VEI Systems Installation Instructions
V1-PYF-Mx – Pyrometer/Exhaust Temperature Monitor (deg-F)
V1-PYC-Mx – Pyrometer/Exhaust Temperature Monitor (deg-C)

Please read these instructions completely before beginning installation to ensure that you have the tools and skills necessary for installation and operation of this instrument. If you are not sure that you can perform the installation safely, then consult a qualified installer. Further instructions available at www.VEISystems.com/technical.html .

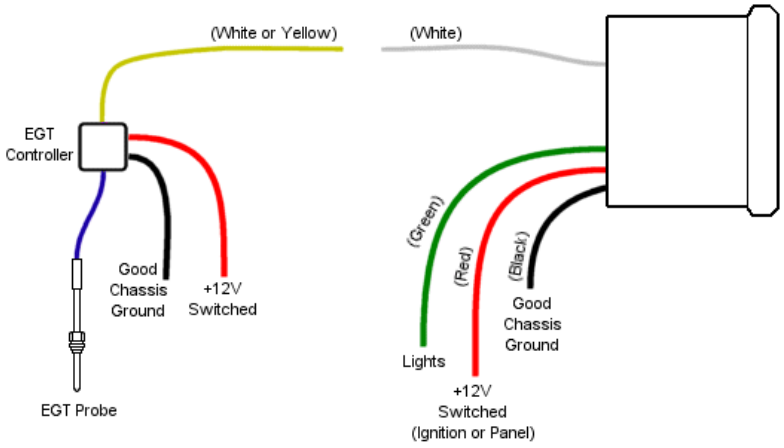
MOUNTING

Install the unit through the front of the mounting hole in the dash pod or panel. If you are making a custom dash panel, you will need to drill a 2-1/16" hole. Slide the clamp onto the 2 studs on the back of the instrument. Secure with the 2 thumb-nuts. Use a small drop of threadlocker or nail polish on the thumb-nuts to prevent them from loosening under vibration.

Use exhaust gas temperature probe with integrated controller SEN-TCI. The same sender is used for the deg-F or deg-C version of the gauge (V1-PYF-Mx or V1-PYC-Mx respectively). You cannot use just a thermocouple probe by itself. Drill and tap the exhaust manifold or header for the 1/8" NPT compression fitting. The best location is close to the exhaust ports on the head, and before the turbocharger if your vehicle has one. Note that when you drill and tap the manifold, metal shavings will get into the exhaust and could cause damage to the engine and/or turbocharger, so it is recommended that you remove the manifold/header to clear it out. Screw in the compression fitting into the exhaust manifold and slide the probe through the fitting. The probe should be setup such that the tip is centered in the exhaust stream. You can do this by sliding the probe in and out of the fitting to determine it's full range inside the exhaust tube and then positioning it to about the midpoint of that range. Finally, clamp down the compression fitting to lock the probe in place. NOTE: once the compression fitting is tightened, it compresses to shape and should not be re-used. If necessary, the thermocouple probe can be gentlly bent with a tubing bender, but care should be taken not to break the probe. Route the wires and controller away from the major heat sources under the hood.

WIRING

The wires should be connected as below using crimp-on butt-splice connectors, or soldered and sealed with heat-shrink tubing. Before connecting any wires, you should either disconnect the battery power, or carefully connect the wires in the order shown. If not, you may damage the instrument. Use an existing fuse in the fuse panel, or an external fuse to supply power to the instrument. The V1 series instruments use an 105mA of current avg. and 175mA max, so ensure the fuse is sized appropriately. For a typical 6- or 7-gauge setup, a single 5 Amp fuse is good.



GAUGE:

- BLACK -- connect to a solid chassis ground under the dashboard, or directly to the battery. You may need to expose the metal connection point under the dash by scraping or lightly sanding it. A ring terminal and a screw should work well in most cases.
- RED -- connect this to a source of **switched** +12V power. This will usually be found at or near the ignition switch, and will usually have a relay wired through the ignition switch. An alternate source of this is a switched power line from a nearby light or accessory (radio, etc). If you are unsure that the wire can supply the power required for the instrument, then use an external relay.
- GREEN -- connect this wire to the positive line (+12V) from the headlight switch. When this line receives a positive voltage, the gauge will use the "park-lights" brightness setting. Alternatively, if setting up a racing-mode display, this can be connected to a separate mode switch (12V or 0V signal).
- WHITE -- connect this wire to the white or yellow on the controller.

CONTROLLER:

- BLACK -- connect to a solid chassis ground under the dashboard, or directly to the battery. You may need to expose the metal connection point under the dash by scraping or lightly sanding it. A ring terminal and a screw should work well in most cases. Ideally, connect this to the same point where the black wire on the gauge is grounded to.

- RED -- connect this to a source of **switched** +12V power. This will usually be found at or near the ignition switch, and will usually have a relay wired through the ignition switch. An alternate source of this is a switched power line from a nearby light or accessory (radio, etc). If you are unsure that the wire can supply the power required for the instrument, then use an external relay. Ideally, connect this to the same +12V point where the red wire on the gauge is connected.

- WHITE (or YELLOW) -- connect this wire to the white wire on the gauge.

NOTE: The thermocouple probe cannot be separated from the controller.

OPERATION

Press and hold the button for a few seconds to change the mode. Press and release quickly (tap the button) to change the setting in any mode. Modes are as follows:

MODE	DISPLAY	SETTINGS
Normal	(Temp)	Tap to turn off audible alarm.
Peak indicator	P. Of	Sets peak-indicator feature On or Off.
Bargraph Type	Bg.d	Sets bargraph to bar or dot mode.
Brightness Regular	Br . 9	Last digit shows regular brightness level from 1 to 9.
Brightness park-lights on	BP . 1	Last digit shows brightness level with lights on from 1 to 9.

WARRANTY & LIABILITY

Neither VEI Systems, nor its dealers or agents shall be liable in any way, for any damage, loss, injury or other claims, resulting from the installation or use of this product. By purchasing or installing this product, you assume all liability of any kind connected with the use and/or application of this product. If you are unsure that you can safely install and use this product, consult a qualified installer or mechanic. The warranty on this product covers only the product itself for a period of 1 year from the date of purchase, and it will be at our discretion to repair or replace the affected parts. No user serviceable parts inside. Warranty void if product enclosure opened.