

Start-up Guide for the UT3000 Zone Controller code version 1.81

*Applies to Daikin[®] Inverter based systems and
the Daikin[®] One+ communicating thermostat*

Installing a zoned communicating HVAC system can be challenging and Commissioning the HVAC network is of primary importance. So EWC offers this Start-up guide to save you time and labor cost.

Note: EWC highly recommends installing Daikin ONE+ thermostats in all zones!

However as you will see, this start-up guide advises you to wait until the last step, to actually mount the Daikin One thermostats to their respective (sub-base) wall plates. The initial Equipment Test and Charging Mode shall be performed via the UT3000 Zone Controller.

INSTALLATION:

1. Install the Daikin communicating Indoor and Outdoor components, following the specific model IOM guidance from Daikin manufacturing.
 - 1A. This includes all required mechanical aspects such as, structural support, properly sized (or upgraded) duct-work, a condensate removal system and a flue/vent piping system as applicable.
2. Complete the refrigerant line set connections per industry standards including the liquid line filter drier and appropriate oil trap as applicable. Connect manifold gauges and evacuate the refrigerant line set and the evaporator coil.
3. When all non-condensibles have been removed and the refrigerant line set/coil proves to be leak free, insulate the vapor line and open the service valves per Daikin IOM instructions.
4. Install the UT3000 Zone Controller, Zone Dampers and Zone Thermostats following the UT3000 Tech Bulletin guidance from EWC Controls.
 - 4A. **DO NOT MOUNT THE ZONE THERMOSTATS TO THEIR RESPECTIVE WALL PLATES YET!**
5. Route and connect all required electrical wiring (Line voltage, Control voltage & Data) for the Daikin Indoor and Outdoor components, as well as the EWC Zone Controller. This includes control wiring from the UT3000 to each thermostat wall plate.
 - 5A. **DO NOT MOUNT THE ZONE THERMOSTATS TO THEIR RESPECTIVE WALL PLATES YET!**
6. Energize (Power up) all components.
7. After energizing all components, wait approximately 5 - 7 minutes for the HVAC network to configure.
 - 7A. If the Air Handler or EEV circuit board displays error code "E77", the network has not configured.
 - 7B. If the UT3000 displays "OAS BAD" rather than a valid OA temperature, the network has not configured.
8. Check all Low Voltage (24vac) wiring and Data wiring for loose, shorted or crossed connections. Make use of your volt/ohm meter to confirm circuit integrity. Repair as necessary. *See Step 9 for further corrective action.*
9. Using a voltmeter, measure the DC voltage (BIAS) across Data 1 and Data 2 connections on all "system" circuit board terminal blocks. If the BIAS voltage reads less than .6vdc (*ie .3vdc or .4vdc*) the BIAS must be increased to the specified .6vdc.
 - 9A. De-energize the outdoor unit to perform this function!
 - 9B. Move the DS1 or TERM dip switches (located on the outdoor unit circuit board) to the OFF position.
 - 9C. **DO NOT** move any other DIPS except DS1 or TERM.
 - 9D. Re-energize the outdoor unit and allow 5 - 7 minutes for the HVAC network to configure.
10. If the Outdoor unit displays "E11", the Air Handler, Furnace and/or EEV circuit boards display "ON" and the UT3000 displays a valid outdoor air temperature, the HVAC network has properly configured and the system is ready to commission...**See COMMISSION 1 - EQUIPMENT TEST on the next page.**

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COMMISSION 1 - EQUIPMENT TEST:

DO NOT MOUNT THE ZONE THERMOSTATS TO THEIR RESPECTIVE WALL PLATES YET!

1. The E11 code means the initial “Equipment Test” must be performed. You will use the UT3000 to initiate the test as the first step in the commission process. Normal cooling operations are not allowed until this test is complete. **NOTE:** *If the “System Test” has already been performed with an existing Daikin ONE+ thermostat, there is no need to perform it again via the UT3000. However, the system test can be performed more than once.*

- A. Press the UP▲ and DOWN▼ button (underneath the LCD) at the same time then release, to access the Equipment Menus. The LCD will display “Select SYS Menu”.
- B. Press the DOWN▼ button (one or more times) to see all available equipment menus.
 - B1. Example: **MENU AIR COND** = Available *** **HEAT PUMP N/A** = Not Available.
 - B1. Select the *Air Conditioner* or the *Heat Pump* menu by pressing the RIGHT▶ button.
 - B2. The LCD screen will display “Wait for System” while the UT3000 accesses the outdoor unit menu.
- C. The first folder in the outdoor unit’s menu will be “Config”.
 - C1. Press the DOWN▼ button until you see “Equipment Test” on the LCD screen.
- D. Press the RIGHT▶ button to select the Equipment Test. The LCD will display “Wait for System”.
 - D1. The LCD will display “System Test”.
 - D2. Press the RIGHT▶ button to select the System Test. The LCD will display *OFF.
 - D3. Press the DOWN▼ button to see ON, and then press the RIGHT▶ button to select ON.
- E. The LCD screen will display “Updating System”. Then the LCD screen will display *ON.
- F. The System Test will start in a few minutes. **DO NOT INTERRUPT THE TEST!**
 - F1. Leave the LCD buttons alone! The LCD screen will resume scrolling on it’s own.
 - F2. **DO NOT MOUNT** the zone thermostats to the wall plates yet.
 - F3. The test will finish in approximately 8 -15 minutes. Be patient!
 - F4. When the test is complete, the system will cycle down to idle mode.
 - F5. The absence of the E11 code on the outdoor unit confirms the test was successful.
 - F6. The system is now ready for Charge Mode.

See Commission 2 - CHARGE MODE on the next page.

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COMMISSION 2 - CHARGE MODE:

DO NOT MOUNT THE ZONE THERMOSTATS TO THEIR RESPECTIVE WALL PLATES YET!

1. After a successful System Test, it is highly recommended to initiate "Charging Mode".

- A. Press the UP▲ and DOWN▼ button (underneath the LCD) at the same time then release, to access the Equipment Menus. The LCD will display "Select SYS Menu".
- B. Press the DOWN▼ button (one or more times) to see all available equipment menus.
 - B1. Example: **MENU HEAT PUMP = Available *** AIR COND N/A = Not Available.**
 - B2. Select the *Air Conditioner* or the *Heat Pump* menu by pressing the RIGHT▶ button.
 - B3. The LCD screen will display "Wait for System" while the UT3000 accesses the outdoor unit menu.
- C. The first folder in the outdoor unit's menu will be "Config".
 - C1. Press the DOWN▼ button until you see the "SYS SETUP2" folder on the LCD screen.
- D. Press the RIGHT▶ button to access the SYS SETUP 2 folder .
 - D1. The LCD will display "Wait for System".
- E. The first sub-folder inside the SYS SETUP2 folder is "SYS SETUP RESET".
 - E1. Press the DOWN▼ button until you see "Charge Mode" on the LCD screen.
 - E2. Press the RIGHT▶ button to select "Charge Mode". The LCD will display *OFF.
 - E3. Press the DOWN▼ button to see ON, and then press the RIGHT▶ button to select ON.
- F. The LCD screen will display "Updating System". Then the LCD screen will display *ON.
- G. Charge Mode will start in a few minutes!
 - G1. Leave the LCD buttons alone! The LCD screen will resume scrolling on it's own.
 - G2. DO NOT MOUNT the zone thermostats to the wall plates yet!
 - G3. The system will remain in Charge Mode for 1 hour at full capacity.
 - G4. Follow Charging Mode instructions per the specific IOM guidance from Daikin Mfg.
 - G5. When Charge Mode is complete, the HVAC system will cycle down to idle mode.
 - G6. If you complete Charge Mode in less time, you can terminate Charge Mode by performing the same procedure outlined above and selecting OFF.

See Commission 3 - THERMOSTAT SETUP, on the next page.

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COMMISSION 3 - THERMOSTAT SETUP:

You may now mount all zone thermostats to their respective (sub-base) wall plates .

After the System Test & Charge Mode have been completed, you may now mount all zone thermostats to their respective wall plates and configure each thermostat to the UT3000 and the HVAC system.

This final step is just as critical as the others. You must ensure that all Daikin One thermostats receive the latest Daikin software upgrades and each thermostat is assigned the proper designation of either "Zone 1" or "Additional Zone" status.

1. Navigate to the "Home WiFi" screen of each communicating thermostat and allow the Homeowner to identify their own home WiFi network and input their own WiFi password, while you look the other way.
2. Allow sufficient time (approx 15 minutes) for all thermostats to download the latest OTA software updates.
3. Using the Zone 1 "Master" thermostat, navigate to "Dealer Edit" and then to "Installer Wizard".
4. Access the "Equipment Setup" folder, and select "Add Equipment"...Then select "EWC Zone Board".
5. On the next screen, confirm "EWC Zone Board" is shown and assign that thermostat as "Zone 1".
6. Using any additional thermostats other than Zone 1, navigate to "Dealer Edit" and then to "Installer Wizard".
7. Access the "Equipment Setup" folder, and select "Add Equipment"...Then select "EWC Zone Board".
8. On the next screen, confirm "EWC Zone Board" is shown and assign all additional thermostats as "Additional Zone".

You may now operate your zoned communicating HVAC system via the zone thermostats. Additional commissioning functions include ensuring that all zone dampers operate correctly and assigning the desired weight to each zone.

For additional setup guidance pertaining to the Ultra-Zone UT3000 zone system, refer to *Technical Bulletin P# 090375A0260 Rev. O* **and** *Addendum Sheet P # 090376A0180 Rev. T*.

EWC provides superior technical support via our tech line at 800-446-3110. 8am - 5pm Eastern.