Model 110423

Slimline Wall Control Thermostat and 2-Speed Evaporative Cooler Control System

Installation Instructions

CAUTION: Failure to read and follow all installation and operating instructions could lead to personal injury and/or damage to property.

CAUTION: All electrical installations must comply with local building and safety codes and must be performed by qualified personnel only.

System Overview

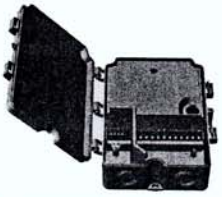
- This control system is intended to be used with an evaporative cooler with a 2-speed blower and a water pump. It will also operate a water dump pump or valve, if equipped.
- The control is designed for fan motors up to 1HP (120V) or 2HP (240V), with Water Pump and Dump Pump up to 2A (120V) or 1A (240V) and Dump Valve 240VA.
- The fan motor may be 120V or 240V rated.
- The water Pump and Dump motors/valves share the same electrical supply, rated for 120V or 240V.

Included in kit

- Slimline Wall Control Thermostat



- 2-Speed Evaporative Cooler Control in Rainproof enclosure



- Wire Nut for common Earth connection
- Spare 2 Amp fuse for water Pump (and optional Dump device)

Additional Requirements

Depending on application and installation, the following additional items may be required:

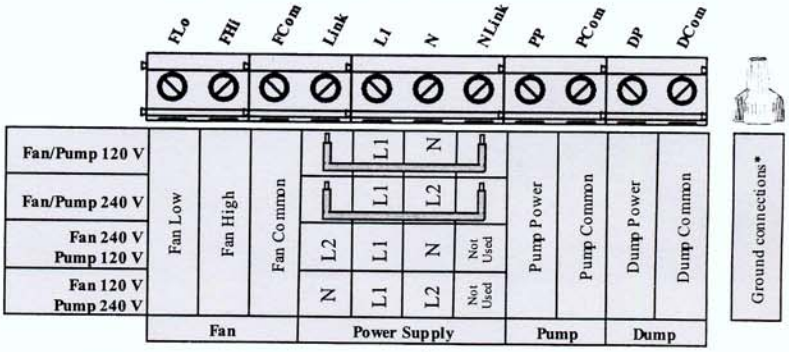
- Screws or bolts for mounting the Appliance Control Box and Slimline Wall Control
- Wiring for connection between power supply and Appliance Control Box; Slimline Wall Control and Appliance Control Box; and between Appliance Control Box and the cooler connection box.
- Conduit and watertight connectors to protect all wiring

Installation of the Appliance Control Box

CAUTION: To prevent electrical shock and/or damage to the equipment, disconnect electrical power to the system at the main fuse or circuit breaker before starting the installation, and leave disconnected until the installation is complete.

1) After determining a suitable place to install the Appliance Control Box, mark the location of the three mounting points. Use the "Appliance Control Box Drilling Template" provided.
2) Determine which knockout locations will be used for the system wiring.
3) Using a suitable tool, gently tap out the required knockouts, checking the size of hole required.
4) If required, drill pilot holes for the mounting screws marked in step 1.
5) Mount the box (with the indication 'TOP' uppermost) using suitable screws.
6) Install conduit and connections, ensuring a watertight seal, especially around the locations where the knockouts were removed.
7) Run wiring, in accordance with local and national electrical codes, to suit the installation.
8) Connect the wires in accordance with the wiring diagram below (and applied to inside lid of the box).

Wiring Connections in Appliance Control Box



*Note: Use a suitable wire connector (eg wire-nut) to terminate all ground connections for power supply, fan, pump, dump and cooler cabinet.

Installation of the Slimline Wall Control – cavity wall without outlet box

1) Determine a suitable place to install the Slimline Wall Control (away from sources of heat, sunlight, or ventilation, and between 4 and 6 feet from the floor).
2) Mark the location of the two mounting points and the terminal block (protruding from back). Use the "Slimline Wall Control Drilling Template" provided.
3) Make a hole in the wall just large enough to accommodate the terminal block and associated wiring. Use the "Slimline Wall Control Drilling Template" provided.

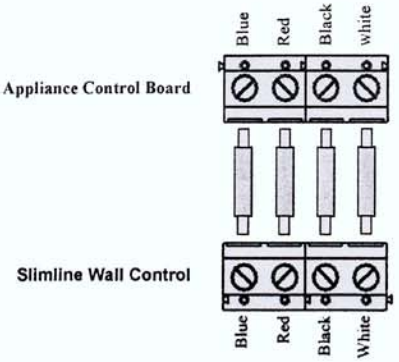
4) Route an insulated four-conductor thermostat cable (or similar) from the Appliance Control Box through the hole, leaving about six inches protruding.
5) Connect the wires to the terminals as per the wiring connection diagram below, and screw the Slimline Wall Control to the wall.

Installation of the Slimline Wall Control – using an existing wall-mounted outlet box

CAUTION: Only use a single outlet box and do not share wiring with any other equipment.

1) Route an insulated four-conductor thermostat cable (or similar) from the Appliance Control Box to the outlet box, leaving about six inches protruding.
2) Connect the wires to the terminals as per the wiring connection diagram below, and screw the Slimline Wall Control to the outlet box.

Wiring Connections for Slimline Wall Control



Operating Instructions

▪ Automatic Operation (Cool mode)

The fan and water pump are controlled automatically to achieve the desired comfort level.

This mode is activated by pressing the 'Cool' button. A blue LED is illuminated, and for a few seconds the LCD will display the 'Set' temperature. Pressing the 'Cool' button again deactivates this mode.

The Set temperature (the target temperature for control) may be altered by repeatedly pressing or holding the 'Up' and 'Down' buttons. The LCD will display 'Set' rather than 'Room' temperature for a short time after pressing the 'Up' or 'Down' button.

On starting, if the pads in the cooler are too dry, the fan may be delayed from starting until the pads have absorbed some water. This is called **Pre-wet** and lasts for 2 minutes, indicated by a flashing blue LED. Selecting 'Fan' and then 'Cool' will bypass the pre-wet and cause the fan and pump to start immediately. (If cooling is required).
During automatic operation, the control performs a 90 second water dump cycle every 8 or 12 hours of pump operation. This interval can be toggled between 8 or 12 hours by simultaneously holding the 'Cool' and 'Fan' buttons for 5 seconds. The selected interval is displayed for a short time. This action also starts a dump cycle. A dump pump or dump valve, which is not supplied with the thermostat control or evaporative cooler, is required for this operation.

▪ Ventilation Operation (Fan mode)

The fan speed is set by the user, the water pump is turned off.

This mode is activated by pressing the 'Fan' button. A green LED is illuminated, and the LCD indicates fan speed. Pressing the 'Fan' button again deselects this mode.

Pressing the 'Up' button selects maximum Fan speed, and 'Hi' is displayed in the LCD; pressing the 'Down' button selects minimum Fan speed, and 'Lo' is displayed in the LCD.

▪ Time Delay Operation (Timer mode)

Delayed start or finish in 'Cool' or 'Fan' mode

The 'Timer' button is used to set a delay period of 2, 4, or 8 hours, depending on how many times the button is pressed.

If the cooler is operating (in 'Cool' or 'Fan' modes) when the 'Timer' button is pressed, the delay period determines when the cooler will switch off. If the cooler is Off when the 'Timer' button is pressed, the delay period determines when the cooler switches on.

The starting mode is indicated by a flashing LED. You can change this mode by pressing the appropriate button ('Cool' or 'Fan').

You can cancel the Timer function at any time by pressing the 'Timer' button until all the timer LEDs go out.

In the event of a power outage

If the cooler is operating in 'Cool' or 'Fan' mode when power is interrupted, the cooler will resume in the same mode of operation when the power is restored.

If the cooler was in any 'Timer' mode at the time of a power interruption, the cooler will remain off when power is restored.

Troubleshooting Guide

The guide below is intended to aid an Installer or Service Technician in resolving simple problems.

CAUTION: **To prevent electrical shock and/or damage to the equipment, disconnect electrical power to the system at the main fuse or circuit breaker before opening the appliance control box, and leave disconnected until after the lid has been shut and secured.**

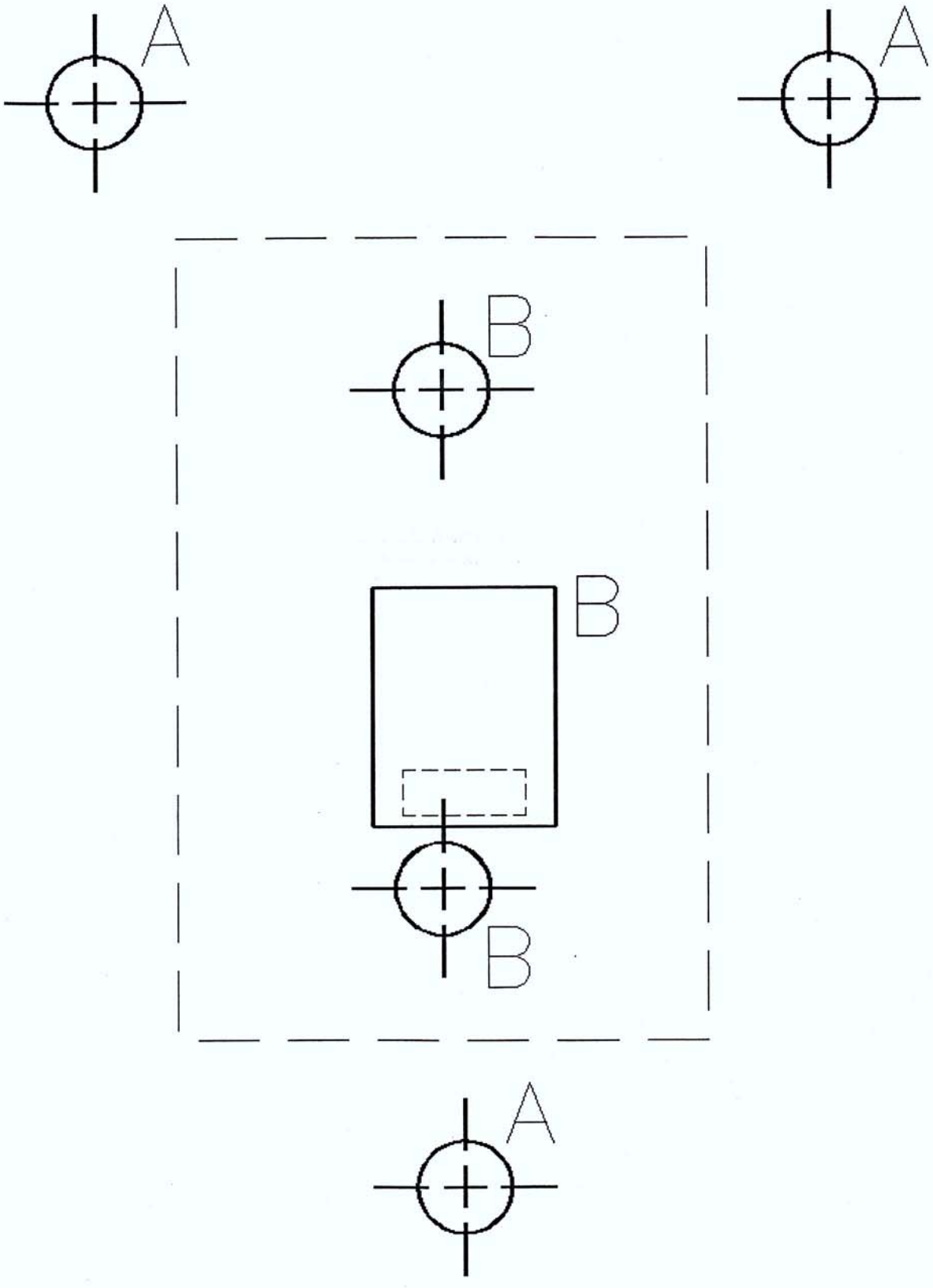
Any testing performed on live conductors must be carried out by qualified personnel only.

Observation	Possible Cause	Remedial Action
Cooler does not work/ No LCD display on the Wall Unit.	Incorrect connection of wiring between Slimline Wall Control and Appliance Con r l Board	Check the correct connection of the four wires at the Appliance Control Board and Slimline Wall Control. Ensure the correct wiring order at both ends, and that the terminals are correctly fitted and secured.
	Power Supply Circuit Breaker Off or *Appliance Control Box* not connected to the **Power Supply.**	Check the condition of Power Supply Circuit Breaker. Verify that the Circuit Breaker Switch is On. **CAUTION: The following test to be carried out by qualified personnel only.** Supply Voltage should be present between Supply L1 and Supply N terminals on the Appliance Control Board.
	Blown Fuse in the *Appliance Control Box.*	Check the condition of Fuse located on the Appliance Control Board. Replace blown fuse with the correct type
	Appliance Control Board or Slimline Wall Control faulty.	After performing the above checks and with the power supply disconnected, ensure the Appliance Control Board is correctly installed, and close and secure the lid. Switch on the Power supply to the Appliance Control Box. Measure the DC Voltage at the Slimline Wall Control between the Black and Red terminals with the Slimline Wall Control still connected. If the measured voltage is very close to 3.5V DC and the LCD remains blank, the Slimline Wall Control is at fault. If the voltage is much less than 3.5VDC, disconnect the red wire and measure the voltage between the black and red wire. If the measured voltage rises to 3.5VDC, the Slimline Wall Control is faulty. If the measured voltage remains low, the Appliance Control Board is at fault.
Water Pump does not work	Poor connection of **Water Pump** terminals on the Appliance Control Board.	Verify that Water Pump leads are correctly connected to the Water Pump connection screw terminals on the Appliance Control Board.
	Incorrect connection of wiring between Slimline Wall Control and Appliance Control Board	Verify that colors of thermostat cable match the color description on Appliance Control Board. Check that all wires are firm and secure.
Fan Motor does not work/No Fan High and/or Fan Low Operation	Poor connection to **Fan Motor** terminals on the Appliance Control Board.	Verify that Fan Motor leads are correctly connected to the Fan Hi, Fan Lo, and N connection screw terminals on Appliance Control Board.
	Incorrect connection of wiring between Slimline Wall Control and Appliance Control Board	Verify that colors of thermostat cable match the color description on Appliance Control Board. Check that all wires are firm and secure.

Drill Template

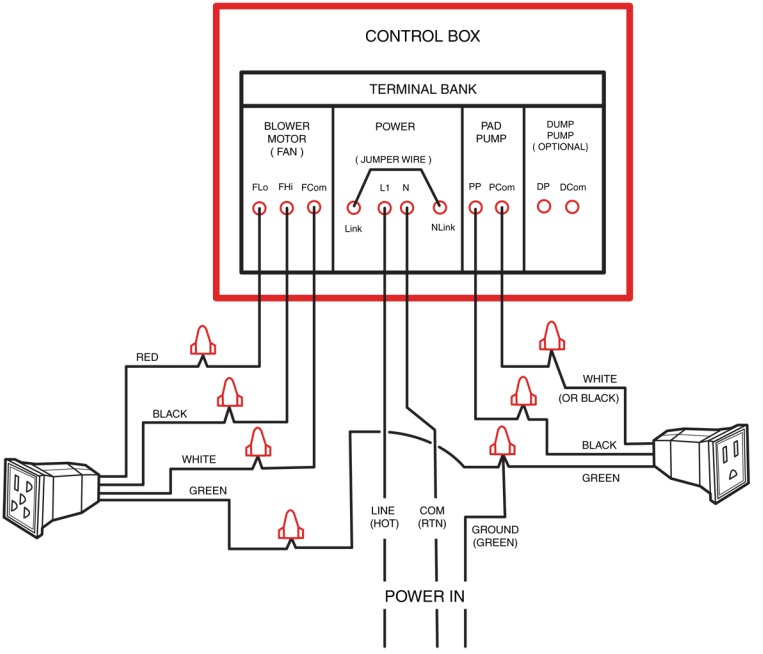
Drill centers marked "**A**" for the **Appliance Control Box**

Drill centers (and ensure free space behind rectangle) marked "**B**" for the **Slimline Wall Control**

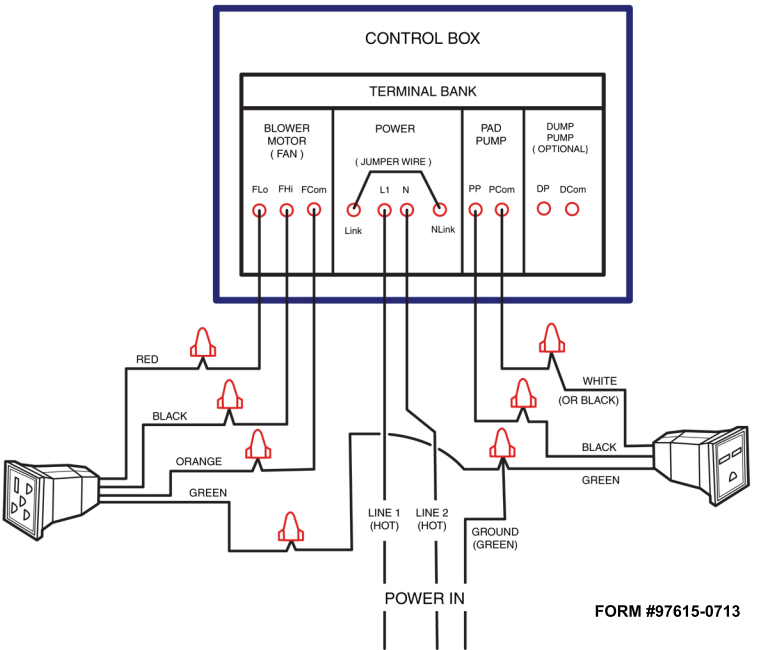


P/N 7624 - Replacement Fuse specifications:	Fuse manufacturers' and their part numbers:
* Electrical: 250Volt, 2Amp, Slow Blow; * Mechanical: 5mm dia x 20mm long	* Bussman, p/n S506-2A; or * Cooper, p/n S506-2A; or * LittleFuse, p/n 213002, or p/n 218002

Dial Part Number 7624
120V Digital Low Volt Cooler Controller™
(Slimline Wall Control Thermostat)



Dial Part Number 7624
240V Digital Low Volt Cooler Controller™
(Slimline Wall Control Thermostat)



If interested, a Dump Pump (also known as a Purge Pump) can be connected to the Digital Low Volt Cooler Controller™ in 2 different ways.

First, you can purchase a separate Purge Pump Kit, such as Dial's PowerClean® part number 1540 (115v) or 1542 (230v), and connect it as described in its Installation Instructions. Note, for this approach, you **DO NOT** connect this separate PowerClean® Purge Pump to the DP and DCom terminals of the low voltage thermostat - instead, this PowerClean® Purge Pump is also connected to the PP and PCom terminals. The PowerClean® Purge Pump will control its own activation times.

Otherwise, you can purchase a 2nd (regular) pad pump and then use it as the Dump Pump. Note, for this approach, you **DO** connect this 2nd pad pump to the DP and DCom terminals of the low voltage thermostat, and then the low voltage thermostat will control the activation of this Dump Pump. However, for this approach, additional parts are needed and must be properly installed, including:

* a separate anti-siphon Drain Adapter, such as Dial's part number 1552;
* additional hose for the Dump Pump; and
* a Dump Pump mounting bracket.

Limited Warranty

(1) Replacement made through your authorized dealer or retailer within one (1) year from date of initial sale for control systems that fail as a result of a defect in material or workmanship.

(2) Reason for return, purchase date, failure date, and sales receipt must accompany all returned control systems.

(3) Warranty does not cover damage or malfunction not caused by defect in material or workmanship, including but not limited to internal water damage, abuse, alteration, improper installation and/or transportation damage.

(4) We do not pay the cost of a service call at the site of installation to diagnose cause of trouble or the cost of labor or transportation to replace defective control systems.

(5) We are not responsible for any incidental or consequential damage resulting from any malfunction unless required to do so by State Law.