

# VEI Systems Installation Instructions

## V1-FQM-Mx – Fuel Level Gauge

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](http://www.VEISystems.com/technical.html).

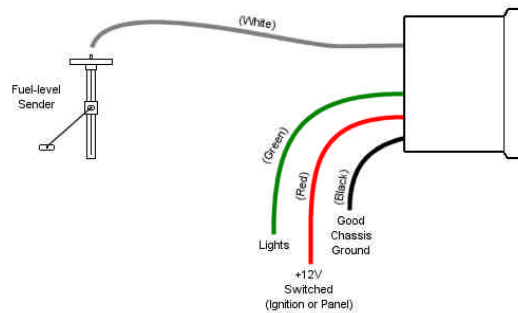
### MOUNTING

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.

This gauge is designed to work with most stock senders, or we can provide a sender if required. One side of the sender should be grounded (usually the body).

### 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.



- 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 top stud on the fuel-level sender. CAUTION: Do not connect this to any source of positive voltage.

### 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                     | (Fuel level percentage) | Tap to turn off audible alarm.   |
| 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.                          |
| Set low-fuel warning level | LO / 5                  | Display shows percentage warning level from 0 to 50%.                                  |
| Set startup mode           | run / CAL               | Setting this to "CAL" will cause the gauge to enter calibration mode on next power-up. |

### CALIBRATION

Since this gauge is designed to be used with almost any stock fuel-level sender, you will need to calibrate it to your specific sender. First, set the start mode to "CAL" as shown in the mode table above. Then power the gauge off and back on (once only). The gauge will now be in calibration mode. At this point, choose the level you wish to set by cycling thru the calibration modes (see the table below). With the sender at that level, tap the button to set the level. Note that it is best to fill the tank almost full with fuel, set the full level in that calibration mode, then drive the vehicle until it runs out of fuel (take a spare gallon so you can get to a station), and re-enter calibration mode to set the empty level. Then you can set the low-warning level from the main modes.

| CALIBRATION MODE | DISPLAY | SETTINGS   |
|------------------|---------|--|
| Set FULL level   | FUL     | Tap to mark the current sender level as the full point.  |
| Set EMPTY level  | Ety     | Tap to mark the current sender level as the empty point. |

Note that after being in calibration mode, the gauge returns to regular operational mode after powering it off and back on. To re-enter calibration mode for setting another fuel-level, simply set the startup mode to "CAL" again and power off and on as before.

### **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.