

# AIRSYS Lead/lag Controller Upgrade Guide

## Introduction:

- All Airsys lead/lag controllers can gain additional newer functionalities and improvement retroactively by upgrading its software. A full list of changes can be viewed at <http://tempesthvac.com>.
- This software upgrade requires a Smart Key loaded with newest software. The Smart Key is available to service contractors on a loan basis. For more detail, please contact [HVACsupport@tempesttelecom.com](mailto:HVACsupport@tempesttelecom.com)
- Software upgrade resets all parameter to factory default.

**Follow the instructions carefully.**  
**If you encounter any difficulty, please contact**  
**[HVACsupport@tempesttelecom.com](mailto:HVACsupport@tempesttelecom.com)**  
**(805) 879-5432**  
**(855) 874-5380**

## Step 1: Install Temp Sensors

Note: Skip to Step 2 if Supply Air Temp. Sensors already installed.

- Install supply air temperature sensors on B1 and GND on both controller boards. See Figure 1 for installation location and Figure 3 for wiring.

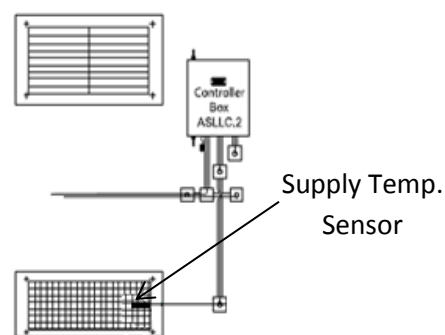


Figure 1: Supply Temp Sensor Location

## Step 2: Upgrade Unit #2

Note: Unless stated otherwise, all reference in this step refers to unit #2

- Disconnect J1 and J6. See Figure 3 for connector locations.
- Insert Smartkey into J5.
- Move J7 from unit#1 to unit#2. See Figure 2.
- Reconnect J1.

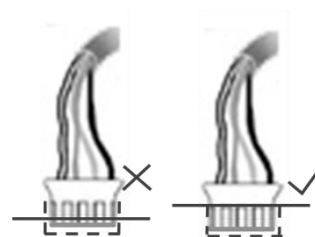


Figure 2: J7 Connector

- e. Wait till the arrow on Smartkey is lit and points up toward the controller (see Figure 4).
- f. Press "Start" on Smartkey. The arrow will flash with increasing frequency while the software is loading. A "chirping" sound indicates the software has finished loading.
- g. Disconnect J1 and J5.
- h. Reconnect J1.
- i. The screen will display  $E \square$ . After ~15 seconds, the display changes to  $\square \square$ .
- j. Use the **UP** button to find  $S \square \square$
- k. Press the **DOWN** and **SEL** buttons simultaneously. If done correctly you will see a flashing  $\square$  on the display, otherwise press **UP** and **DOWN** together to return to step i.
- l. From flashing  $\square$  press **SEL**,  $S \square P$  should appear.
- m. Use the **UP** button to get to  $d \square F$  and press **SEL** button. Display should display  $\square F F$ .
- n. Press the **UP** button and the correct indoor temperature should be displayed. If the display still reads  $\square \square$  after 30 seconds, return to step i.

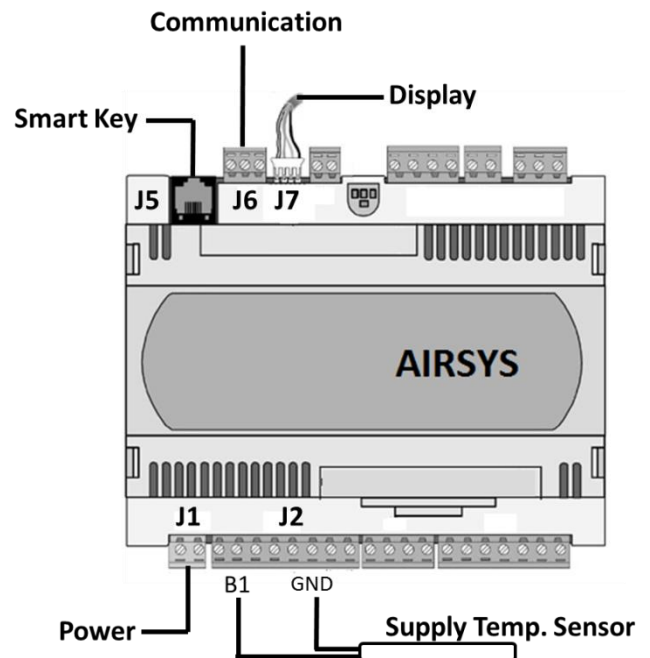


Figure 3: Controller Board Reference

### Step 3: Upgrade Unit #1

Note: Unless stated otherwise, all reference in this step refers to unit #1

- a. Disconnect J1.
- b. Insert Smartkey into J5.
- c. Move J7 from unit #2 to unit #1 (See Figure 2).
- d. Reconnect J1.
- e. Wait till the arrow on Smartkey is lit and points up toward the controller. (See Figure 4).
- f. Press "Start" on Smartkey. The arrow will flash with increasing frequency while the software is loading. A "chirping" sound indicates the software has finished loading.
- g. Disconnect J1 and J5.
- h. Reconnect J1.
- i. The screen will display  $E \square$ . After ~15 seconds, the display changes to  $\square \square$
- j. From  $\square \square$  use the **UP** button to find  $S \square \square$
- k. Press the **DOWN** and **SEL** buttons simultaneously. If done correctly you will see a flashing  $\square$  on the display, otherwise press **UP** and **DOWN** together to return to step i.
- l. Press **SEL**,  $S \square P$  should appear.
- o. Use **UP** button to get to  $d \square F$  and press **SEL** button. Display should Display should display  $\square F F$ .
- p. Press the **UP** button and the correct indoor temperature should be displayed. If the display still reads  $\square \square$  after 30 seconds, return to step i.
- m. Reconnect J6 on unit #2.

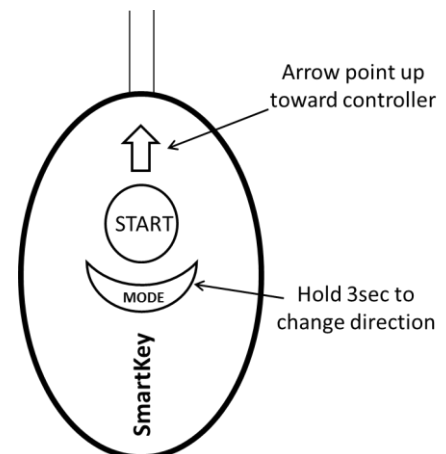


Figure 4: Smart Key

#### Step 4: FOR DC CONTROLLER ONLY

Skip to Step 5 unless the controller is 48VDC (model ASLLC.2.48)

- From the indoor temp display press the **UP** button to find  $5\ 2\ 1$
- Press the **UP** and **SEL** buttons simultaneously. If done correctly you will see  $1\ 1\ 5$  on screen. Otherwise press **UP** and **DOWN** together to Return to step a.
- Press **UP** until the terminal display  $5\ F\ 1$  and press **SEL**.
- Press **UP** to change  $1$  to  $0$  and press **SEL**.

#### Step 5: Step Test - Verify proper operation

- Turn controller breaker (QF) off. Wait 5 Seconds and turn it back on.
- The screen will display  $1\ 0$ . After ~15 seconds, the display changes to Indoor Temperature.
- Hold **UP** and **SEL** together for 3 seconds, the display should change to  $1\ 0\ 1$
- From  $1\ 0\ 1$ , press **SEL** will display the current step. Use **UP** or **DOWN** to change the step and press **SEL** again to confirm. Once confirmed, the screen will revert to  $1\ 0\ 1$  and selected step will start.

Step	Description	Notes
1	Supply Fan	Full speed after few seconds
2	Heater	May take up to 1min to feel warm air
3	Compressor	Must run a <b>minimum</b> of 1min
4	Outdoor Damper	When lights are off, indirect daylight can be seen via opening behind exhaust grill
5-8	Repeats for 2nd Unit	Same as 1-4

#### Step 6: Turn system back to ON to Automatic mode

- Press **UP** and **DOWN** together to get back to the Indoor Temperature.
- Press **DOWN** to find  $0\ F\ F$
- Hold **SEL** for 3 seconds. Both up and down buttons should be lit and active alarms will be displayed if there is any. Refer to the WPU Troubleshooting Guide for alarm troubleshooting.
- Press **UP** and **DOWN** together to get back to the Indoor Temperature.