

Troubleshooting a Modifry Products ECT-2 Module Installation

Step 1 - Is the ECT module LED blinking?

- YES - Good, go to the next step.
- NO - If it's not blinking then the ECT module doesn't have power or the module is bad. Since I personally test each module on an S2000 dash cluster before shipping, it is *extremely* unlikely the module is bad. But if you think it is, ship it back for me so I can test it.

Step 2 – Was the “Cluster Test” described in the instructions successful?

- YES - Good, continue to next step.
- NO - Either the connection between the ECT module and the cluster temp gauge wire is faulty or connected to the wrong wire, or your cluster is bad. The other possibility is you are using a 2006 or newer cluster that does not work with the ECT module.

Step 3 – How fast is the LED blinking? The blink rate is directly related to the voltage on the module's Sensor terminal. The module measures this voltage in order to determine coolant temperature. Faster blinking means a lower voltage and higher temperature readings. If you don't have a volt meter (used in step 4) this is a quick check of the approximate sensor voltage.

- Once every 2 seconds? – This indicates a sensor voltage above 1 volt and a cold engine
- Once a second? – Sensor voltage is .7 to .9 volts, slightly warm engine coolant
- Twice a second? – Sensor voltage is .5 to .7 volts, normal coolant temperature
- Four or five times a second – Sensor voltage is very low, usually .3 to .4 volts or less which indicates excessively high coolant temperatures. If the LED is blinking this fast your temp gauge is probably reading full hot. In nearly all cases this is caused by incorrect wiring of the ECT module so re-check the wiring. Some examples of wiring errors:
 - The ECT module Sensor terminal is connected to a temperature sensor that controls a radiator fan or another temperature gauge. It should **ONLY** be connected to a 5 volt sensor that is monitored by the ECU and is not connected to anything else.
 - The ECT module Ground connection is not a good ground or is being affected by a ground loop. See step 4 to use a volt meter to help determine if you have a ground loop issue.

Step 4 – Measure your ECT sensor voltage at the ECT module, between the module's Sensor terminal and the Ground terminal. A cold engine will usually be between 2.0 and 3.5 volts. When fully warm, a stock S2000 should be between 0.6 to 0.7v, S2000 AEM and Civic will generally be between 0.55 and 0.65v.

Watch the sensor voltage for 5 or 10 minutes to be sure the voltage does not change abruptly. Turn on and off electrical accessories such as air conditioning and headlights, and watch as the car goes through a radiator fan cycle (fan turns on and off again). If there is a sudden voltage change you probably have a ground loop problem, as the sensor voltage should only change slowly and smoothly as the coolant temperature changes.

Ground loops usually occur when major changes are made to the engine/transmission/ECU and factory ground wires or straps are either moved or not reinstalled. Unfortunately, I can't help with those types of problems as every vehicle with major mods is a unique situation.