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# INSTALLATION INSTRUCTIONS PYROMETER EXTENSION MODULE



## Product Overview

The Pyrometer Extension Module (PEM) has been design to be used with Auto Meter pyrometers in applications where the distance from the engine and the driver is longer than normal (i.e. rear engine motor homes and coaches).

The PEM is comprised of two components: a thermocouple amp and driver module (TCA - black case), and a harness containing a signal shunt module (shunt). The TCA has been designed to be placed near the engine compartment, but behind the fire wall, of a long vehicle with a rear-mounted engine and drive train (i.e. a pusher bus). The TCA will convert the signal generated by a K-type thermocouple (EGT probe)

mounted in the exhaust of the engine to a proportional output current the ranges from near 0 to 20mA. This current can be delivered over a pair of wires up to 75' to the shunt. The output of the shunt will be connected to the thermocouple inputs of a standard incandescent lit Auto Meter pyrometer gauge. It will not operate on LED lit pyrometers that utilize the black 10 pin connector on the back of the gauge.

The dynamic operating range of the TCA limits the lowest temperature signal to approximately 160°F. This is a design limitation. All temperatures measured by the EGT probe at or below this limit will result in a minimum reading on the pyrometer gauge at approximately 160°F.

The connections to the PEM are made through the terminal strip on the TCA. The following table describes the connections:

Terminal	Signal	Description
1	Loop Output	Signal to Shunt Module (Orange)
2	Loop Ground	Signal Return from Shunt Module (Black)
3	12V	Switched power from vehicle
4	Ground	Vehicle ground
5	TC+ (Yellow)	Thermocouple + (Yellow)
6	TC- (Red)	Thermocouple - (Red)

## Installation, TCA Module (black case)

The TCA (black case) should be mounted securely on the interior side of the firewall, in a location for convenient connections to the exhaust gas thermocouple being used. The TCA is not to be mounted where it is exposed to the outside elements. Looking at the terminal strip on the TCA from the side the wires are inserted, and the screws up, the terminals are numbered from left to right, 1 to 6.

1. The thermocouple wires from the pyrometer probe are to be connected to terminals #5 and #6. Connect the Yellow wire to #5, and the Red wire to #6.

2. Connect terminal #4 to a good chassis ground, engine ground or the negative of the battery.
3. Connect terminal #3 to a switched (12V) power supply.
4. Connect the Shunt Module extension wires as detailed below.

## Shunt Module Wiring

**5256** - The Shunt Module will be located and connected to the pyrometer gauge mounted in the vehicles' dash. Connect the Yellow wire from the Shunt Module to the terminal labeled 'Yellow' and the red wire to the terminal labeled 'Red' on the back of the pyrometer gauge.

The extension wires (user provided) used to connection the Shunt Module to the TCA need to be routed and secured along the vehicles' chassis. The use of 18AWG or 16AWG wire is recommended. Two closed end crimp splices are provided to make the connections to the extension wire. It is recommended to use black and orange wire colors for the extension wires in order to be certain of the connections to the TCA are correct. If another wire color is used, be sure the connections to the TCA are the correct polarity.

# EXTENSION MODULE

