Air Handling Unit Controller

US5182

Contents

Configuration

Introduction

Congratulations on choosing the TCS US5182 Air Handling Unit Controller! The US5182 is a sophisticated, multi-function HVAC Air Handling Unit controller which must be configured to interact with your system after you have completed the installation, wiring, and basic setup. While this configuration process can be accomplished several different ways, the preferred method is to connect a laptop computer directly to the US5182 via a USB cable, and use TCS Insight software to program the unit. This manual will guide you through each step you must take when using this method.

Refer to the US5182 Installation Manual for instructions on installing and wiring the unit into your system. Refer to the US5182 Quick Setup Guide for instructions on the basic setup of the unit via the unit's LCD screen.

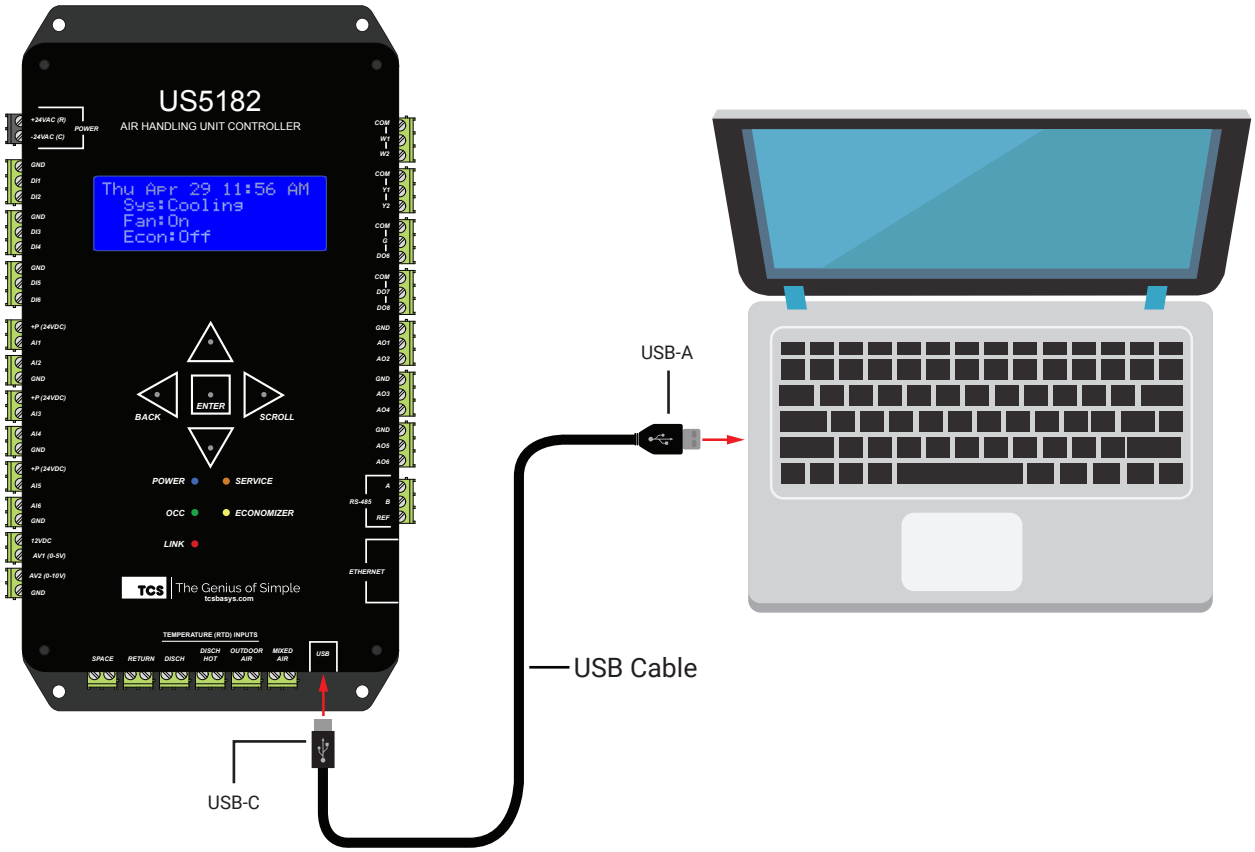
If you have questions regarding your US5182, do not hesitate to contact TCS Technical Support at 800-288-9383, ext. 2. Our Technical Support Department hours are Monday – Friday, 7:00 a.m. to 7:00 p.m. (CST).

Getting Started

To configure the US5182, you will need:

- A laptop computer running Windows 7 or later.
- A USB-A to USB-C cable (NOT a mini-USB or micro-USB cable)
- TCS Insight configuration software version 2.5.0.7 or later, which can be downloaded from the TCS website. **Earlier versions of Insight will not allow you to configure the US5182**.

US5182-to-Laptop Connection



Using Insight

TCS Insight software allows you to configure available settings for the different types of inputs and outputs of the US5182. Each time you launch Insight, you must complete the following tasks before programming the US5182:

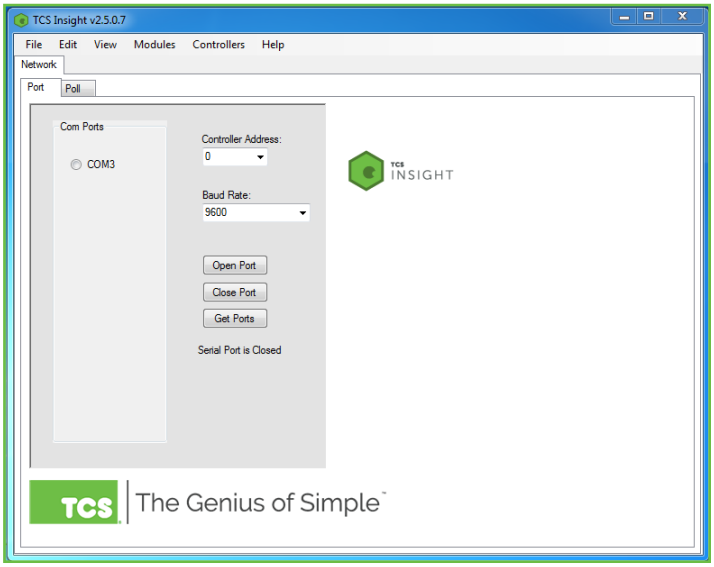
- Identify the COM port you will be using to communicate with the US5182
- Assign a unique device address to the US5182 (if more than one controller is connected to your system)
- Populate the I/O tabs under the Programming menu

NOTE: TCS Insight software is a powerful service tool that works with a number of different devices and performs other functions which are beyond the scope of this manual. We recommend following only the steps described herein, as other steps may impact other controllers or your network.

Network Setup

STEP 1 With the US5182 **disconnected** from your laptop, launch Insight. You will see the following screen:

You may see no COM ports or several of them (e.g., COM3, in this example). You can ignore these ports.



STEP 2 Power up the US5182 (refer to the US5182 Installation Manual for more information).

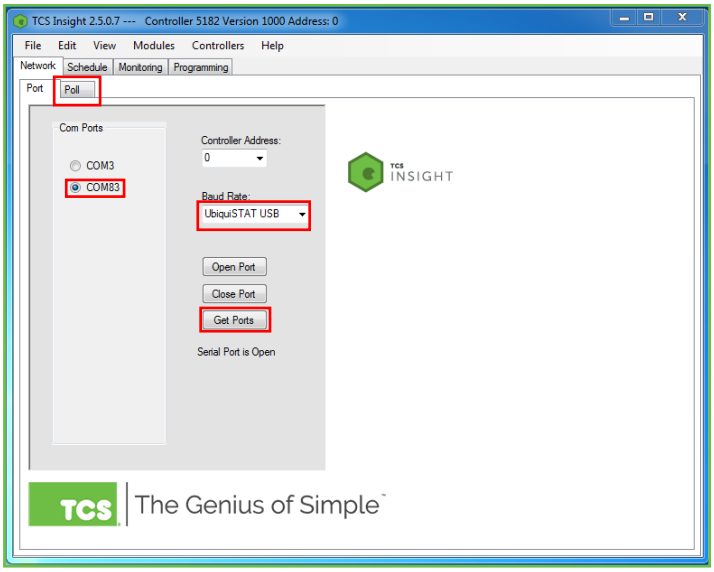
STEP 3 Connect the US5182 to your laptop using the USB cable described on page 3.

STEP 4 Click on the **Get Ports** button. You will see a new COM port appear in the window (e.g., COM83). This is the port your US5182 is using to communicate with the laptop.

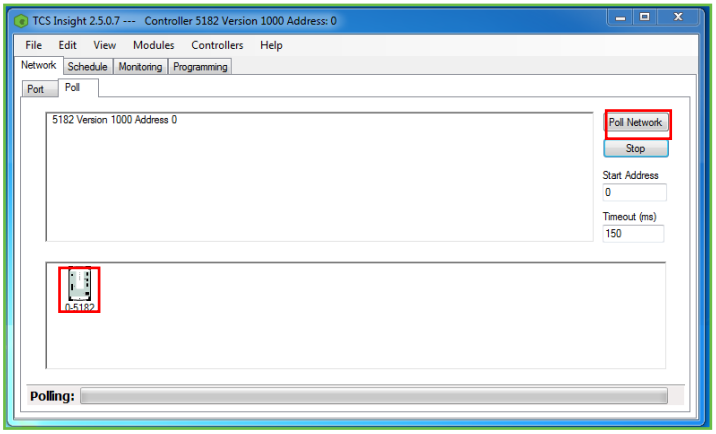
STEP 5 Under the Baud Rate list, select **UbiquiSTAT USB.**

STEP 6 Open the new COM port by clicking on its radio button.

STEP 7 Click on the **Poll** tab near the top of the window.



STEP 8 In the **Poll** tab window, click on the **Poll Network** button. After a few seconds, an icon representing the US5182 will appear. After the US5182 device icon appears, you can click on the **Stop** button to cease polling the network.

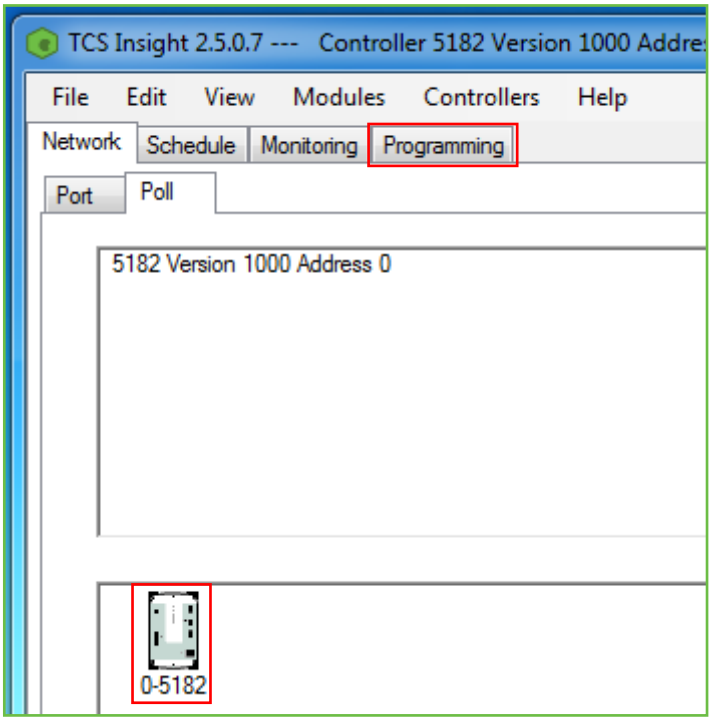


Programming the US5182

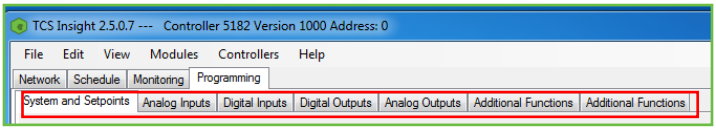
STEP 1 Click on the **US5182 device icon** to bring up the device tabs in the main window (this can take several seconds).

STEP 2 Click on the **Programming** tab in the main window. This will open up a new set of tabs for:

- System and Setpoints
- Analog Inputs
- Digital Inputs
- Digital Outputs
- Analog Outputs
- Additional Functions (two)



STEP 3 After expanding the **Programming** tab, click on each of the seven sub-tabs to populate their data fields. Allow several seconds for the US5182 to populate each sub-tab (the window will “blink” when populated.) Do this for every sub-tab, even if you are not going to configure all inputs/outputs or functions, as some data points are interrelated.



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Systems and Setpoints

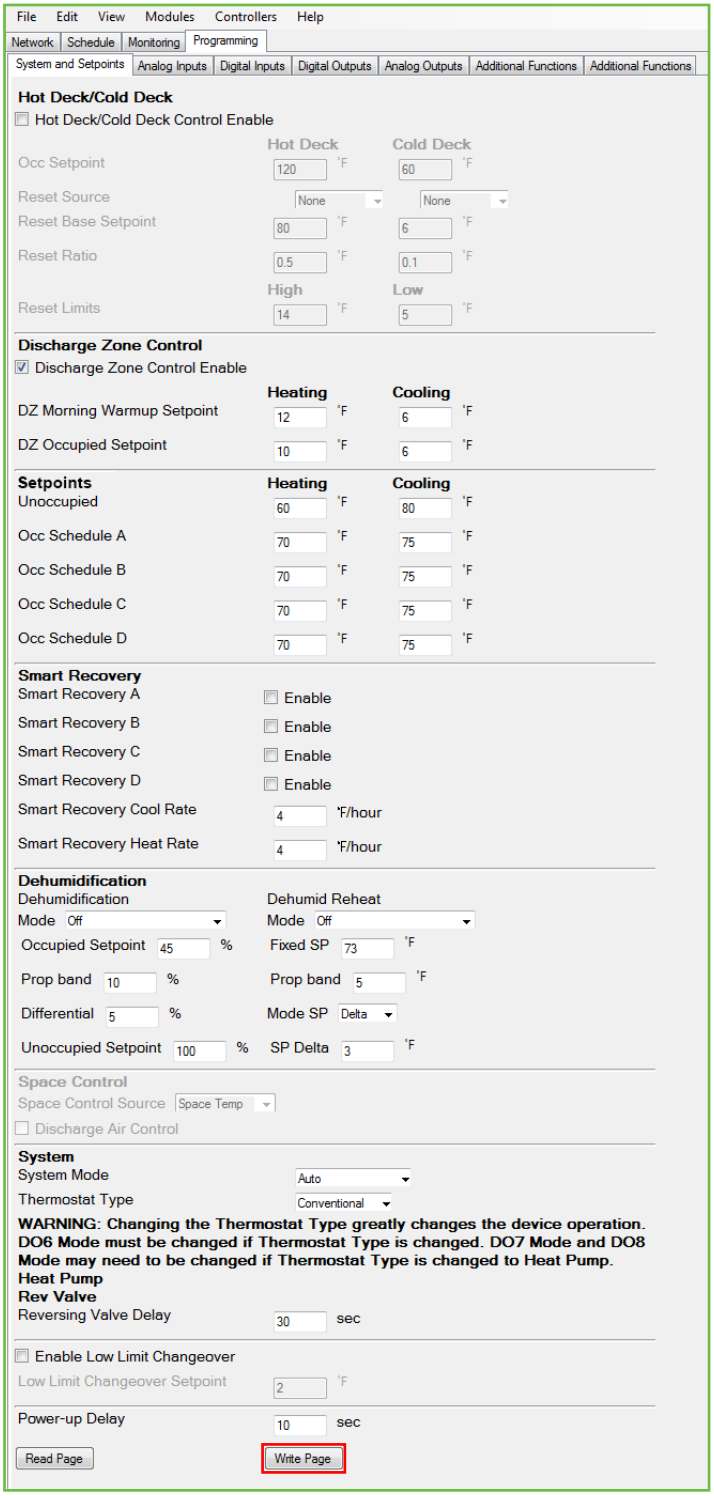
Under the **System and Setpoints** tab you can enable or monitor system settings for the following:

- Hot Deck/Cold Deck
- Discharge Zone Control
- Setpoints
- Smart Recovery
- Dehumidification
- Space Control
- System

STEP 1 Click on the desired section to activate the relevant settings and program the fields.

STEP 2 After programming the System and Setpoints, click on the **Write Page** button to save the settings.

STEP 3 (Optional) Click on the **Read Page** button to make sure all settings were entered.



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Configuration

Analog Inputs

Under the **Analog Inputs** tab, you can enable or monitor settings for the following:

- Space Temperature
- Return Air
- Discharge Air
- Discharge Hot
- Outdoor Air
- Mixed Air

The folowing configurable values are available:

- AI 1 – 6
- AV 1 – 2
- Input Source
- Limits and Lockouts
- Remote Occupied Setpoint

STEP 1 Click on the desired field to program the relevant settings.

STEP 2 After programming the Analog Inputs, click on the **Write Page** button to save the settings.

STEP 3 (Optional) Click on the **Read Page** button to make sure all settings were entered.

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Digital Inputs

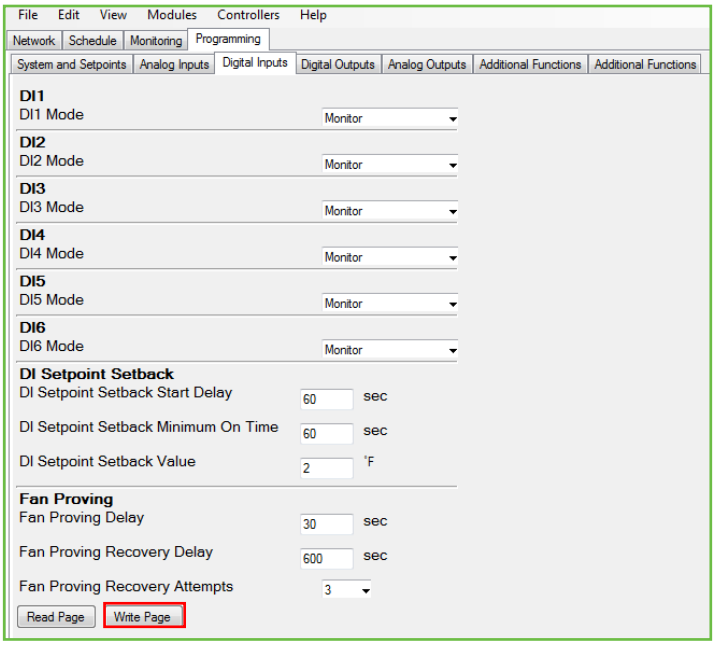
Under the **Digital Inputs** tab, you can enable or monitor settings for the following:

- DI 1 – 6
- DI Setpoint Setback
- Fan Proving

STEP 1 Click on the desired field to program the relevant settings.

STEP 2 After programming the Digital Inputs, click on the **Write Page** button to save the settings.

STEP 3 (Optional) Click on the **Read Page** button to make sure all settings were entered.



Digital Outputs

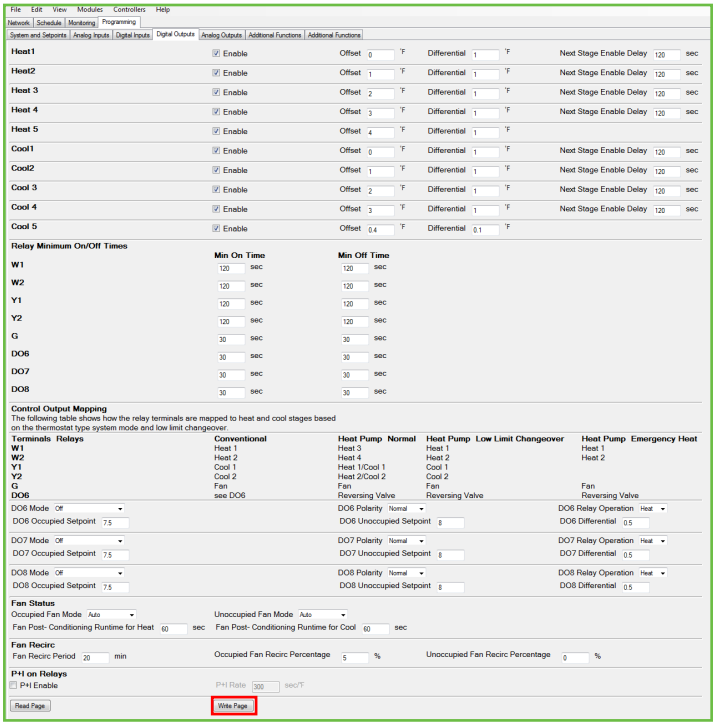
Under the **Digital Outputs** tab, you can enable or monitor settings for the following:

- Heat 1 – 5
- Cool 1 – 5
- Relay Minimum On/Off Times
- Control Output Mapping/Relay Configurations
- Fan Status
- Fan Recirculation
- P+I Relays

STEP 1 Click on the desired field to program the relevant settings.

STEP 2 After programming the Digital Outputs, click on the **Write Page** button to save the settings.

STEP 3 (Optional) Click on the **Read Page** button to make sure all settings were entered.



Configuration

Analog Outputs

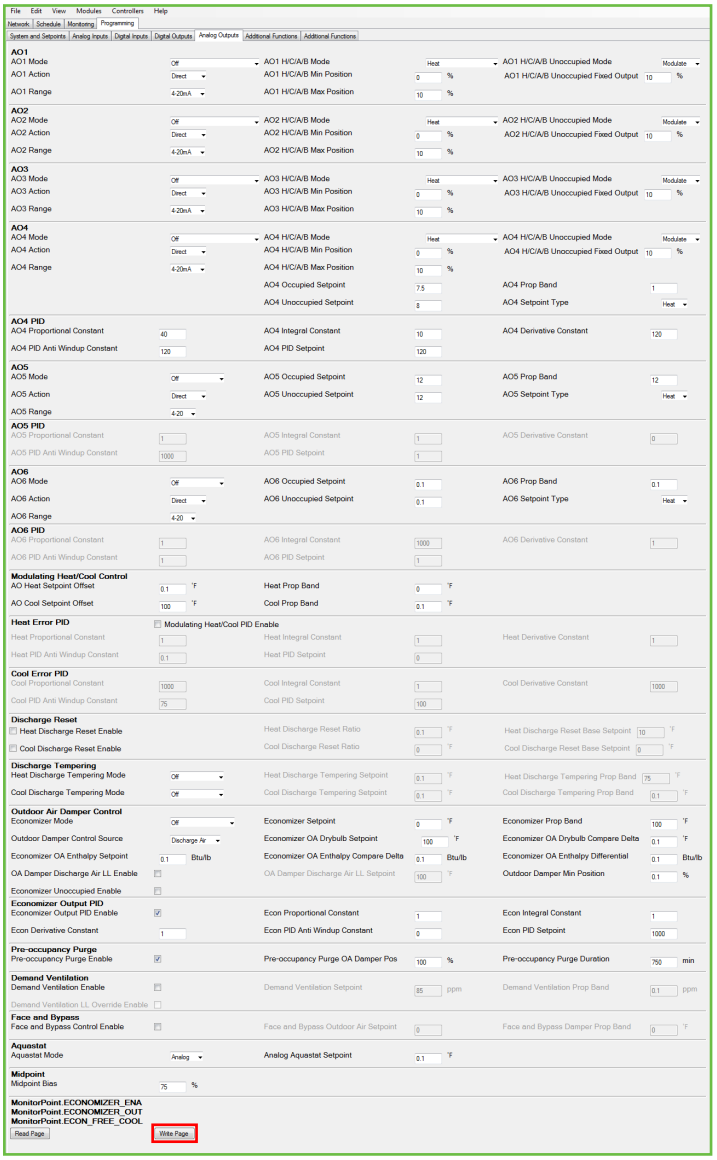
Under the **Analog Outputs** tab, you can enable or monitor settings for the following:

- AO1 – 6
- Modulating Heat/Cool Control
- Heat Error PID
- Cool Error PID
- Discharge Reset
- Discharge Tempering
- Outdoor Air Damper Control
- Economizer Output PID
- Pre-Occupancy Purge
- Demand Ventilation
- Face and Bypass
- Aquastat
- Midpoint

STEP 1 Click on the desired field to program the relevant settings.

STEP 2 After programming the Analog Outputs, click on the **Write Page** button to save the settings.

STEP 3 (Optional) Click on the **Read Page** button to make sure all settings were entered.



Additional Functions (1 of 2)

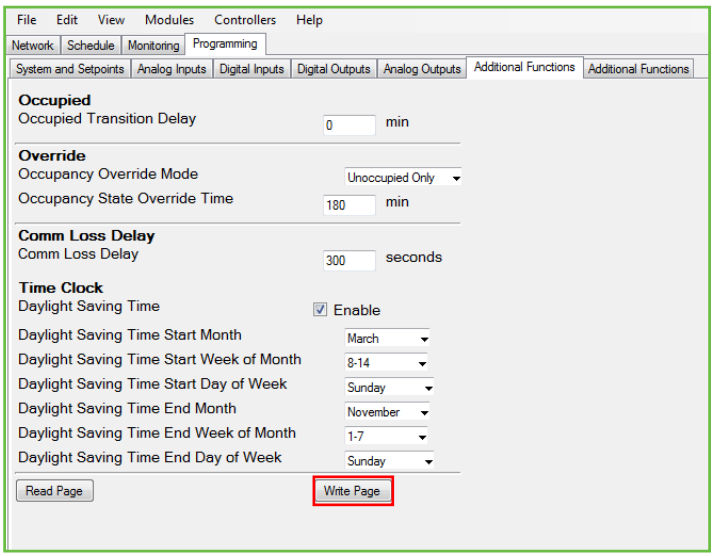
Under the first **Additional Functions** tab, you can enable or monitor settings for the following:

- Occupied
- Override
- Communication Loss Delay
- Time Clock

STEP 1 Click on the desired field to program the relevant settings.

STEP 2 After programming the Additional Functions, click on the **Write Page** button to save the settings.

STEP 3 (Optional) Click on the **Read Page** button to make sure all settings were entered.



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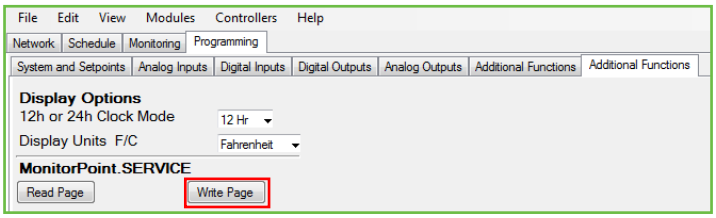
Additional Functions (2 of 2)

Under the second **Additional Functions** tab, you can enable or monitor settings for the following Display Options:



STEP 1 Click on the desired field to program the relevant settings.

STEP 2 After programming the Additional Functions, click on the **Write Page** button to save the settings.

STEP 3 (Optional) Click on the **Read Page** button to make sure all settings were entered.

Exiting the Configuration Software

STEP 1 Exit the Insight software by either closing the window or by clicking on the **Exit** command under the **File** tab.

STEP 2 Disconnect the laptop computer from the US5182.

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