



Fan Coil Unit Programmable Thermostat 42 Series Model #33CSSp2-FC Specifications Guide

[Home](#) » [Thermostat](#) » Fan Coil Unit Programmable Thermostat 42 Series Model #33CSSp2-FC Specifications Guide 

Guide specifications — 42 Series

Fan Coil Unit —Programmable Thermostat
HVAC Guide Specifications — 33CSSP2-FC
Size Range: All
Carrier Model Numbers:
33CSSP2-FC
Part 1 — General

1.01 SYSTEM DESCRIPTION

24 volt programmable, 2- or 4-pipe (or electric heat), room fan coil unit controller with digital display.

1.02 QUALITY ASSURANCE

Unit shall be tested and certified in accordance with FCC Part 15 for RF interference, is UL and UL Canada certified, meets European Community standards and meets specified requirements of programming capability for all California commercial installations.

1.03 DELIVERY, STORAGE AND HANDLING

Each unit shall be individually packaged from point of manufacture. Unit shall be handled and stored in accordance with the manufacturer's instructions.

Part 2 – Products

A. Low-Voltage, 7-day Programmable digital thermostat

1. Quality Assurance:

- a. Complies with FCC Part 15 rules.
- b. Thermostat does not cause harmful interference and accepts all interference received.
- c. UL and UL, Canada approval.

- d. Thermostat conforms to European (CE) requirements and is designed in accordance with IEC (International Electrotechnical Commission) standards.
- e. Meets specified requirements of programming capability for all California Title 24 compliance commercial installations.
2. Thermostat shall be low-voltage capable of maintaining room temperature by controlling operation of an HVAC (Heating, Ventilation, and AirConditioning) system.
3. Thermostat shall be:
 - a. wall-mounted
 - b. surface mounted
 - c. unit mounted
4. Thermostat shall allow separate heating and cooling set points and autochangeover as standard
5. The thermostat shall accept several different equipment configurations, including;
 - a. single-stage heating and cooling
 - b. 2 stages of heating and cooling
 - c. electric heating and hydronic systems
6. Batteries shall not be required. During power interruption, the internal memory shall store user-defined default settings for an unlimited time. Comfort programming and configuration shall remain intact indefinitely. Clock and day of the week settings shall be retained for a minimum of 48 hours.
7. Display shall be large and easy to read with Thermoglow™ back lighting. A single adjustment shows temperature in Celsius or Fahrenheit.
8. Thermostat shall have a solid-state, laser-trimmed sensor with one-degree control accuracy to precisely control the desired space temperature to within 1 degree of user set point.
9. The thermostat shall have an auto-changeover with adjustable deadband to enable the user to choose separate heating and cooling set points (35 F to 99 F). This adjustable deadband shall be configurable to user's specifications (from 1° to 6° F) and in cycles per hour (2 to 6).
10. Thermostat shall include the following safety and installation features as standard:
 - a. The front panel buttons shall be capable of being disabled to prevent unauthorized use of the thermostat
 - b. Exact Fit® locking cover installed with optional standard or special tools to prevent unauthorized users from accessing the front panel buttons
 - c. Mounting plate and cover plate to allow thermostat to be mounted directly to wall or to standard 2" x 4" or 4" x 4" junction box
11. The thermostat shall have a 5+1+1 day clock (Monday-Friday, Saturday, Sunday) provided with 3 occupied and 1 unoccupied time periods for scheduling of heating and cooling set points.
12. A minimum of four-hour setback override shall return the system to occupied set points if heating or cooling is needed during unoccupied hours. The override shall be adjustable in 30-minute increments and return the system to unoccupied mode when override expires.
13. Operating Parameters:
 - a. Operating Temperature F (C) 41 to 104 (5 to 40)
 - b. Storage Temperature F (C) -40 to 135 (-40 to 57)
 - c. Operating Relative Humidity 0 to 95% (non-condensing)
 - d. Power 5 va at 24 vac, 60 Hz

Part 3 – Operation

1. Sequence of Operations
 - a. Four-Pipe Operation
 - i. The Mode button selects the operating mode of the thermostat. If OFF is selected, the thermostat will not enter Heating or Cooling mode. If HEAT is selected, the thermostat will only enter Heating mode (if the room temperature is below the heating set point). If COOL is selected, the thermostat will only enter Cooling mode (if the room temperature is above the cooling set point). If AUTO is selected, the thermostat will enter Heating or Cooling mode based on the room temperature and the heating and cooling set points.
 - b. Two-Pipe Operation
 - i. HEAT ONLY — When the thermostat is configured for Heat Only operation, only Heat and Off modes can be selected.
 - ii. COOL ONLY — When the thermostat is configured for Cool Only operation, only Cool and Off modes can be selected.
 - iii. HEAT/COOL WITH CHANGEOVER SENSOR — When the thermostat is configured for operation with a changeover sensor, all the modes are available for operation. If the water temperature is changed during the year, the thermostat will automatically lock out the incorrect mode. Heat or Cool modes may not be available, depending on water temperature.
 - c. Total or Auxiliary Electric Heat

i. The Mode button selects the operating mode of the thermostat. If OFF is selected, the thermostat will not enter Heating or Cooling mode. If HEAT is selected, the thermostat will only enter Heating mode (if room temperature is below the heating set point). For total electric heat, a call for heat will activate the electric heater. For auxiliary electric heat, a call for heat will either activate the electric heater (if chilled water is in the coil), or open the coil valve (if hot water is in the coil). If COOL is selected, the thermostat will only enter Cooling mode (if room temperature is above the cooling set point and chilled water is in the coil). If AUTO is selected, Heating or Cooling mode based on the room temperature and the heating and cooling set points.

d. Auto-Changeover

i. When the thermostat mode is set to AUTO, the thermostat will provide automatic changeover from Heating to Cooling mode and Cooling to Heating mode when required. The thermostat will automatically switch to maintain the desired temperature setting. The thermostat does not need to be manually changed from heating to cooling or cooling to heating operation.

e. Fan Operation

i. When only the Fan is in "Auto" mode, it will run continuously (unless thermostat mode is set to Off or thermostat is in unoccupied mode and heating or cooling are not active). The thermostat will increase or decrease the fan speed based on temperature demand. Fan operation may also be set to always run at Low, Medium, or High speeds.

f. Dry Contact Switch/External Control

i. A dry contact switch is provided to allow an external device to force the thermostat into the unoccupied set points configured by the installer. When the thermostat is forced into unoccupied set points via the dry contact closure, the unoccupied icon will blink each second.

ii. In some applications, the dry contact switch may be configured to disable the fan, heating, and cooling from a condensate switch. If the condensate switch activates the dry contact, the fan coil unit will be deactivated instead of controlling to the unoccupied set points.

g. Outside Sensor

i. Thermostat shall display outside temperature (if optional outdoor sensor is wired to thermostat)

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