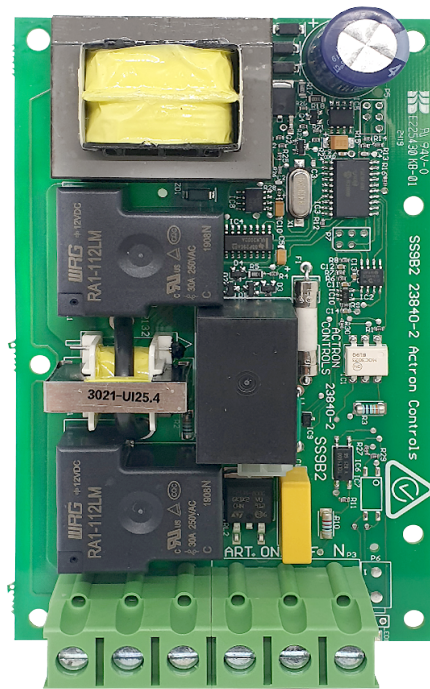


2035-011K

ActronAir SS9R10 Soft Starter

Spare Part Kit

Replacement Instructions



IMPORTANT NOTE:

Please read this manual carefully before installing or operating your air conditioning unit.

That's better. That's Actron.



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01. Safety Precautions

Only qualified technicians should service the air conditioning equipment. Improper service or alteration by unqualified technicians could result in significant and major damage to the property of product, which may render your warranty null and void. Unqualified service can also lead to severe physical injury or death. Follow all safety instructions and precautions in the literature provided with the unit and all warning labels that are attached to the equipment.

1. PLEASE make sure to isolate the incoming power supply BEFORE commencing this procedure. The Power supply can be isolated at the Main Isolator located near the air conditioner (if fitted) or the Main Supply Circuit Breaker in the distribution board supplying power to the air conditioner.
2. Follow correct power LOCK-OUT/TAG-OUT (LOTO) procedures for electrical appliances in order to prevent accidental switching-ON of the power supply.
3. Before starting any wiring work check that all power to the Unit is OFF by use of Multimeter, Test Lamps or other appropriate test equipment.
4. Extreme care and caution must be observed should there be a need to work on live unit.
5. Prevailing WH&S regulations must be observed and will take precedence to the safety instructions contained on this manual.
6. All electrical wiring must be in accordance with current electrical authority regulations and all wiring connections to be as per electrical diagram provided.

02. Tools Required

Tools
Flat Blade Screwdriver
Phillips head Screwdriver
Drill*
Multi-Meter
Safety Gear
Lock-Out/Tag Out Kit

*Required only for replacing SS1P

03. Soft Starter Kit Contents (2035-011K)

Part Number	Description	Quantity
2035-011	SS9R10-Single Phase Soft Starter	1
2005-400	200-260 μ F Start Capacitor	1
7025-822-01	Soft Start Bracket	1
7025-823-01	Capacitor Bracket	1
2045-092	PCB Nylon Stand Offs	4
30015-5	Screw Tek 8G x 1/2 Pan	8
4080-111	Capacitor Cable Connection	1

04. Procedures

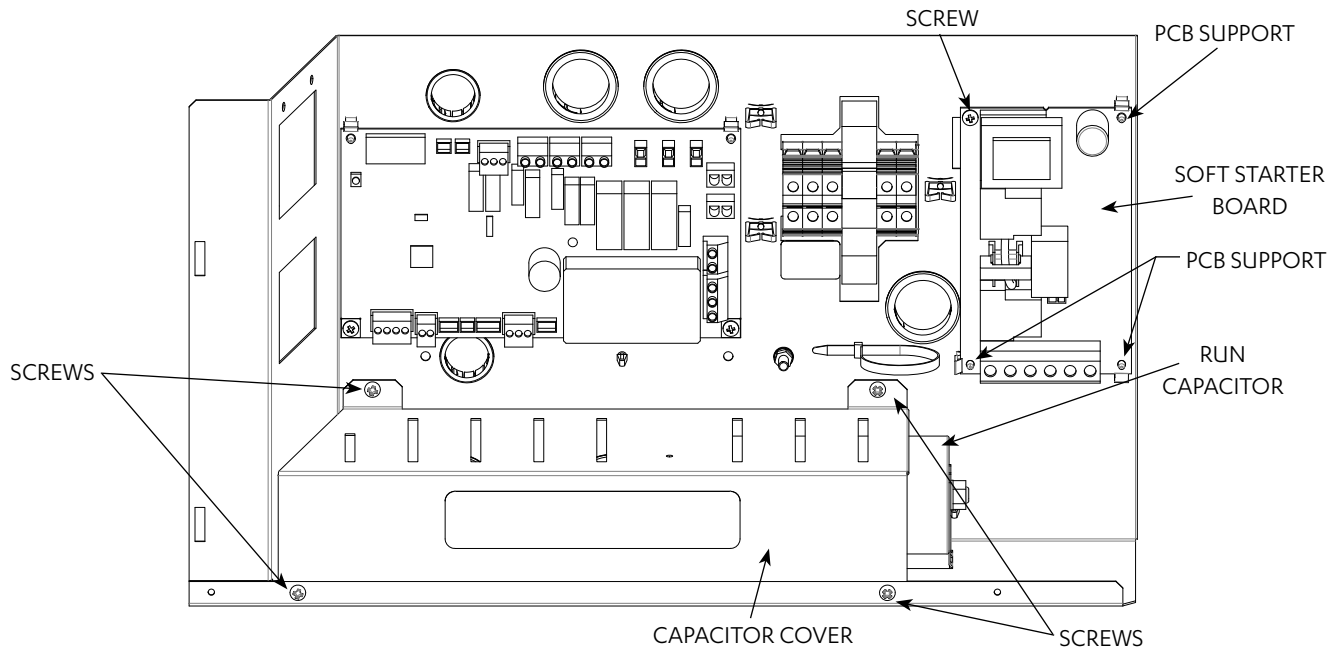
04.01. Replace SS9R10 Soft Starter

- Step 1. Isolate power for air conditioner, ensuring correct lock out and tag out procedures have been followed.
- Step 2. Remove the 4 screws from capacitor cover and carefully remove the cover.
- Step 3. Disconnect the cables from the soft starter board, run and start capacitors.
- Step 4. Remove the soft starter mounting screw and soft starter board from the PCB supports.
- Step 5. Mount the new soft starter board back to PCB supports and re-screw.
- Step 6. Remount capacitor cover and re-screws.
- Step 7. Reconnect the cables as per the wiring diagram.
- Step 8. Reinststate supply power and test the soft starter operation.

NOTE

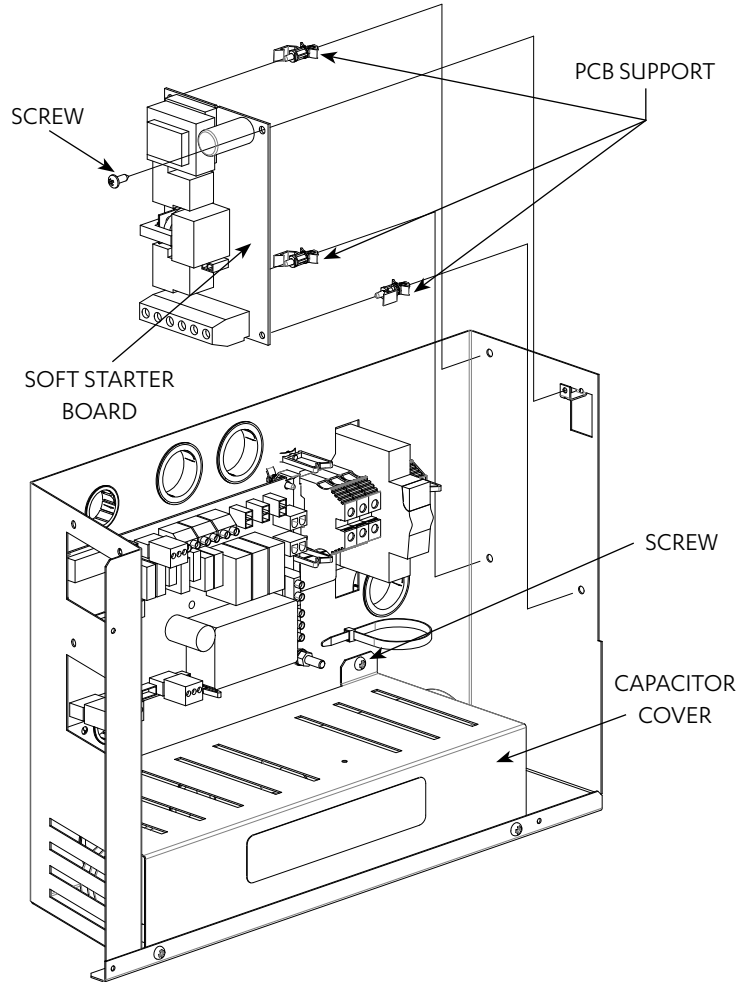
The start capacitor must also be replaced see procedure 03.02 on page 6. It is also recommended to replace the compressor run capacitor.

CRA130S / 150S / 170S



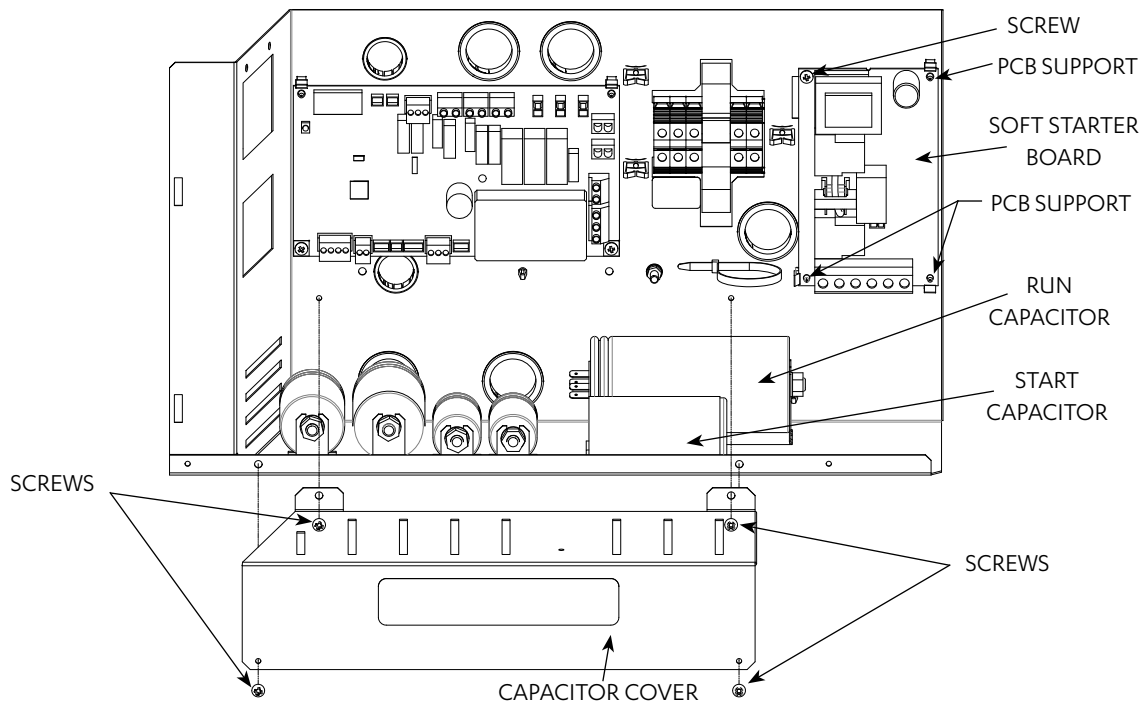
For the CRA100S, the Soft Starter Board is mounted on the right side of the electrical panel. The same replacement procedures apply.

CRA100S



Step 9. Relace Compressor Start Capacitor

- 9.1. Isolate power for air conditioner, ensuring correct lock out and tag out procedures have been followed.
- 9.2. Remove the 4 screws from capacitor cover and carefully remove the cover.
- 9.3. Disconnect the cables.
- 9.4. Ensure all capacitors have been safely discharge before handling. Remove the defective start capacitor.
- 9.5. Mount the new start capacitor.
- 9.6. Reconnect the cables as per the wiring diagram.
- 9.7. Remount the capacitor cover and re-screw.
- 9.8. Reinstate supply power and test the soft starter operation.



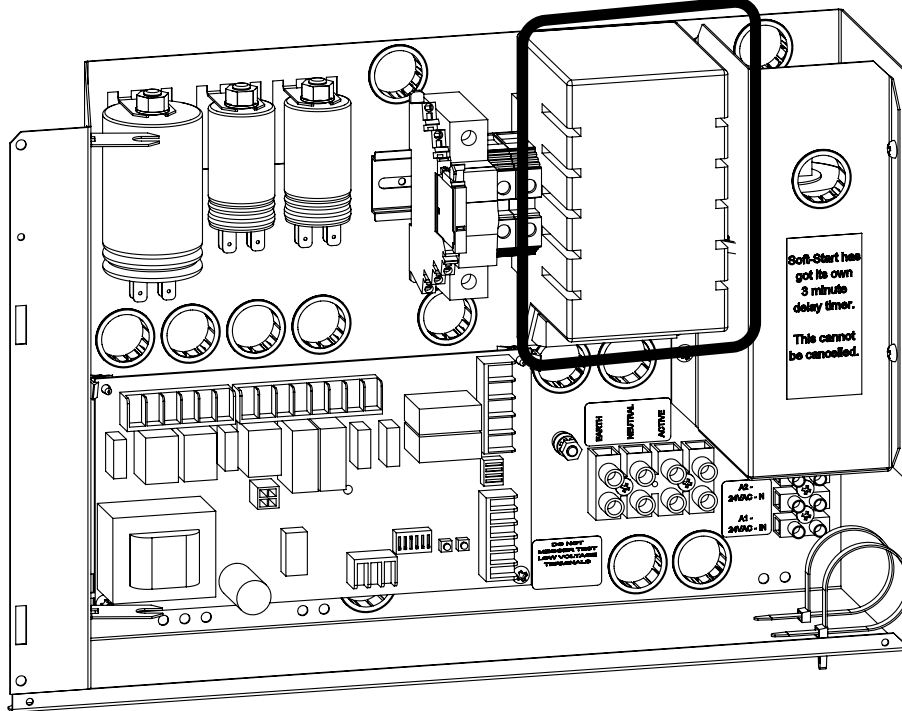
04.02. Replace SSIP Soft Starter

For all soft start replacements please ensure that DPI-SS1P-CHK-1 sheet is completed if the soft start is being returned.

Step 1. Isolate power for air conditioner, ensuring correct lock out and tag out procedures have been followed.

Step 2. Disconnect the cables from existing SSIP Soft Start terminals.

Step 3. Un-clip SSIP from the din rail, and remove the soft start from the unit.



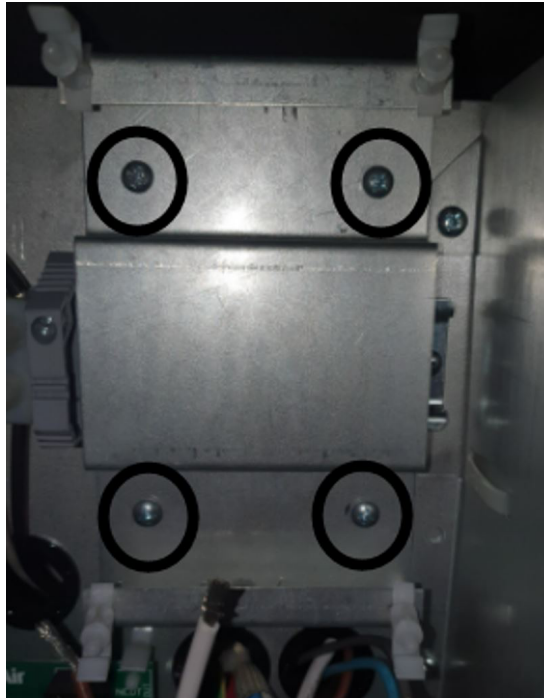
Note: It is strongly recommended to also replace the run capacitor when replacing the soft start.

Step 4. Open the 2035-011K soft start kit and remove all components

Step 5. Install the supplied 4 x PCB Nylon stand offs (2045-092) onto the Soft Start bracket (7025-822-01).



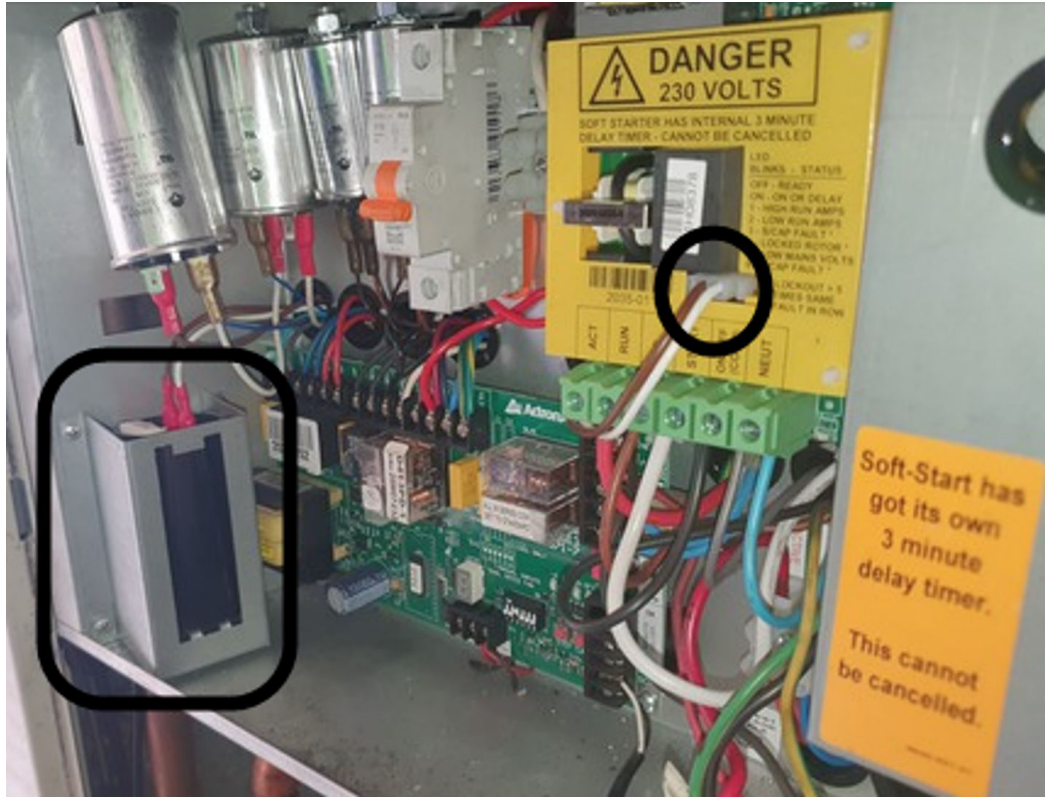
Step 6. Using a drill mount the soft start bracket (7025-822-01) over the existing SS1P din rail in the outdoor unit, using the 4 x screws supplied (3020-104).



Step 7. Fit the new soft start on the PCB Nylon stand offs & re-wire terminals as per wiring diagram.



Step 8. Install the capacitor cable connection onto the soft start and route the cable through the back of the electrical panel over to the left-hand side of the unit.



Step 9. Using a drill mount the capacitor bracket (7025-823-01) over on the left-hand side of the electrical panel, using the 4 x screws supplied (3020-104).

Step 10. Carry out a pull test of all wiring and clean area.

Step 11. Remove the LOCK-OUT/TAG-OUT (LOTO) and turn on main power supply.

Step 12. Test run the system to ensure it is operating correctly.

NOTE

Modifications to fit this on all single-phase units may be required for different electrical panel layouts.

The table below identifies common models the instructions are applicable for R410a systems. The kit can be used on R22 systems, but each model will need to be assessed on site.

Models					
SRD125C	SRD131C	SRD171C	SRD181C	SRD191C	
SRA101C	SRA121C	SRA131C	SRA141C	SRA151C	SRA171C

Step 13. Ensure all capacitors have been safely discharge before handling. Remove the defective start capacitor.

Step 14. Mount the new start capacitor.

Step 15. Reconnect the cables as per the wiring diagram.

Step 16. Remount the capacitor cover and re-screw.

Step 17. Reinststate supply power and test the soft starter operation.

05. SS9 Status and Fault Codes

The on-board soft starter LED indicates the fault/status of the soft starter.

Option Mode	On-board LED Indication
Random power up delay	LED - On between 2-3 minutes (before start is allowed)
Ready to start	LED - Off
Compressor running	LED - On
Anti-cycle protection delay	LED - On for 2 mins 50 secs (after compressor stopped)
Start to start protection delay	LED - On for a minimum of 5 mins 50 secs
High running current trip	LED -1 blink - resets after 5 mins 50 secs
Low running current trip	LED -2 blinks - resets after 5 mins 50 secs
Locked start capacitor fault (lock out)**	LED -3 blinks - resets after 5 mins 50 secs*
Locked rotor detected (lock out)	LED -4 blinks - resets after 5 mins 50 secs*
Low mains voltage	LED -5 blinks - until voltage is rectified
External run capacitor fault (lock out)	LED -6 blinks - resets after 5 mins 50 secs*

* Five lock errors in a row will cause the soft starter to lock out - power cycle the main A/C system power supply to reset the soft starter.

** 3-blink lock out - A/C system power supply to reset the soft starter. If the compressor starts operating, check for signs of low refrigerant operating pressures.



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