Section 3.1
Digital Zone Control Modules

Setting up thermostats and Digital Zone Control Modules (DZCMs) (A9011500) is a critical step in ensuring the Network System performs efficiently and provides optimal comfort for occupants. DZCMs store all setpoints and system configurations, and they are the lead component for processing heating, cooling, humidity, fan and ventilation requests.

The Network System supports up to 12 DZCMs with up to 99 radiant floor heating (RFH) zones and up to 16 air zones for both heating and cooling. The mechanical systems and the layout of the Network System hardware will determine how many DZCMs are needed in a given installation.

In conventional systems, the wiring determines the staging of equipment (how it turns on and off). For example, when a relay closes, the next piece of equipment will turn on. In the Network System, there is less reliance on wiring in determining how the system operates. However, while the wiring is less complex, more attention must be given to the DZCM setup software. Using "software triggers" rather than wiring makes the Network System much more flexible than a conventional control system.

This section covers the following topics.

· Accessing DZCM status screens

· Elements of the DZCM status screen

The following sections cover additional topics relating to setting up the DZCMs.

· Section 3.2: Thermostat Status Tab

· Section 3.3: Thermostat Setup Tab

· Section 3.4: Thermostat Setup 2 Tab

· Section 3.5: Thermostat Mode Tab

· Section 3.6: Thermostat Setpoints Tab

· Section 3.7: Thermostat Active Setpoints Tab

· Section 3.8: Setting up a Radiant Floor Heating Zone

· Section 3.9: Setting up an Air Zone

Before proceeding, make sure the following steps are complete.

❑ All Uponor Configuration Tool (UCT) software (A9090000) components are installed (**Section 1.5**).

❑ The computer is correctly connected to the Network System (**Section 1.6**).

❑ The installer is familiar with using UCT elements (**Section 1.7**).

> ⚠️ **Important:** Remember to save all changes to flash memory. Changes not saved will be lost if the DZCM loses power. See **Section 5.1: Save to and Load from Flash**.

Accessing the DZCM Status Screen

Each DZCM has a status screen. Refer to the following steps to access a DZCM status screen.

1. From the **Main Menu**, click on the **Digital Zone Control Modules** button shown in **Figure 3.1-1** to display the Digital Zone Control Modules (DZCMs) screen shown in **Figure 3.1-2**. This screen shows the number of DZCMs online that are communicating with the Router Main Control (RTR) (A9011000).

The example in **Figure 3.1-2** shows that DZCM 1 is online and communicating. If the Network System detects other DZCMs, additional DZCM buttons, or tiles, will display.
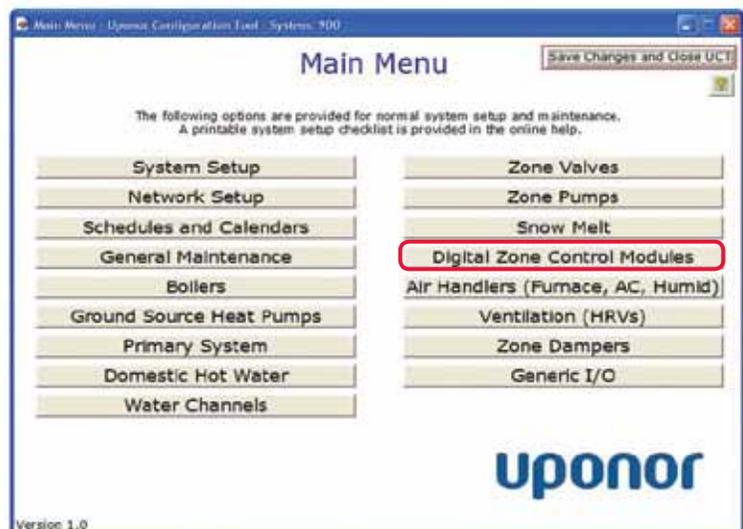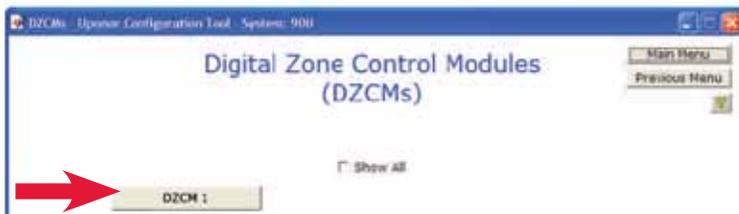

Figure 3.1-1: Main Menu Screen
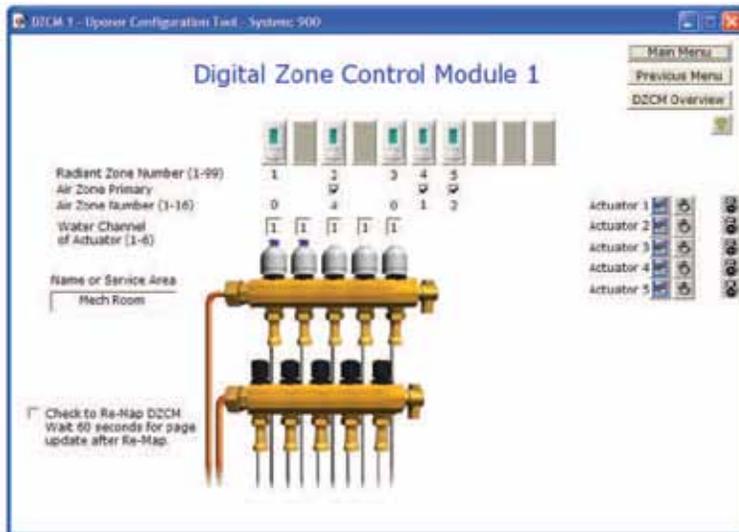
Figure 3.1-2: DZCM Availability Screen

Figure 3.1-3: DZCM Status Screen

Figure 3.1-4: DZCM Thermostat Status

2. Click on a **DZCM** button to display the DZCM status screen. The example in **Figure 3.1-3** shows the status screen for DZCM 1.

Elements of the DZCM Screen

The DZCM status screen displays the following elements and fields.

Thermostat Status: The ten blocks shown near the top of the DZCM status screen represent the 10 thermostat connection points on the DZCM. If the DZCM detects a thermostat for a given connection, a thermostat icon will appear in the block. **Figure 3.1-4** shows an enlarged view of the blocks. This example shows the system found thermostats on connections 1, 3, 5, 6 and 7.

Important: If thermostats were connected or wiring was corrected after the initial power up for the DZCM, power to the DZCM must be cycled for the change to be detected.

Radiant Zone Number: This area of the screen shows the individual reference for each thermostat. This number identifies the radiant zone; it is also used for auto detection on www.myuponor.net and the Touch Panel Interface (TPI).

Important: Do not duplicate radiant zone numbers within a system. Duplicate radiant zone numbers create communication conflicts and result in loss of control in the rooms with the duplicate number.

Air Zone Primary: Check this box to indicate which thermostat is used to turn on and off air heating and cooling for an air zone with multiple thermostats. When a thermostat is the primary, its setpoints are used to control the air equipment. Only one thermostat per air zone should be primary (checked). If no air zones are set, no checks are shown.

Air Zone Number (1-16): This is a number given to a group of thermostats that are within the same delivery system or ductwork. When thermostats are given the same air zone number, air delivery control can be transferred to any thermostat with the same air-zone number. If no air zones are set, this field displays a zero.

Water Channel of Actuator (1-6): This field notes if a water channel is assigned to a thermostat. The example in **Figure 3.1-3** shows thermostats on 1, 3, 5, 6 and 7 along with actuators on 1 through 5. When the DZCM is powered up, it scans for thermostats and actuators that are currently connected. The DCZM then performs an "auto zone map" to create an association between the thermostats and actuators. In this case, the following associations were found:

· Thermostat 1 controls Actuators 1 and 2

· Thermostat 3 controls Actuators 3 and 4

· Thermostat 5 controls Actuator 5

· Thermostats 6 and 7 do not control any actuators

When Water Channel 1 begins a call for heat and starts mixing, the Network System will scan all thermostats in the system for room temperatures 0.25°F (0.12°C) below setpoint and open any actuators assigned to that water channel.

Actuators not wired opposite of a thermostat must be assigned manually. In the example, Thermostat 1 controls Actuators 1 and 2. However, 0 is shown for Actuator 2. To force all actuators open during the Mix Call Optimization, the installer must manually set this number to 1 [or whatever Water Channel the thermostat (and actuators) are assigned to].

Name or Service Area: It is a best practice to name each DZCM based on the area of the building it serves. The numeric designation of a DZCM (for example, DZCM 1) is determined by the position of the rotary address dial. The installer should know each DZCM numeric designation before naming the units. Note that when entering a name, the text displays in pink until the user clicks on another field. Then, the text turns black.

Actuator Status: Each DZCM comes with 10 Molex (or plug) connectors for plugging in Network System actuators. If the DZCM detects an actuator for a given connection, the DZCM status screen will display a graphic of an actuator and a loop manifold. **Figure 3.1-5** shows the DZCM detects five actuators on connections 1 through 5.

⚠️ **Important:** If actuators were connected after the initial power up for the DZCM, the DZCM will not detect the actuators until power is cycled. Remember to save all changes made to the DZCM prior to cycling power. New settings will be lost if changes are not saved.

Figure 3.1-5: DZCM Thermostat–Actuator Status

Actuator Animation: Actuator plungers are animated to indicate one of four possible states:

· Actuator Open is indicated by a plunger fully extended and not moving.

· Actuator Opening is indicated by a plunger moving from the closed position (down) to open (up); this means the DZCM detects a heat call.

· Actuator Closing is indicated by a plunger moving from open (up) to closed (down).

· Actuator Closed is indicated by a plunger fully closed (down) and not moving.

Re-Map DZCM Checkbox: If changing wiring, swapping actuator connections, or adding thermostats or actuators, the DZCM needs to re-map to recognize the new hardware or devices. Checking this box has the same effect as removing and reapplying the power.

⚠️ **Important:** Remember to save all changes to the DZCM prior to cycling power. New settings will be lost if changes are not saved.

Next Steps

To continue the thermostat setup process, click on any of the thermostat icons on the DZCM status screen and review **Section 3.2: Thermostat Status Tab**.