

OVERVIEW

The Remote Start Fan Control option enables the exhaust fan to be activated/deactivated by a two-button radio transmitter at each Vacuum Holster. The radio signal from the transmitter travels to a receiver inside the control panel, which relays the signal to the coil of the motor starter.

By increasing convenience, the Remote Start encourages system usage and saves time. Also, Remote Start fan control increases the likelihood that the fan will not run unnecessarily, resulting in reduced energy usage and prolonged motor life.

The control panel of the remote start option includes three primary components:

- Receiver, which receives the radio signal from the transmitters;
- Circuit Board, which relays the signal from the receiver to the 120v coil of the motor starter;
- Motor Starter with 120v coil, which includes a contactor and an overload relay.

To ensure dependable reception, the control panel should be mounted centrally in the facility, preferably in the service area itself,

and not outdoors by the exhaust fan. It should not be installed in the breaker room, where reception may be hindered.

The control panel requires 120/1/60 power. A terminal block is provided to receive the live and neutral leads. Each control panel includes wiring instructions for these connections.

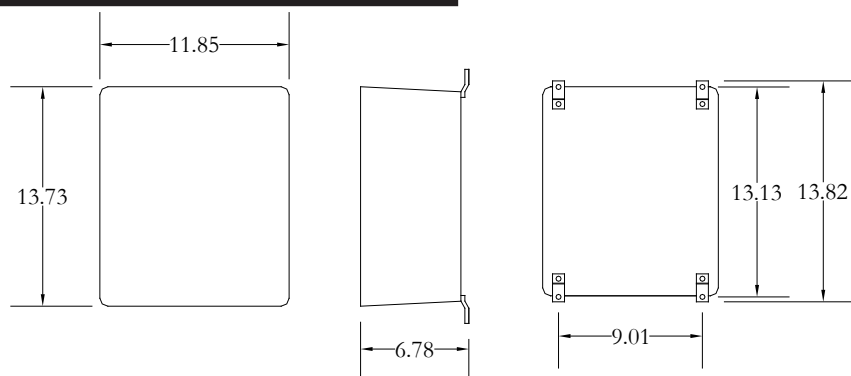
The motor starter is mounted inside the control panel. While field wiring is not required for the control side of the motor starter, the power side to the exhaust fan must be wired through the contactor and overload relay of the motor starter.

The following two pages contain diagrams for the wiring of the remote start option.

The transmitter has two buttons - "Fan On" and "Fan Off." It is powered by a 9 volt battery. As shown below, the transmitter is suspended directly from the Hose Holster. To install the transmitter, insert the eyebolt through the hole that has been pre-drilled in the lower rim of the Hose Holster, and tighten the bolt assembly.

Note: These panels conform to UL Standard 508A.

DIMENSIONS OF CONTROL PANEL



I-A3C-02

PART IDENTIFICATION

The remote start transmitter with installation kit is referred to as A3TK.

The remote start control panel has various part numbers, depending on the phase, voltage, and motor horsepower. For all panels, the first characters are A3CP-SE.

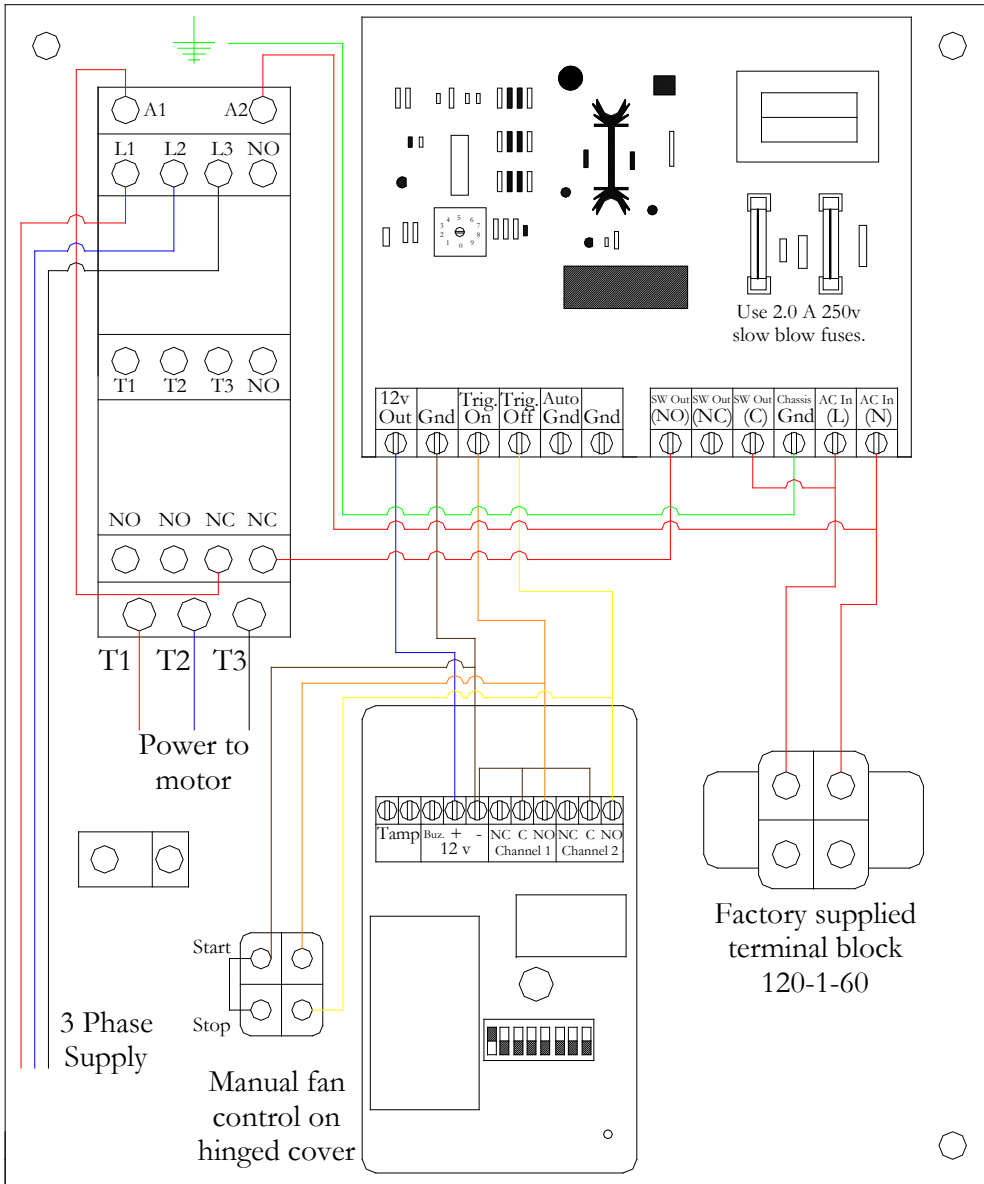
The next character is either 1 or 3, depending on whether the motor is single or three phase.

The following character is either 1, 2, or 4, depending on the voltage of the application. 1 = 120 volt; 2 = 208/230 volt; and 4 is 460 volt.

The final two numbers indicate the horsepower of the motor.

For example, the part number for a panel in an application with a three phase, 460 volt 3 HP motor would be A3CP-SE343.0.

WIRING DIAGRAM - THREE PHASE



The control panel should be mounted in a position where reception will not be hindered. It is recommended that the panel should be in the same room as the transmitters, so that the signal will not be weakened by obstructions. The panel should not be placed inside an enclosed breaker room.

For automatic shutdown, the timer dial on the dial can be adjusted as follows:

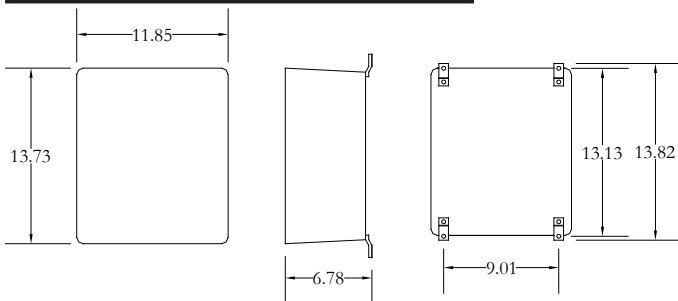
- 0 = 10 seconds
- 1 = 1 minute
- 2 = 2 minutes
- 3 = 3 minutes
- 4 = 4 minutes
- 5 = 5 minutes
- 6 = 30 minutes
- 7 = 2 hours
- 8 = 4 hours
- 9 = 8 hours

When adjusting the timer, the black arrow is the indicator, not the slot.

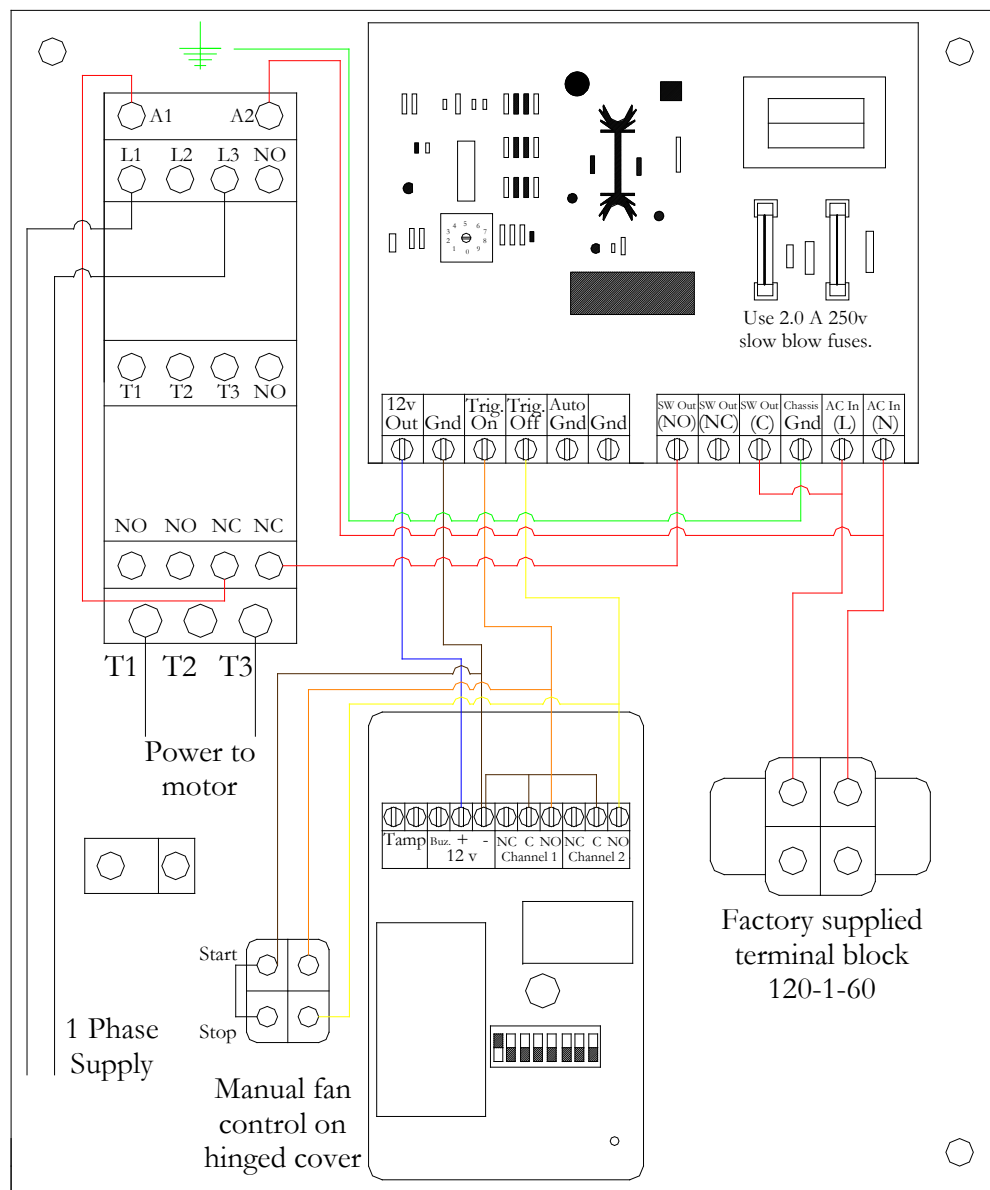
On jobs with multiple fans, the control panel must be matched to the correct transmitters. On the back of each transmitter is a number (1, 2, 3) that corresponds to the number on the receiver inside the control panel.

Confirm all voltages prior to wiring.

DIMENSIONS OF CONTROL PANEL



WIRING DIAGRAM - SINGLE PHASE



The control panel should be mounted in a position where reception will not be hindered. It is recommended that the panel should be in the same room as the transmitters, so that the signal will not be weakened by obstructions. The panel should not be placed inside an enclosed breaker room.

For automatic shutdown, the timer dial on the dial can be adjusted as follows:

- 0 = 10 seconds
- 1 = 1 minute
- 2 = 2 minutes
- 3 = 3 minutes
- 4 = 4 minutes
- 5 = 5 minutes
- 6 = 30 minutes
- 7 = 2 hours
- 8 = 4 hours
- 9 = 8 hours

When adjusting the timer, the black arrow is the indicator, not the slot.

On jobs with multiple fans, the control panel must be matched to the correct transmitters. On the back of each transmitter is a number (1, 2, 3) that corresponds to the number on the receiver inside the control panel.

Confirm all voltages prior to wiring.

A. BEFORE TROUBLESHOOTING:

- 1) Ensure that factory wiring has not been modified; compare to wiring schematic in panel.
- 2) If auxiliary contacts/interlocks have been added, ensure that they do not interfere with the Remote Start Panel.
- 3) Verify that the control panel wiring is identical to the wiring schematic affixed to the panel door.
- 4) Check that the overload relay has not been tripped, and that its variable amperage setting is correct.

B. CHECK VOLTAGES

- 1) Check for 120VAC between AC IN (H) and AC IN (C) on the printed circuit board
- 2) Verify that the proper motor voltage is present at terminals L1, L2, and L3 on the contact block of the contactor.
- 3) Ensure that there is 12VDC between terminals +12V OUT and GND on the printed circuit board.
- 4) Check that the overload relay has not been tripped, and that its variable amperage setting is correct.

C. CHECK TRANSMITTER(S) AND RECEIVER

- 1) Remove the covers from the transmitters and receiver, and verify that they share the same code.
- 2) Check the transmitter batteries for adequate voltage (9VDC)
- 3) Place the leads of a continuity tester on terminals NO and C CHANNEL 1 on the receiver. Push each button on the transmitter to determine if the circuit closes.

D. CHECK PRINTED CIRCUIT BOARD

- 1) Verify continuity through the two fuses on the printed circuit board.
- 2) Turn off all power inside the control panel, and insert a temporary jumper wire between terminals TRIGGER ON and GND. When power is resumed, 120v should be present between terminals AC IN (N) and SW OUT (NO).
- 3) Confirm a) that there is voltage to the printed circuit board (AC IN (N) and AC IN (H)), and b) that TRIGGER ON has been jumped to GND. If there is no voltage present between AC IN (N) and SW OUT NO, the printed circuit board may be faulty and in need of replacement.

E. CHECK THE MAGNETIC STARTER

- 1) With the circuit between TRIGGER ON and GND closed (either through the temporary jumper or by using the properly functioning transmitter) check to ensure that 120VAC is being sent to terminals A1 and A2 on the contactor. Please note that the leg going to A1 is routed through the overload relay, terminals #95 and 96. Again, it is important to verify that the overload relay has not been tripped.
- 2) If 120VAC is being sent to the coil (terminals A1 and A2 on the contactor) the contactor should close. If the contactor is not closing, either the coil voltage is incorrect, or the contactor itself is defective.
- 3) If the contactor is closing, verify that there is continuity between L1 and T1, L2 and T2, and L3 and T3.

F. CHECK THE EXHAUST FAN AND DISCONNECT SWITCH

- 1) If the proper motor voltage is present at terminals T1, T2, and T3, all components inside the control panel are functioning properly (provided that the transmitter - not a temporary jumper - is being used to close the circuit between TRIGGER ON and GND).
- 2) Verify that the motor disconnect is in the ON position, and check to see that the fuses are adequately sized and are intact.
- 3) Finally, check that the motor is receiving proper voltage, and that it is wired correctly. If there is power to the motor, and if the wiring is correct, then the motor is probably defective.