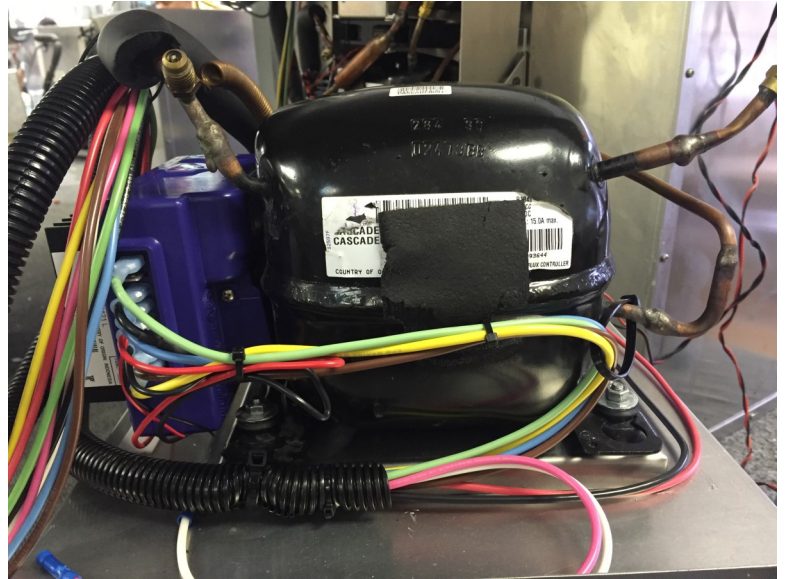


COMPRESSOR INFORMATION CASCADE MODEL



All Medi-Kool Climate Controlled Cabinets are compressor based. We use a Masterflux Cascade Compressor, as seen in the image above. This photo shows a compressor assembly with the matching electronic module. All of our units are operated with one size compressor. Each compressor is mounted to the unit at the customer's specification (rear, right, left or top).

Compressors carry a ONE YEAR warranty.

These compressors MUST be vented at all times (see below for proper venting)

Dimensions of compressor assembly

The compressor guard measures 10 1/2" Wide by 7.75" Deep x 10.75" High.

VENTING

It is VERY important that installers understand our venting requirements.

We ask that a minimum of 36 square inches of space be available for the compressor to breathe.

Outside venting is always the first preferred method, but we realize this is not possible in all vehicle builds and/or scenarios.

If you are installing one of our Dual Temp Units—double the amount of space because you are utilizing TWO compressors.

In a cabinet style setting, good case scenarios, one must ensure that the compressor has a big enough vent to be able to pull air in and push air out. The larger the unit and install size, fans are most likely best option to ensure air flow (which require a separate 12V source).

Mermaid Manufacturing can provide several different fans and vent sizes for customers at an additional charge.

We understand that every builder is unique and no vent space is exactly the same (unless your entire fleet is being built at the same spec).

WIRING SCHEMATIC FOR CURRENT MASTERFLUX CASCASE COMPRESSOR

NOTE: FOR UNITS 09/2015 AND NEWER

Each Control Board will perform a 4 minute delay before turning the compressor back on once the cabinet has reached temperature.

12/24 VDC Controller Features

- 4 pole sensor-less variable speed BLDC motor controller
- 180W maximum output power
- 10 - 31 VDC input range
- 48V motor supply (voltage boost)
- 12V or 24V operation (auto detect on power up)
- 1800 – 4200 rpm speed
- 0.5 - 4.75V analog speed set input (resistor programmable for fixed speed)
- 0°C to 45°C operating temperature
- Under/Over voltage shutdown (resistor programmable under voltage thresholds)
- Locked rotor detection
- Thermal shutdown – for power devices
- Over current shutdown – for power devices
- Low speed shutdown
- TTL Fault output
- Pulsed Fault output (030F0182 only)
- LED fault indicator
- Fan output, +12VDC @ 0.5A with voltage detection
- Reverse polarity protection

Optional Fixed Resistor Speed Chart

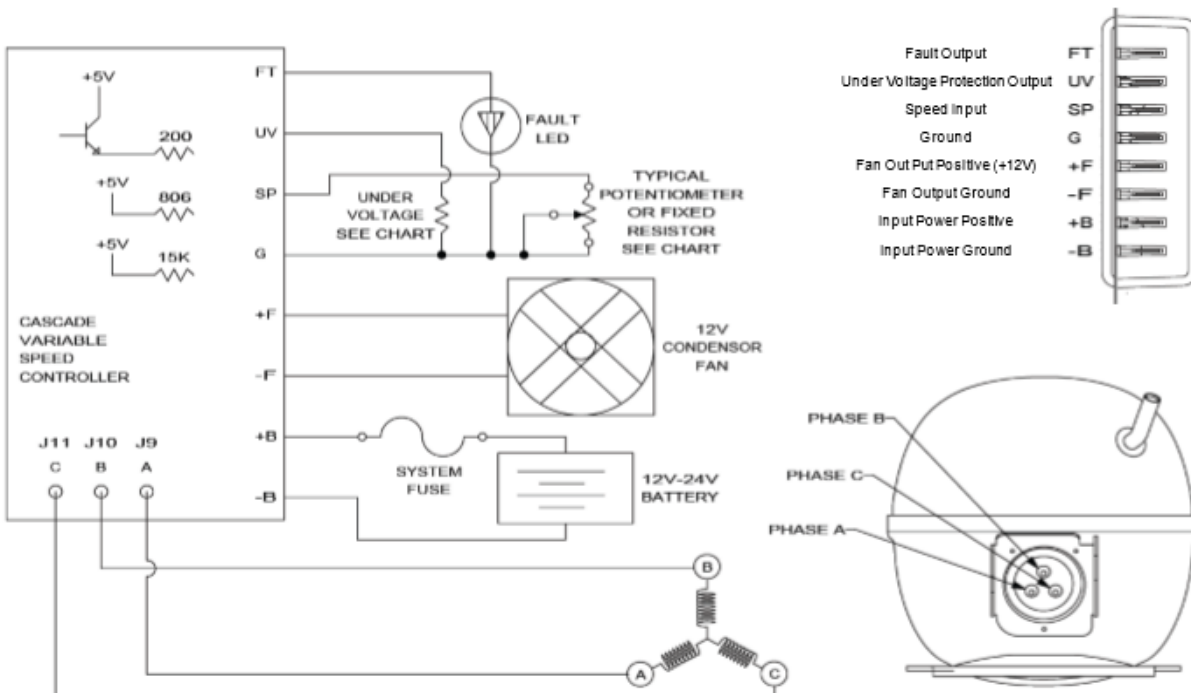
Resistor Value	Motor Speed
OHMS	[RPM]
200	1800
242	1900
287	2000
388	2200
510	2400
659	2600
847	2800
1090	3000
1.4k	3200
1.88k	3400
2.58k	3600
3.8k	3800
6.36k	4000
15.3k	4200

LED Fault Indicator Output

Motor Fault	1 Flash
Under Voltage	2 Flashes
Over Voltage	3 Flashes
Over Temperature	4 Flashes
Over Current/Power	5 Flashes
Fan Voltage Error	6 Flashes
General Hardware Error	7 Flashes
System Integrity Fault	8 Flashes

Use the formula below to find the resistor value needed to achieve a specific speed for the controller.

$$934960 - 806 \cdot \text{Speed_Desired} \\ \text{Speed_Desired} - 4360$$



ELECTRONIC MODULE WIRING FROM PRE-WIRED MEDI-KOOL™ CONTROL BOARD TO COMPRESSOR MODULE:

MODULE:

WIRES:

(FT) FAULT OUTPUT

GREEN—FAULT LIGHT

(UV) UNDER VOLTAGE
PROTECTION OUTPUT

OPEN—NO WIRE

(SP) SPEED INPUT

BLACK—(RESISTOR CONNECTING TO BLUE)

(G) GROUND

BLUE COMPRESSOR WIRE

(+F) FAN OUTPUT POSITIVE

THIN RED—POSITIVE FAN

(-F) FAN OUTPUT GROUND

THIN BLACK—NEGATIVE TO FAN

(+B) INPUT POWER POSITIVE

BROWN— INCOMING 12/24V POWER

(-B) INPUT POWER GROUND

YELLOW—NEGATIVE 12/24V POWER

