

Controller Start-up for Custom
Solutions Application 2434

Unit Conditioner 3-Stage Cooling and Hot
Water Heat

TEC 0358.11

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Verifying Power to Controller

NOTES: Update each controller at the field panel immediately after you have completed the controller start-up procedures and made all other changes to the controller's point database, including balancing, tuning, etc.

The Controller Interface Software (CIS) must be Rev. 2.0 or greater.

Verify that the Controller is powered up. Check that the BST LED on the controller is flashing (Figure 1). If the BST LED does not flash on/off once per second, refer to the *APOGEE Automation Service Procedures* on InfoLink for troubleshooting information.

Verify that APPLICATION (Point 2) is set to 2485 (slave mode).

Display the STARTUP report.

Enabling the Actuator

MTR SETUP (Point 58) determines which actuators will be controlled by the application and whether they are direct or reverse acting. For a standard configuration of Application 2434 (hot water valve normally open and reverse acting), set MTR SETUP to 3.

NOTE: A value of 1 reverts the action of the actuator back to direct acting. A value of 0 disables the actuator.

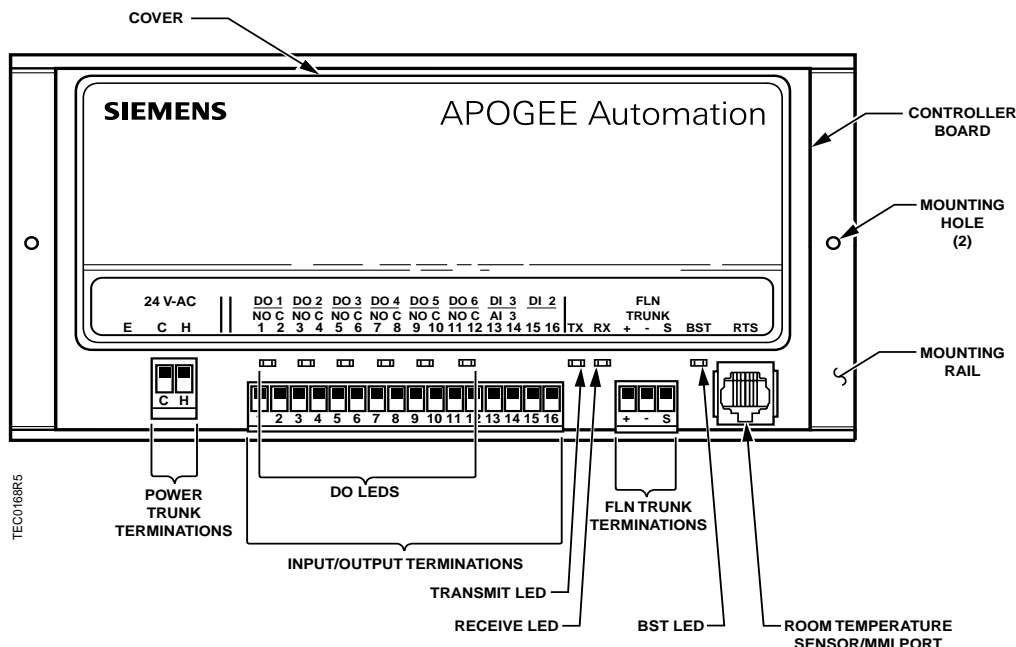


Figure 1. Unit Conditioner Controller with Staged Cooling and HW Reheat Valve – Electronic Output.

Setting Motor Timing

The run time of the hot water valve actuator is indicated by MTR 1 TIMING (Point 55). Use Table 1 to set MTR 1 TIMING.

Table 1. Valve Actuator Run Time.

Valve Actuator	Setting (seconds)	
	50 Hz	60 Hz
SSB81U (Powermite – MZ Series)	180	150
SQS 82	155	130
SQS 65U (analog output 0 to 10V)	35	30
SQS 65.5U (analog output 0 to 10V)	35	30
SSB 61U (analog output 0 to 10V)	N/A	150

Verifying Actuator Setup

Verify that the hot water valve closes and remains closed when commanded to do so. If it does not, and yet Motor 1 is enabled, then reverse the action by either adding or subtracting the value 2 from MTR SETUP (if MTR SETUP = 3, subtract 2. If MTR SETUP = 1, add 2), and then command the valve closed again.

If the actuator still does not close completely, then it has been installed or set up incorrectly. Refer to the actuator installation instructions or set up information, or the *APOGEE Automation Service Procedures* on InfoLink for more information.

Setting the Application

NOTE: If you are going to enter an LCTLR point at the field panel, keep track of the application, override time, and controller Address you enter at the portable operator's terminal. You will be required to enter these values again at the field panel.

Set APPLICATION (Point 2) to 2434.

After you set the application, the controller will go through a shut-down/load sequence as it switches from slave mode to the application. Once the OVERVIEW report appears, continue with the following procedures.

Setting CAL TIMER

Set CAL TIMER (Point 96) to the desired time interval that will trigger calibration of the floating control valve (if one is being used). The default value for CAL TIMER is 12 hours.

Setting Room Temperature Set Points

Follow these steps to set the room temperature set points:

1. Display the SETPOINTS report.
2. Set STPT DIAL (Point 14).
 - If the room temperature sensor has a set point dial, and if RM STPT DIAL (Point 13) is to be used by the controller, set STPT DIAL (Point 14) to YES; otherwise, set STPT DIAL to NO. (If STPT DIAL is set to YES, the day mode cooling/heating set points are not used. RM STPT DIAL is used instead.)
3. If there is no set point dial on the room temperature sensor, verify that STPT DIAL is set to NO.

Set the following points to the appropriate values:

- DAY CLG STPT (Point 6)
 - DAY HTG STPT (Point 7)
 - NGT CLG STPT (Point 8)
 - NGT HTG STPT (Point 9)
4. If the room temperature sensor has a set point dial that will be used, set RM STPT MIN (Point 11) and RM STPT MAX (Point 12) to the minimum and the maximum allowable room temperature set point values, respectively. Valid values range from 55° to 95°F (13° to 35°C). Common values for these points are 65°F (18°C) for RM STPT MIN and 80°F (27°C) for RM STPT MAX.

Setting Override Time

1. Display the STARTUP report.
2. If using night override, set OVRD TIME (Point 20) to the number of whole hours that an override should last. If set at zero (the default), night override is disabled.

Setting Stages of Cooling

Set CLG STG CNT (Point 75) to the correct number of cooling stages (1, 2 or 3).

Setting USE SAFETY

Set USE SAFETY (Point 87) to YES if an RTS is going to be hooked up to the TEC. If an RTS is **not** going to be hooked up to the TEC, set USE SAFETY to NO.

Setting Controller Address

Set CTLR ADDRESS (Point 01) to the appropriate number. Each controller must have a unique address. Normal values are **00** to **31**, but the controller will accept values as high as 98.

The start-up is complete.

NOTE: Update each controller at the field panel immediately after you have completed the controller start-up procedures and made all other changes to the controller's point database, including balancing, tuning, etc.