

CL38A Wiring Instructions

The CL38A start switch is not a direct replacement for the Sinpac® Start Switch. It will be necessary to change the wiring by following these instructions.

The CL38A is rated for a maximum motor size of 6 horsepower, so it cannot be used on Galaxy motors. It is for 240 volt motors only.

WARNING: Make sure to disconnect power before attempting any of this, and Use a 10k ohm resistor or insulated handle screwdriver to short the terminals on the capacitors before you begin. The capacitors will store a charge of 240 volts!

First, you will need to identify the components. Most motors have 1 run capacitor and 1 or 2 start capacitors. All capacitors have a MFD or UF rating printed on them (this will be a number followed by MFD or UF). The run capacitor will have a lower MFD rating (typically between 20 and 60MFD). The start capacitor(s) will have a higher MFD rating (typically between 100 and 600MFD). On American motors, the run capacitor will have a metal case and the start capacitors will have a plastic case. On European motors both capacitors will have the same case material.

There will also be a start switch. On older motors, this is a mechanical switch inside the motor. Newer motors have an electronic start switch. This looks similar to a capacitor, but it has a label that says Stearns Sinpac, and the terminals will be labeled 1-2-3-4. This is the component we are replacing.

For Hummels with the HSSW switch box upgrade go to page 2.

If your motor does not have a Sinpac start switch, go to page 3.

Once you have identified the components, you are ready to begin wiring.

Capacitor terminals have no polarity, but to simplify this wiring we will label them.

1. Trace the wire connected to terminal 4 on the Sinpac start switch back to the capacitors. Label the run capacitor terminal connected to this A, and the other run capacitor terminal B.
2. Trace this same wire to the start capacitor. Label the terminal it connects to C, and the other terminal D. (If you have 2 start capacitors, there will be 2 wires connecting them together in parallel. Label both capacitors the same, so the jumpers go from C to C and from D to D.)
3. There will be a wire connected to terminal A or C that goes into the motor (this is the motor start wire). We need it connected to terminal A; if it is not, move it to A.
4. There is a jumper wire from A to C. Move it from terminal A to terminal B.
5. Next, check that the wire from terminal 4 on the Sinpac start switch also goes to A. If it goes to C, move it to A.
6. Move the wire from terminal 1 on the Sinpac switch to terminal 5 on the CL38A.
7. Move the wire from terminal 2 on the Sinpac switch to terminal 4 on the CL38A.
8. Move the wire from terminal 3 on the Sinpac switch to terminal 1 on the CL38A.
9. Move the wire from terminal 4 on the Sinpac switch to terminal 2 on the CL38A.

You should now have terminal 1 on the CL38A connected to D on the start capacitor; terminal 2 connected to A on the run capacitor, which also has the motor start wire; terminal 4 connected to B on the run capacitor, with a jumper from here (B) to C on the start capacitor, as well as a wire that connects to the main power & motor main wire; terminal 5 connected to the second main power & main motor wire (and second start wire on some motors). See diagram 2 for reference (diagram 3 for Baldor motors)

Mount the new switch in a secure location, making sure the wires cannot contact ground.

To retrofit HSSW box from CL38 sinpac to CL38A

1. Connect white wire from terminal 1 on sinpac to terminal 5 on new switch
2. Connect black wire from terminal 2 on sinpac to terminal 4 on new switch
3. Connect black wire from terminal 3 on sinpac to the run capacitor terminal with the black wires
4. Connect white wire from terminal 4 on sinpac to terminal 2 on new switch
5. There is a white wire that connects the start and run capacitors. Disconnect from the run capacitor, and connect it to terminal 1 on the new switch.

Double check the wiring matches diagram 1.

Mount the new switch in a secure location, making sure the wires cannot contact ground.

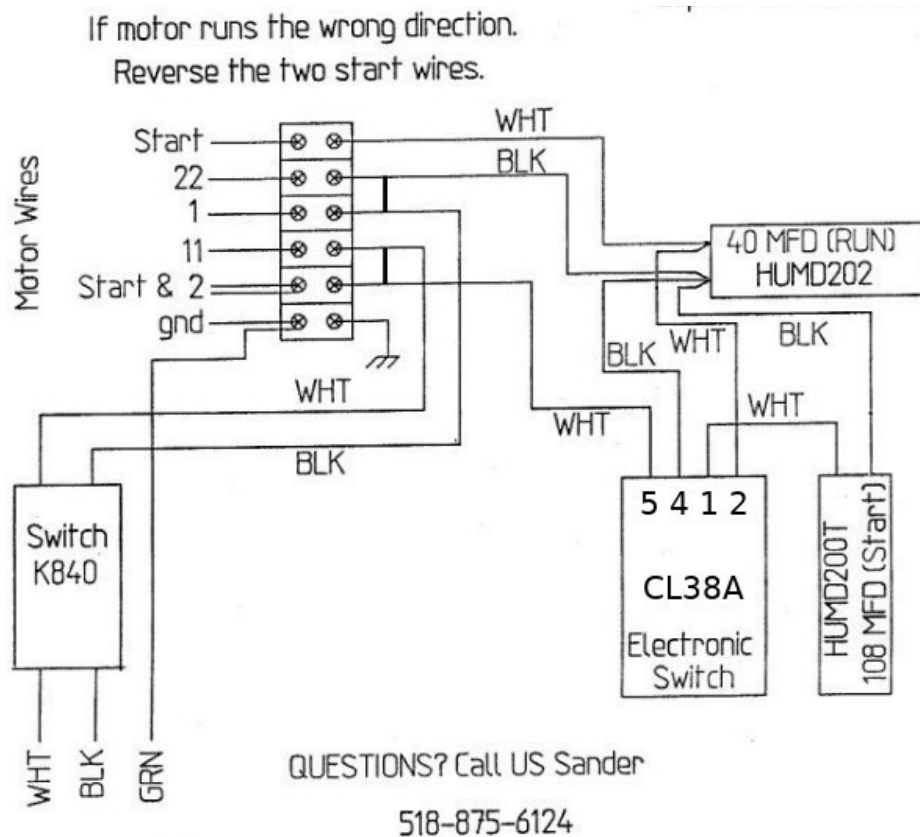


Diagram 1
Hummel HSSW box wiring

Installing on a motor without a Sinpac

If your motor does not have a Sinpac electronic start switch, it will have a mechanical start switch. This may be a centrifugal switch inside the motor (it switches when the motor reaches a certain speed), or a 3-position manual switch (off-on-start). If your motor has this manual switch, it probably has a soft start. This is common on European motors (Hummel and KT). The start switch cannot be used with this soft start wiring, so you will need to have it rewired. We do not provide instructions on rewiring these motors, but if you send the motor to us we can rewire it (this also requires a different on-off switch to be installed, contact us for an estimate).

Your motor has 2 types of windings – start windings and run windings. In some cases it will have 2 sets of run windings connected together (on soft start motors the run windings are connected in series at start and in parallel at run). You will need a wiring diagram for your motor to identify which wires go to each winding.

The main power wires from the switch connect to the run windings. One of these is also connected to the start winding (either inside the motor or at a junction). Label this as 5, and connect a wire from it to 5 on the CL38A. The second wire from the switch to the run winding label as 4. It should have a wire from it connected to the start and run capacitors; connect a wire from this to 4 on the CL38A.

The other terminal on the run capacitor should have the second start winding wire connected to it; connect a jumper from this to terminal 2 on the CL38A.

The other terminal on the start capacitor (NOT connected to 4) should have a wire that goes to the centrifugal start switch in the motor. Disconnect this wire and cap it off; connect a jumper from this start capacitor terminal to terminal 1 on the CL38A.

Double check your wiring matches diagram 2.

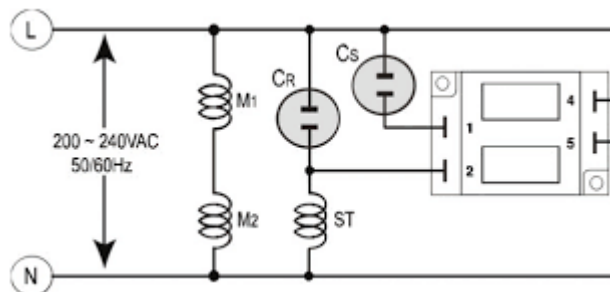


Diagram 2

M1 & M2 are run windings; ST is start winding; Cr is run capacitor; Cs is start capacitor

Baldor motor wiring for CL38A

Use for Clarke American 8, American 12,
Floorcrafter, Legend, Apollo 8, Classic 8,
Classic 12

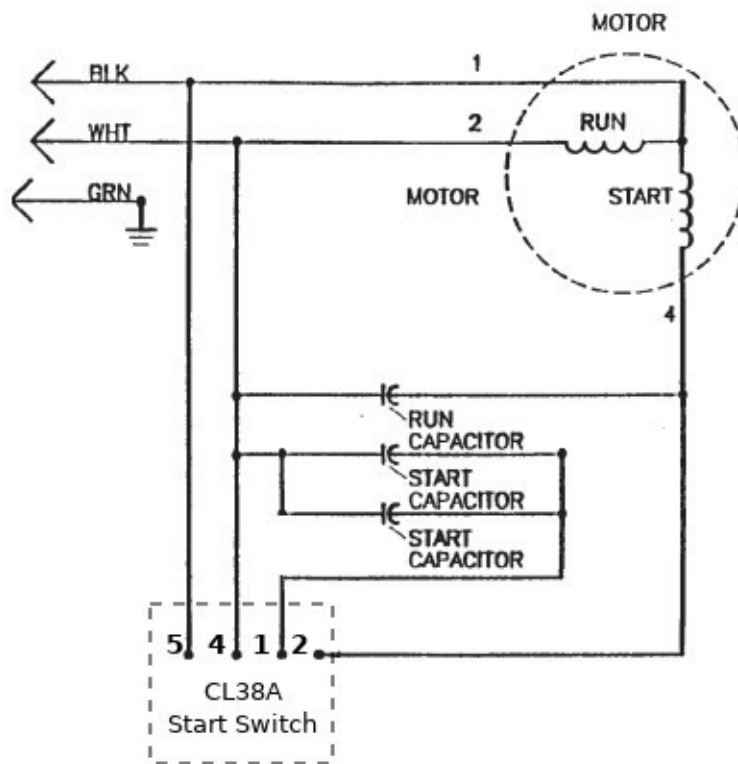


Diagram 3