

Thermocouple Amplifier for EGT Sensor Instructions Part # Sens008

The T/C amplifier amplifies and linearizes the low voltage output from type K thermocouples used as pyrometers to measure exhaust gas temperature, and provide a linearized 0-5v output that can be easily used by the Interceptor scan gauge or other data acquisition devices. It is designed to be used with **ungrounded** tip pyrometers. These are inherently more accurate than grounded tipped pyrometers, and are necessary for the amplifier to operate accurately. **Be sure to use the correct type of pyrometer.** We sell this type of pyrometer, part # Sens007.

The connections are clearly labeled on the side of the amplifier's enclosure as shown below.



Note the included black terminal strip insulator (looks like a rubber band). This will be placed over the terminal strip once all the connections are made. To make this step easier, run the wires through this band before connecting to the terminal strip. The amplifier will need a switched 12v (powered only when keyswitch is on) and ground connection to terminals 1 and 2 as shown above. A recommended method of tapping into a switched 12v circuit is to use an "Add a Circuit" made by "Littelfuse", available at most car parts stores for around \$7. These allow you to basically create two circuits out of one at the fuse block without cutting or splicing any wires.

After installing and running the pyrometer wires through the firewall and into the vehicle's cabin, connect the yellow (red if using an Aeroforce EGT probe) thermocouple wire to TC1+ or TC2+. The red (blue if using an Aeroforce EGT probe) wire will go to the corresponding TC1- or TC2-. Depending on which input was used, the corresponding output will now be ready to connect to the data device such as the Interceptor or Analogic scan gauge. For Interceptor users, choose any available analog input.

To configure the Interceptor, Analogic, or other device to read temperature in degrees F, you will enter 394.5 as a slope, and 0 as the intercept following the instructions for these devices. This equates to multiplying the voltage out of the amplifier by 394.5 and adding 0 to the result to display temperature. For degrees Celcius, enter 218.88 for slope, and -32 for the intercept.

Between 400 deg. F and 1600 deg. F the output accuracy is +/- 4 deg. See the attached graph for the entire accuracy specification.

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