



**SUPPLEMENTAL
MANUAL
SOLID STATE
SPEED CONTROLS**

SOLID STATE SPEED
CONTROLS FOR:
EV450 (IN & RT)
HE1X (IN & RT)



208-230 V.A.C



120 V.A.C

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SOLID STATE SPEED CONTROLS

PRODUCT INFO

ABOUT SOLID STATE SPEED CONTROLS

SOLID STATE SPEED CONTROLS FOR MOTOR & BLOWER SPEED CONTROL OF RENEWAIRE EV450 AND HE1X ENERGY RECOVERY VENTILATORS

RenewAire single-phase EV450 and HE1X (non-ECM) indoor and rooftop units can be operated using solid state speed controls following the procedures below.

Electrical specifications are identified on the unit rating label (located near the electrical box). Locate the voltage (V) and phase of each motor on the unit rating label. Select the solid state speed control appropriate for the voltage rating on the label. Solid state speed controls may be used only to control single-phase EV450 and HE1X indoor and rooftop units.

PLANNING YOUR INSTALLATION

WARNING

Danger of Electrical Shock when servicing an installed unit.

ALWAYS DISCONNECT POWER SOURCE BEFORE SERVICING

More than one disconnect switch may be required.

Proper Wiring Size Selection and Wiring Installation are the Responsibility of the Electrical Contractor.

WARNING

The solid state speed controls provided must be grounded when installed.

CAUTION

THIS INFORMATION IS ADVISORY ONLY.

Installation of solid state speed controls should only be performed by Qualified Personnel.

CAUTION

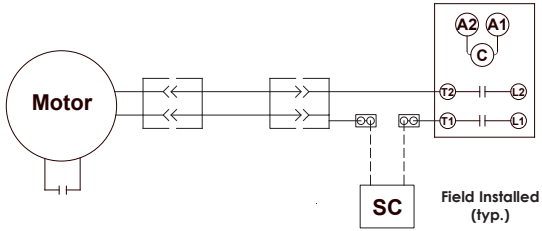
If applicable, set solid state speed control minimum speed adjustment per control manufacturer instructions.

CAUTION

One solid state speed control should be used per one motor only. Do NOT control multiple motors with a single control.

INSTALLATION

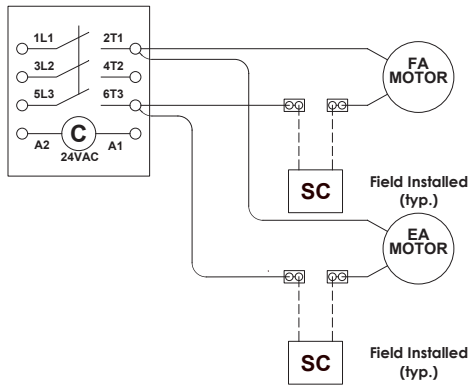
EV450 WIRING SCHEMATICS - STANDARD



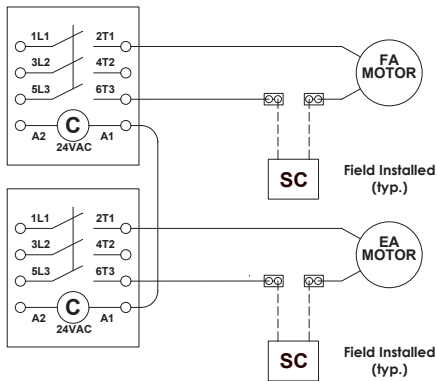
WIRING SCHEMATICS BY UNIT TYPE AND CONTROL METHOD

ABBREVIATIONS
SC: Speed Control
C: Contactor

HE1X WIRING SCHEMATICS - STANDARD



HE1X WIRING SCHEMATICS WITH INDEPENDENT BLOWER CONTROL



SOLID STATE SPEED CONTROLS

INSTALLATION

INSTALLATION INSTRUCTIONS

PROCEDURES

1. Ensure power is disconnected to the unit prior to opening electrical box. See Warnings above.
2. The electrical box of the unit contains existing wiring harnesses that connect the contactor to the motor wiring harnesses. For motors which will receive solid state speed controls, these wiring harnesses will be replaced with a new harness, which is provided.
3. **NOTE:** Do NOT remove harnesses that directly connect the motor to the electrical box.
4. There are multiple electrical knock-outs located at the base of the unit electrical box to attach conduit for routing wires for the solid state speed controls. Only remove the number of knock-outs needed.
5. Remove the existing wiring harness inside the electrical box that connects the unit contactor with the motor wiring adapter harness. See the chart below to identify the part number of the existing wiring harness to be replaced.
6. Replace the existing wiring harness with the wiring harness from the kit. This harness is modified to accept the connection to and from the solid state speed control, which is to be wired in series with the speed-controlled motor and line voltage. Discard the original wiring harness which was removed from the unit.
7. Use the two-position wire connectors which are attached to the replacement wiring harness to connect field-supplied wiring that will run from the unit out to the solid state speed control.
8. Use the provided wiring ties to secure and tidy replacement wiring harness inside the unit electrical box.
9. Properly route field-supplied wires from the unit to the location of the solid state speed controls. Use the loose wire connectors supplied with the kit to connect the solid state speed controls in series with the unit wiring.
10. Ensure that the solid state speed controls are properly grounded per the speed control manufacturer instructions. Use the provided wire connector to attach field-supplied ground wire to the speed control.
11. Ensure that solid state speed controls are properly installed in a standard electrical box and secured per control manufacturer instructions.
12. Ensure all electrical boxes and unit doors are properly closed.

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