the RS485 cable has been connected and the port has been configured, the ADF file for the Flō i-Controller needs to be uploaded to the Site Supervisor / E3.

1. Log on to the Site Supervisor / E3 with administrator access.
2. Navigate to Settings/File Management & Licensing.
3. Press “Install ADF File” button. Select file location and install file.

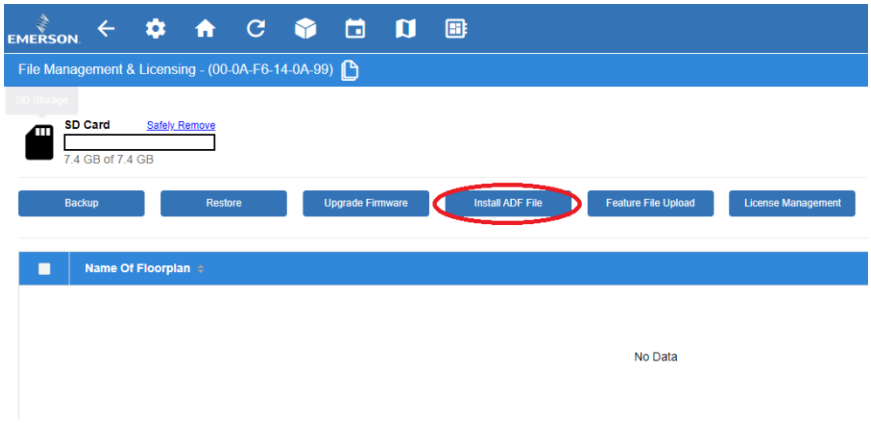

Figure 6. SS / E3 File Management & Licensing Screen

4. Once installed, you will see the application listed under the “Application Description & Service Files” area of the File Management & Licensing page.

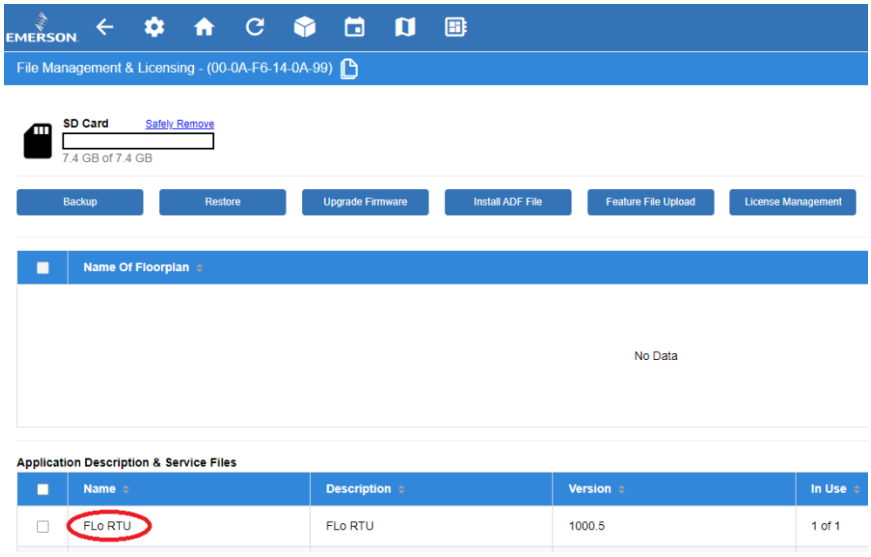

Figure 7. SS / E3 File Management & Licensing Screen

Inputting the License Key

Once the ADF file has been loaded, the license key needs to be inputted into the SS / E3 in order for the Flō i-Controller to be recognized.

1. Log on to the Site Supervisor / E3 with administrator access.
2. Navigate to Settings/File Management & Licensing.
3. Press “License Management” button

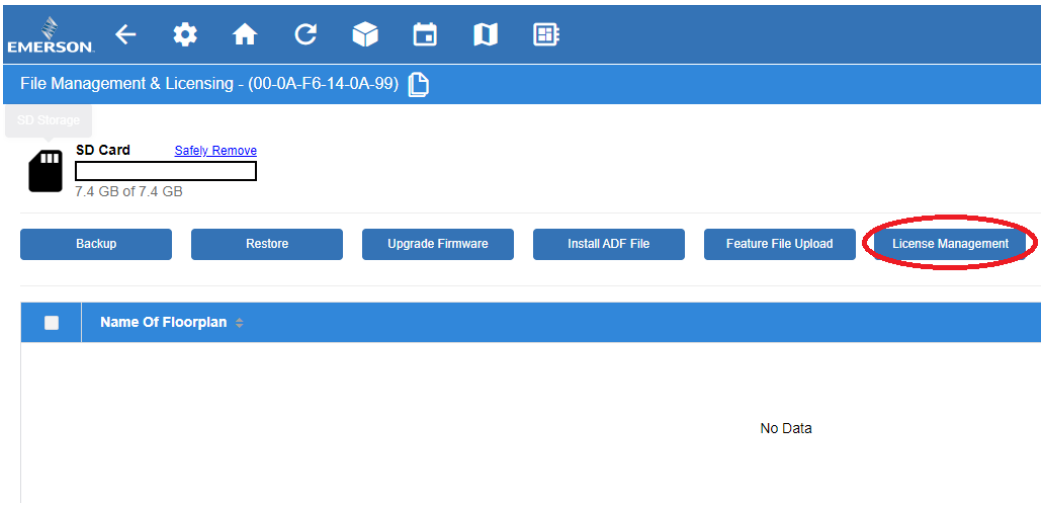

Figure 8. SS / E3 File Management & Licensing Screen

4. Enter the License Key in the popup window.

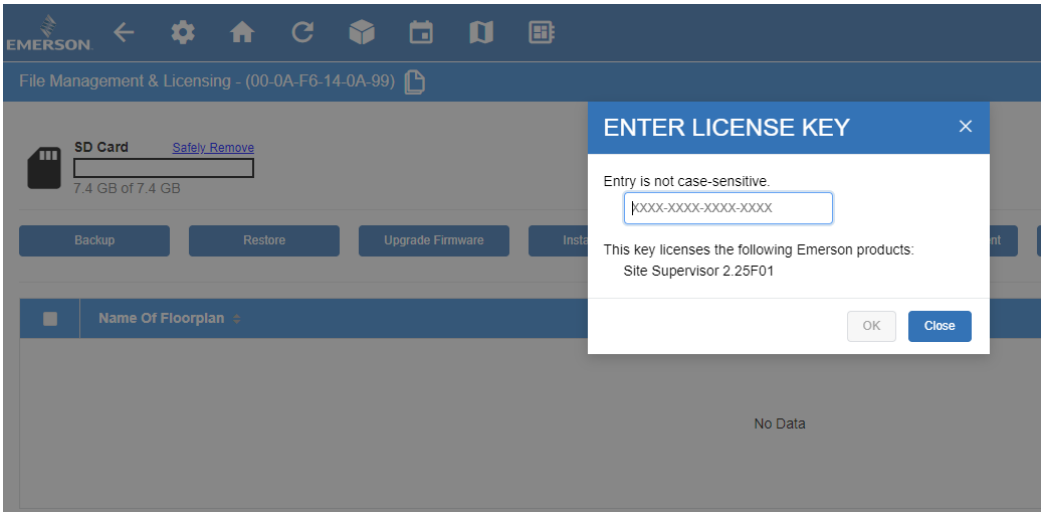

Figure 9. SS / E3 License Activation

Adding the Flō i-Controller 2.0 Device

1. Navigate to Control Inventory/HVAC
2. Click on “Add Controller” and select FLo RTU.

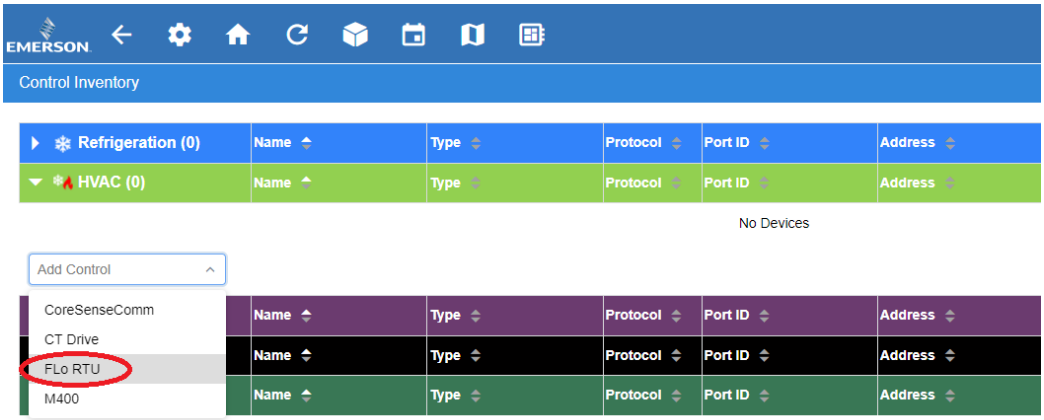

Figure 10. SS / E3 Control Inventory Screen

3. Once the controller is added, you can name the controller (i.e. FLo RTU-1) and set the COM port and address. Then save changes.

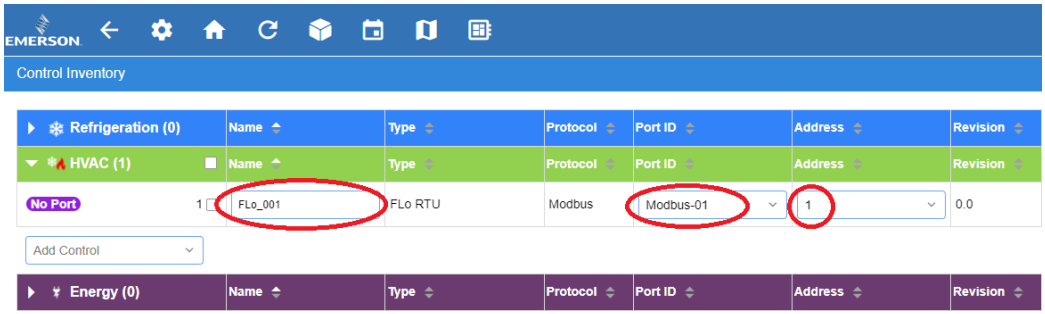

Figure 11. SS / E3 Control Inventory Screen

4. Repeat step 2 – 3 to add additional controllers, if your license allows.

Step 4: Setting Flō i-Controller 2.0 Control Values from SS / E3

Changing Set Points

Custom set points are factory set in the Flō i-Controller and will display on the SS / E3. If the set points need to be adjusted, perform the following steps to adjust the Flō unit set points from the SS / E3.

1. Log on to the Site Supervisor / E3 with administrator access.
2. From the System Summary view, expand HVAC section and pick the Flō unit.

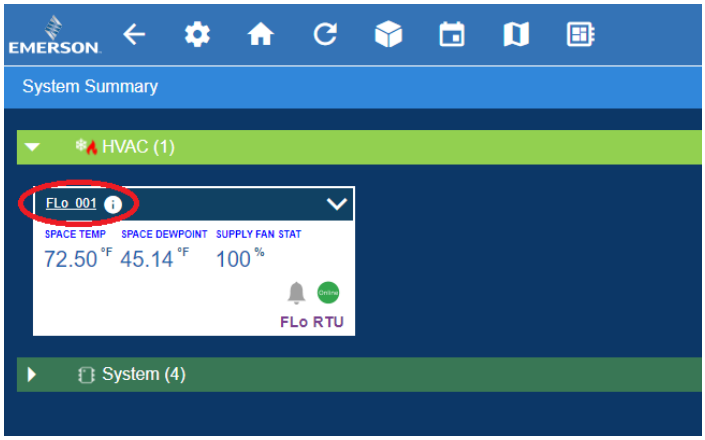

Figure 12. SS / E3 System Summary Screen

3. Click on the Setpoints tab and then click the edit button.

Figure 13. SS / E3 Setpoints Screen

4. Once you have made your setpoint changes, click the save button.

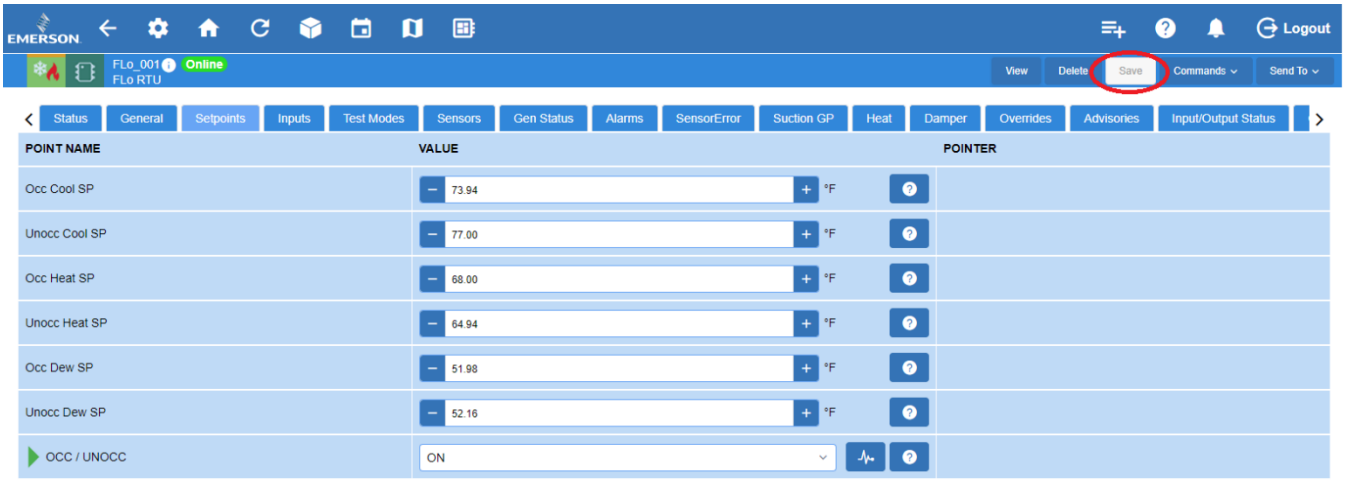

Figure 14. SS / E3 Setpoints Screen

Linking SS / E3 Schedule for Occupancy Mode

The Flō i-Controller accepts an Occupied or Unoccupied signal from the SS / E3. This variable needs to be linked to the Flō application on the SS / E3. The occupancy signal will be defaulted to Occupied until a schedule output is linked to the application.

1. On the Setpoints screen Click on the Setpoints tab and then click the edit button.

Figure 15. SS / E3 Setpoints Screen

2. Click on the green arrow beside OCC/UNOCC. Select your desired schedule in the TARGET and OUTPUT selection and press save.

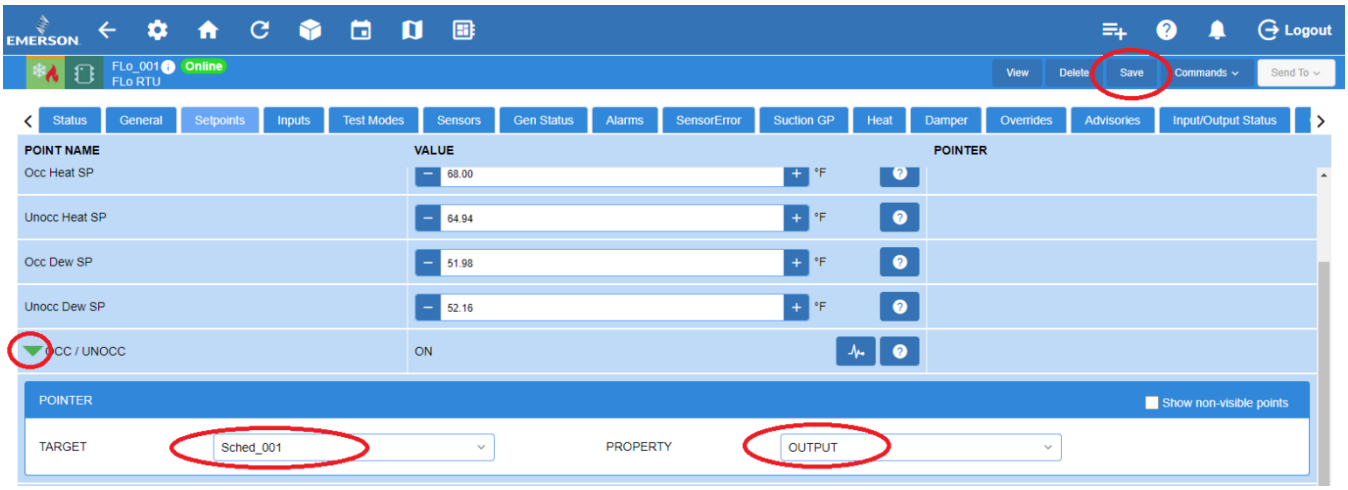

Figure 16. SS / E3 Setpoints Screen

3. Once saved, you can see the linked schedule under the POINTER column and unit occupancy will be controlled by the schedule.

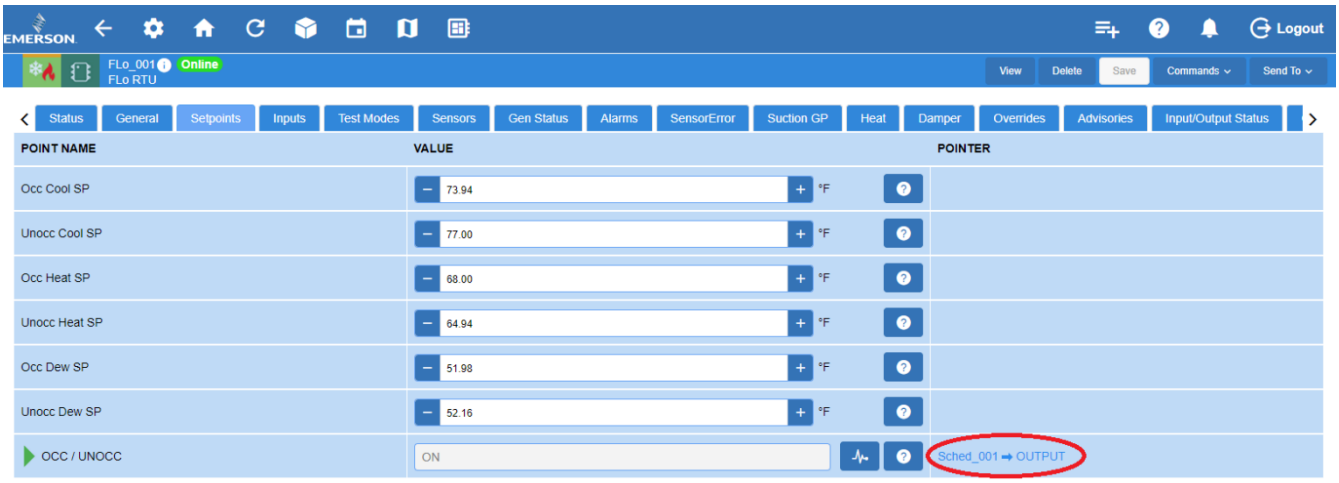

Figure 17. SS / E3 Setpoints Screen