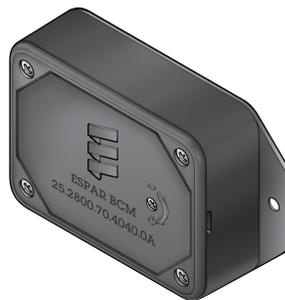
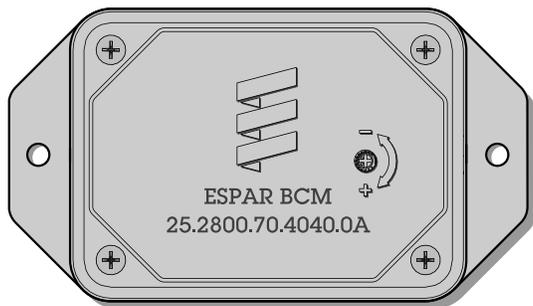




# BLOWER CONTROL MODULE (BCM)

## Operating Instructions / Mounting Instructions

Espar



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The Blower Control Module (BCM) is used to operate the OEM fan blowers in the vehicle by the use of pulse width modulation (PWM). The benefit of using the BCM with the Espar Hydronic heater is to preheat your cabin at the same time you are preheating your coolant. This will allow for a warm cabin area and defrosted windows before starting your engine. The BCM will allow extended use of the vehicle's blower fan with substantially less amp draw on the battery compared to similar systems.

The BCM is only activated when the heater is operating (coolant temperature above 86°F [30°C]), the vehicle ignition is off, and the battery is in good condition. The module will automatically be disabled once ignition of the vehicle is sensed, allowing the operator to control the blower fan normally through the OEM dash controls.

The module has a built in control for the blower fan speed, allowing the operator to set the desired fan speed conveniently. It is recommended to set the fan speed between low to low-medium to conserve battery life.

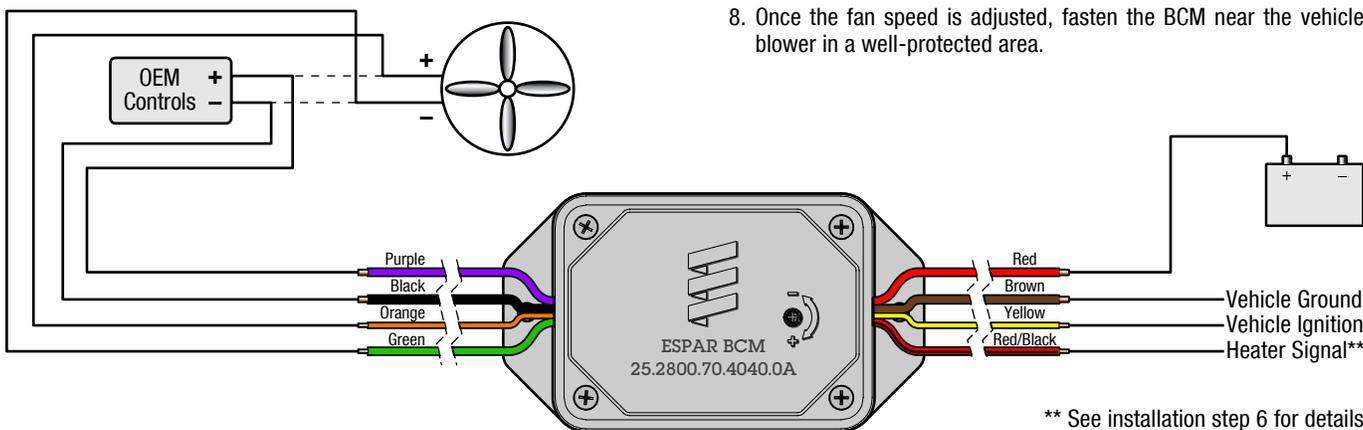
The BCM has a Low Voltage Disconnect (LVD) of 11.5V for 12V and 21V for 24V. In case the battery voltage drops below these values, the BCM will turn the vehicle blower off to save the battery.

### INSTALLATION:

1. Identify the positive and ground wires for the vehicle blower and take note of the wire colors for each. Disconnect the vehicle battery after identifying wire colors. The BCM will go in series between the OE dash controls and the vehicle blower.
2. Cut the two wires taking note which ends go towards the vehicle blower and which ends go towards the OE dash controls.

3. Connect the wires with the corresponding colors:
  - Purple wire from BCM to the OE dash control positive.
  - Black wire from BCM to the OE dash control negative.
  - Green wire from BCM to the vehicle blower negative.
  - Orange wire from BCM to the vehicle blower positive.
4. Connect the main power and ground wires to the BCM.
  - Connect positive wire from battery to red wire on BCM with a 20 amp fuse inline.
  - Locate a good chassis ground near fan motor and connect to brown wire on BCM.
5. Connect the yellow wire on BCM to the vehicle ignition. This will disengage the BCM and give the driver full dash control of the vehicle blower while the ignition is engaged.
6. Route and connect the black with red tracer wire from the heater to the black with red tracer wire of the BCM. This is the heater signal wire to activate the BCM.
  - Some heaters may not have the black with red tracer wire on connector B1 of the wire harness, although the heater's main connector, S1, has the terminal in place. Use a terminal and seal to add this wire to connector B1. In the case of a Hydronic 5 use part **206 00 182** for the terminal and part **206 75 022** for the seal.

For an M-II heater use part **206 36 154** for the terminal and part: **206 75 040** for the seal.
7. Once the engine temperature is above 86°F (30°C) and the heater is operating, the BCM is activated and the vehicle blower is switched on. At this point the desired fan speed can be adjusted by turning the potentiometer. Turn clockwise to increase the fan speed and counter-clockwise to decrease the fan speed. The suggested fan speed is low to low-medium.
8. Once the fan speed is adjusted, fasten the BCM near the vehicle blower in a well-protected area.



\*\* See installation step 6 for details