

Installation Instructions for Fuel Level Interface Module (9230)

Marshall 9230 converts an input resistance signal to a target resistance signal so that a fuel gauge with a specific range (i.e. 0-90 ohm) can work with different range fuel level senders (i.e. 240-33, 73-10 ohm). Gauge Full, Half and Empty positions can be programmed. Note: the output of the module is a npn pulse width modulated signal which may cause buzzing in un-dampened gauges.

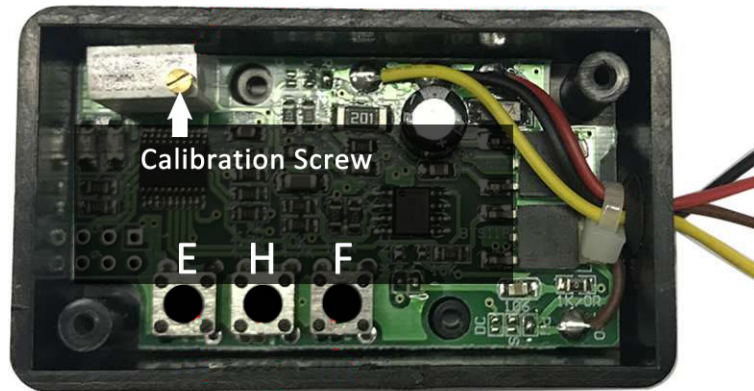
Wiring:

RED: Connect to 12V ignition so the module has power when the vehicle is on.

YELLOW: Connect to fuel level sender output.

BROWN: Connect to gauge signal input.

BLACK: Connect to COMMON ground. **IMPORTANT:** Fuel level gauge, Fuel level interface module and fuel level sender need to have a good common ground. It is recommended that you ground the gauge, module and sender at the same location.



Installation & Programming

Install the module in a clean, dry, cool location (i.e. inside the vehicle cabin, not in the engine area).

To access the programming buttons and calibration screw remove the two screws on the module cover. Replace cover when programming is complete.

Use **STORE MODE** to program and store the Full, Half, Empty, and Power On positions.

Use **POWER ON MODE** to program how you want the gauge to operate when the vehicle power is turned on.

RUN MODE (Normal Operating Mode)

1. Turn the module power off and wait at least 5 seconds.
2. Turn the module power on.
3. Green LED will turn on.

STORE MODE Notes:

- Turn the calibration screw counter clockwise for DECREASED ohm signal to the gauge. Turn the calibration screw clockwise for INCREASED ohm signal to the gauge.
- When programming the FULL position it may take 5-10 complete turns of the calibration screw to get the pointer to start moving.

STORE MODE (Programming the Module)

IMPORTANT: To avoid hysteresis error, program the Full position first, then the Half position, then the Empty position (i.e. move sender from Full to Empty when programming). Some gauges are very slow to move, allow time for the gauge to stabilize. The fuel level sender, fuel level gauge, and module need to have a common ground (ground them at the same location).

1. Turn the module power off and wait at least 5 seconds. Press and hold the F button (right side button) while turning module power on. Once power is on release the F button. The red LED will turn on.
2. Move fuel level sender to Full position. Adjust the gauge pointer position to Full by turning the calibration screw on the module.
3. To save the gauge full position press the F button one time (right side button).
4. Move the fuel level sender to the half tank position. Adjust the gauge pointer position to Half by turning the calibration screw on the module. Press the H button one time (middle button) to save the gauge half position.
5. Move the fuel level sender to the empty tank position. Adjust the gauge pointer position to Empty by turning the calibration screw on the module. Press the E button one time (left button) to save the gauge empty position.
6. Adjust the calibration screw to the position you would like the fuel level gauge pointer to be positioned when the car is started (this is typically to the left of the gauge Empty position). Press the E and F buttons simultaneously one time to save the POWER ON position.

POWER ON MODE

Power On Mode allows you to program the position of the fuel level gauge pointer when the vehicle is started.

1. Turn the module power off and wait at least 5 seconds.
2. Program desired POWER ON mode option (a or b):
 - a. To program the module to start at the current sender position (recommended): Press and hold the E button (left button) and turn the module power on. Release the E button.
 - b. To program the module to start at the preset POWER ON position (programmed in step 6 of STORE MODE above): Press and hold the H button (middle button) and turn the module power on. Release the H button.
3. Green LED will turn on once POWER ON mode option has been selected.