

# VSM-CP2 Wiring

## Procedure for determining VSM-CP2 Compatibility with a Standard Permanent Split Capacitor (PSC) Motor

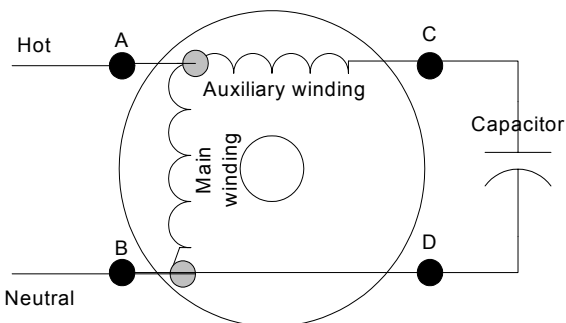


Figure 1

Referring to Figure 1, a typical motor has five connections, herein identified as follows:

- A. Power (High speed tap)
- B. Power (Neutral)
- C. Capacitor
- D. Capacitor
- E. Ground - (not shown, but ground the wire to an earth ground)

The following procedure is to be followed to see if the PSC motor can be used with a VSM-CP2 controller:

- Disconnect the motor from the power source.
- Short from C-D using a 15-50 ohm, ½ watt resistor to assure that the capacitor is discharged.
- Disconnect the capacitor from terminals C-D.

The next step is used to determine the leg that has zero resistance.

Terminal	Terminal	Ohms
A	C	2.2
A	D	2.8
B	C	5.0
B	D	0

In the above example (Figure 1), the zero resistance leg was identified as leg B-D.

**Note: If none of the legs has zero resistance the VSM-CP2 controller should not be used with this motor.**

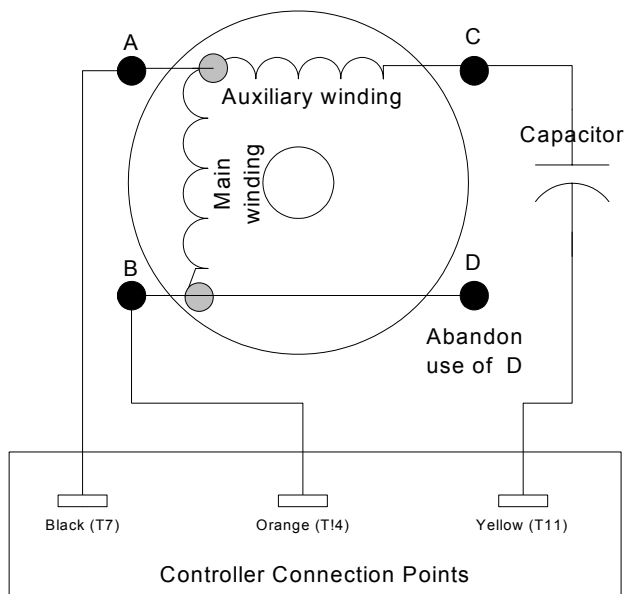


Figure 2

Make the connections to the VSM-CP2 controller as shown in Figure 2 by performing the following steps:

Using the zero resistance leg in this example make the following connections:

- Connect terminal B to the terminal marked ORANGE (T14) on the controller.
- Connect the capacitor lead previously connected to terminal D directly to the terminal marked YELLOW (T11) on the controller.
- Using a wire nut (or equivalent), insulate terminal D, which will no longer be used.
- Connect terminal A to the terminal marked BLACK (T7) on the controller.

**Note:** When using a 230 or 277 volt **multi-tap** motor, the motor must have a built-in isolation lead. This prevents excess voltage across unused taps. Single speed motors do not require an isolation lead. Any speed tap (High, Medium, Low) can be used to further optimize the speed control over the full speed range. For maximum speed always attach black terminal to the high-speed tap.



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