

EasyStart Home AC Wiring

Using Micro-Air ASY-364 or ASY-368

Contents

Safety and Warnings	2
Installing EasyStart	3
Step 1: Identify the components	3
Step 2: Mounting the unit	3
Step 3: Identify the capacitor terminals	4
Three terminal run capacitors	4
Two terminal run capacitors	4
Step 4: Removing start devices	5
Step 5: Check for compressor monitoring systems	5
Step 6: Connecting the ORANGE wire	5
Step 7: Connecting the BROWN wire	6
Step 8: Connecting the WHITE wire	6
Step 9: Connecting the BLACK wire	7
Step 10: Learning	7
Appendix 1: Compressor monitoring system changes	8
Models without Bluetooth	8
Models with Bluetooth	9
Appendix 2: Maintenance	10
Appendix 3: Additional Resources	10

Safety and Warnings

- AC Power can be dangerous or lethal if the proper safeguards are not understood or performed.
- If you are not sure of any aspect of this installation or proper safety when working with AC line voltages, please seek installation by a qualified HVAC or electrical professional.
- Turn off all power to the air conditioning system before proceeding.
- Read all instructions before starting installation.
- Capacitors can store a charge and should be discharged by touching both terminals simultaneously with an insulated screw driver. Three terminal caps should use the “C” terminal to short each of the other two terminals.

Installing EasyStart

Step 1: Identify the components

Run capacitor

Contactor



Figure 1

The two components shown in figure 1 will be used to connect your EasyStart. Locate these components in your air conditioner before proceeding. Some compressors will have additional components and may have a circuit board as well. Power comes in from the bottom of the contactor usually from a breaker or fuse panel on the dwelling. This must be disconnected (Turn the breaker off) before connecting EasyStart.

Step 2: Mounting the unit

EasyStart can be mounted on any flat surface in either a horizontal or vertical position. It can also be mounted with the clear cover pointing up. The wire entry must face down when EasyStart is mounted vertically.

Step 3: Identify the capacitor terminals

Three terminal run capacitors

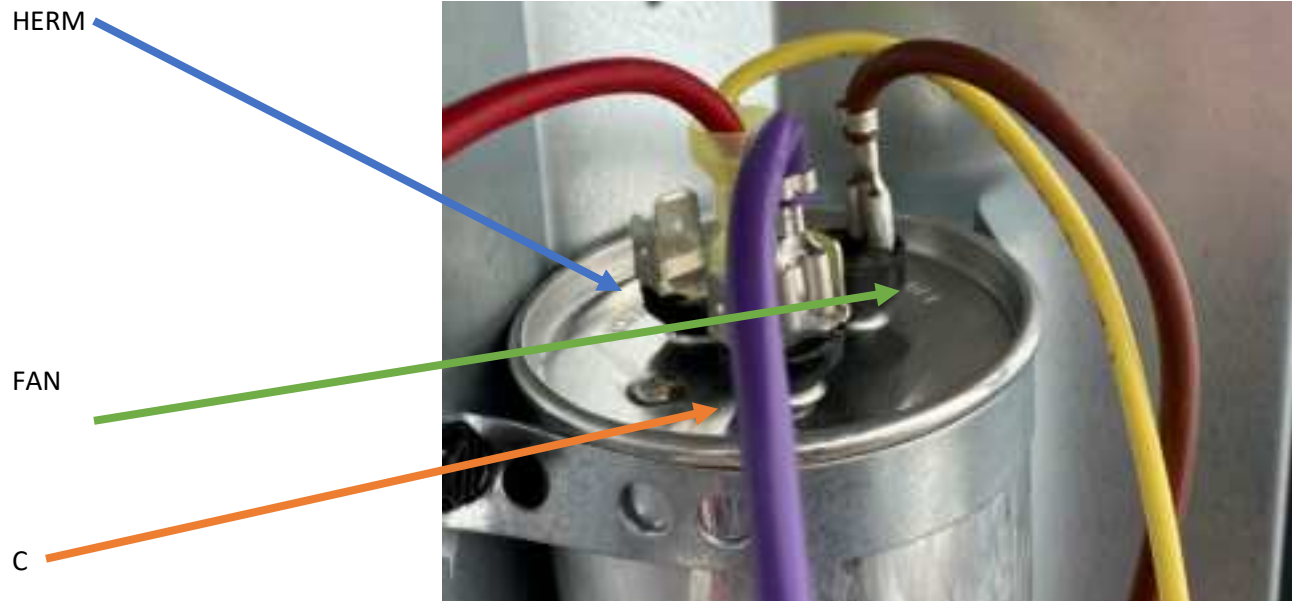


Figure 2

Many compressors have three terminal group capacitors as shown in figure 1. These capacitors feature labels on the top as indicated by the arrows above. Use the labels on these capacitors to identify where to make connections.

Two terminal run capacitors

Wire to contactor and capacitor

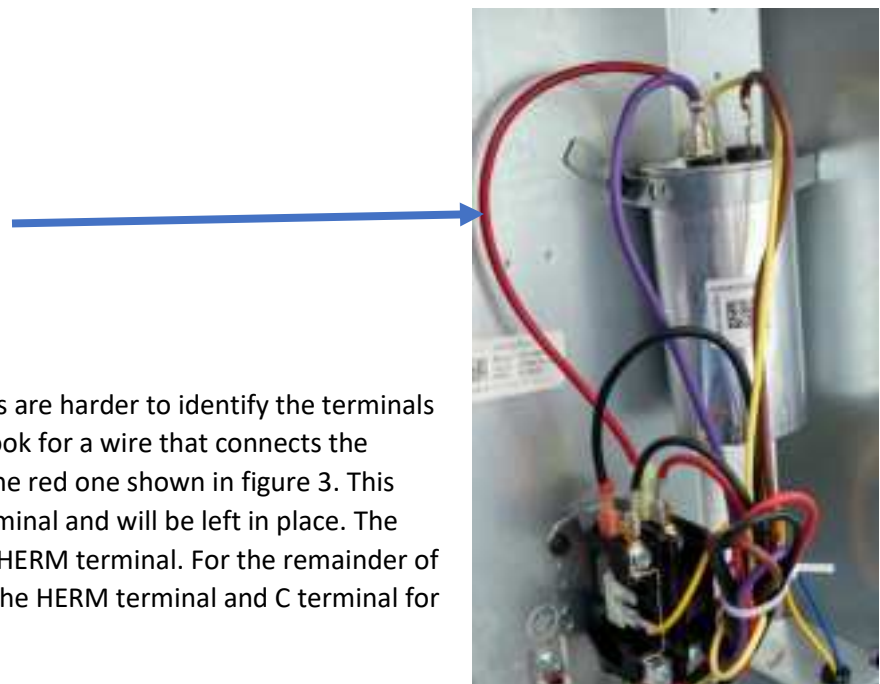


Figure 3

Two terminal group caps are harder to identify the terminals because they are not labeled. Look for a wire that connects the contactor to the capacitor like the red one shown in figure 3. This wire is connected to the “C” terminal and will be left in place. The other unmarked terminal is the HERM terminal. For the remainder of this document, we will refer to the HERM terminal and C terminal for all types of capacitors.

Step 4: Removing start devices

HERM terminal group

There is only a single yellow wire connected to the HERM terminal in figure 4. Compressors with only one wire on the HERM terminal have no start components and can go on to the next step.

If you find there is more than one wire on this group, you will need to identify which of these wires, if any, goes to a start device.

One wire will always go to the compressor which you can verify using your factory wiring diagram or tracing them out. One may be a compressor monitoring wire and should be preserved and is explained in the next step. The one to remove can go to a relay, a second capacitor called a start capacitor or a PTC device which is a small disk. Remove this start assist wire from the herm terminal at both ends while leaving all the other HERM wires alone. If you have a PTC or hard start you can just remove the entire device.



Figure 4

Step 5: Check for compressor monitoring systems

Some systems have monitoring circuit that verifies the compressor is running and provides feedback, like a lights or fault indication, when the compressor fails to start. These systems have a control board located in the electrical box and a fault chart located nearby that lists specific compressor faults. If your system contains one of these control boards, you will need to remove the start delay in EasyStart so it does not cause an artificial fault.

See [Appendix 1: Compressor monitoring system changes](#) for information on this change if it is required for your installation.

Step 6: Connecting the ORANGE wire

Connect the EasyStart ORANGE wire to the HERM terminal.

Step 7: Connecting the BROWN wire

Follow the wire that connects the C terminal on the run capacitor to the contactor. Disconnect the compressor "R" terminal wire located on the same side of the contactor. This wire is often a heavy gauge wire connected to the screw part of the contactor. It may also be on a quick connect as shown in figure 5.

Connect the disconnected wire to the BROWN wire from EasyStart. Connect only these two wires together and not to anything else.



Figure 5

Step 8: Connecting the WHITE wire

Connect the EasyStart WHITE wire to the contactor where the wire was removed from in the last step. This is typically under the screw terminal on the contactor.

Note: Compressors with an RLA over 18 amps should not use the spade connection like shown in figure 5 but should connect using a ring, fork or direct wire connection under the screw. Be sure to match whatever method is used for the original installation.

Step 9: Connecting the BLACK wire

Contactors are “split” into two electrically separate halves with each half connected to a single voltage line of the incoming service. The red wires are both connected to one side of the contactor in the picture below and the black wires are connected on the other side of the contactor. The wire colors may be different in your installation. Connect the BLACK EasyStart wire to the side of the contactor where the EasyStart WHITE wire is NOT connected using an available connection point.

Connect here



Figure 6

Step 10: Learning

Start the air conditioner on AC mains power. The fan will come on followed shortly after by the compressor. EasyStart is now installed. The compressor can be cycled normally to complete the learning process. If you are going to test on a generator or alternate power source, be sure the compressor has started five times before starting on a generator or other power source.

Appendix 1: Compressor monitoring system changes

This section details changes that should be made **ONLY** if you have a compressor monitoring system. These systems typically consist of a circuit board located inside the electrical box that incorporates LED's or a display to indicate a fault. There should be an instruction in the electric box that shows the meaning of the faults. If you do not have such a board or have a board without LED's or have no such instruction sheet, do not make these changes.

IMPORTANT: These instructions are not interchangeable between Bluetooth and non-Bluetooth models. Bluetooth models should not have their cover removed and using the wrong method will not allow the unit to function properly.

Models without Bluetooth

First place the shorting jumpers from the six-pin header on pins 1 and 3, and pins 4 and 6 as shown below. The next step is to cut JMP2 on the circuit board. This will disable the timer and start the compressor immediately. Your circuit board may look a little different from the image but the process is the same on all boards.



Figure 7

Models with Bluetooth

See above appendix 1 description before performing this step.

Bluetooth models must be connected to power to disable the starting delay before installation. Turn off the breaker to the air conditioner. Connect the black and white EasyStart wires to the line input side of the contactor indicated by the yellow arrows in figure 8. Tape or wire nut the EasyStart brown and orange wire ends so they cannot make electrical contact with anything. Turn on the breaker to the air conditioner.

Open the smart device application on an Android or Apple device. To start the connection, enter “EasyStart_”, including the underscore (case sensitive), in the white box below “Enter EasyStart Bluetooth ID:” and press return. The “Connect to EasyStart” button will become enabled. Press the button to connect to the starter. The screen will change to show the ID of the starter.



Figure 8

Click the relearn tab and slide the switch for “No pwr on delay” to “ON”. Set the SCPT (minutes) for 1. Press “send settings to EasyStart”. Exit the app and turn off the breaker to the air conditioner. Disconnect the white and black EasyStart wires and continue with the installation.

Appendix 2: Maintenance

The box and entry are water tight and can withstand normal rain events. The box should not be pressure washed since it is not rated for high power water jet cleaning. It can be washed with a mild soap and water solution.

Appendix 3: Additional Resources

For additional information on EasyStart, troubleshooting or assistance, please visit our website at www.Microair.net.