

# Classic Instruments

## SN34

## Fuel Link

Installation Manual

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## **Welcome from the Team at Classic Instruments!**

Our congratulations and appreciation for your purchase of one of the finest quality sets of specialty instruments ever produced! Your instrument set has been conceived, designed, and manufactured by Classic Instruments, Inc. in the U.S.A. Each instrument has been tested and certified for accuracy and quality before packaging and shipping.

For trouble-free installation and operation follow the instructions exactly as outlined. Your instruments were assembled to precise specifications and although each has a seven (7) year warranty covering defective parts and workmanship – this warranty will not cover instruments or sender units which have been installed incorrectly.

Follow our recommended procedures for installation and proper hookup to maintain the value and appearance of your instrument set during many future years of accurate and dependable service!

### **LIMITED WARRANTY**

Classic Instruments, Inc. (CI) warrants to the original purchaser that any CI product manufactured or supplied by CI will be free from defects in material and workmanship under normal use and service for a period of seven (7) years from date of purchase.

Improper installation, use of sending units other than CI's or attempted repair or adjustments by other than CI shall void this warranty. Disassembly of any instruments or senders for whatever reason shall specifically void this warranty.

It's always easy to look to a part for an issue with your set. Before you conclude that a part may be bad, thoroughly check your work. Today's semiconductors and passive components have reached incredibly high reliability levels, but there is still room for error in our human construction skills. However, on rare occasions a sour part can slip through. Please be aware that testing can usually determine if the part was truly defective or damaged by assembly or usage. Don't be afraid of telling us that you "blew it", we're all human and in most cases, replacement parts are very reasonably priced.

Purchaser requesting a product to be repaired or replaced under warranty must first call CI at 1-800-575-0461 before the return of defective part. Send defective part to 826 Moll Drive, Boyne City, MI 49712, USA. Include a written description of the failure with defective part.

Purchaser agrees and accepts that under no circumstances will a warranty replacement be furnished until CI has first received, inspected, and tested the returned part.

All other warranties expressed or implied are hereby excluded including any implied warranty of merchandise and implied warranty of fitness for a particular purpose. The sole and exclusive remedy for breach of this warranty is limited to the replacement set forth above.

It is expressly agreed that there shall be no further remedy for consequential or other type of damage, including any claim for loss of profit, engine damage or injury.

### **TECHNICAL ASSISTANCE**

**1-800-575-0461**

**OR**

**Visit our website for the latest in gauge design and updates to our installation manual**

**[www.classicinstruments.com](http://www.classicinstruments.com)**

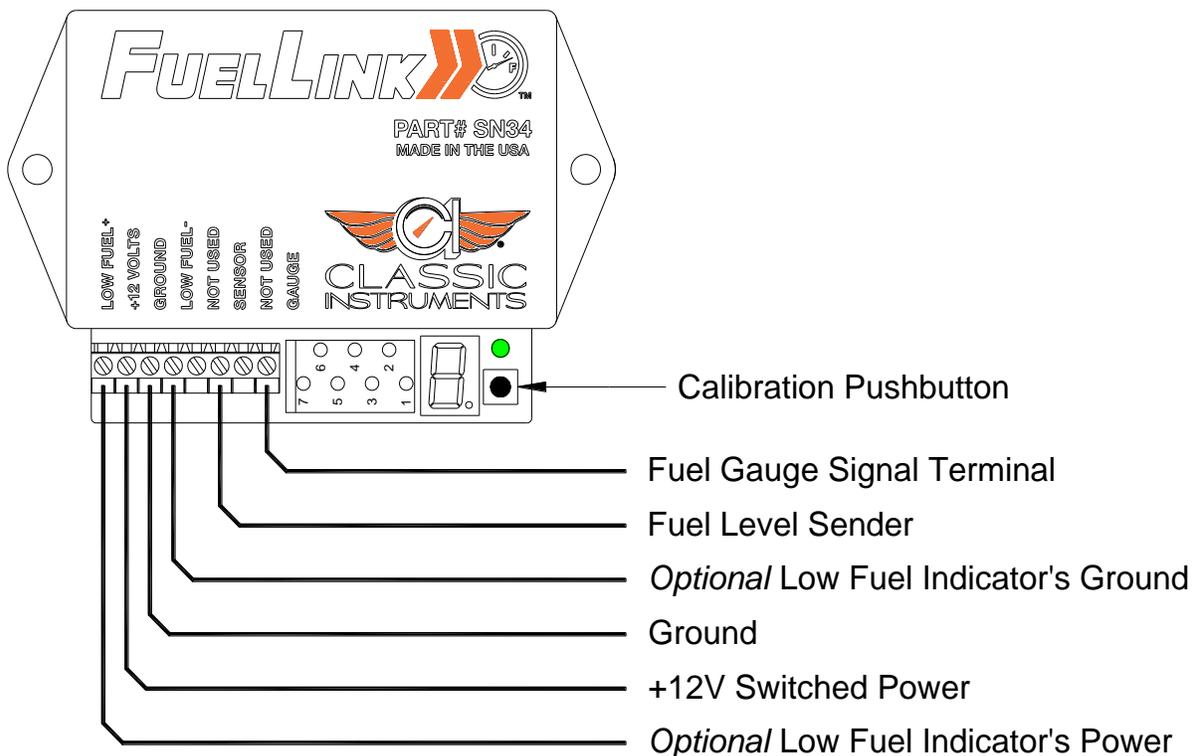
## Before You Get Started

The Fuel Link has been designed to work with nearly any short sweep fuel gauge (90 degree or less pointer sweep) and fuel sender combination. It will not work on fuel gauges which have pointer sweeps greater than 90 degrees. *All Classic Instruments fuel gauges are short sweep and are compatible with the Fuel Link.*

## Connecting the Fuel Link

- 1) Connect the hot wire of an *optional* low fuel indicator to the Fuel Link terminal marked **LOW FUEL +**. *If you are not using a low fuel indicator, this terminal is not used.*
- 2) Connect switched +12VDC power to the Fuel Link terminal marked **+12 VOLTS**.
- 3) Connect a good ground to the Fuel Link terminal marked **GROUND**.
- 4) Connect the ground wire of an *optional* low fuel indicator to the Fuel Link terminal marked **LOW FUEL -**. *If you are not using a low fuel indicator, this terminal is not used.*
- 5) Connect the fuel sender signal to the Fuel Link terminal marked **SENSOR**.
- 6) Connect the fuel gauge signal post to the Fuel Link terminal marked **GAUGE**.

## Fuel Link Wiring Diagram



## Fuel Link Calibration

- Start with vehicle power OFF.
- Press and hold the calibration button and turn vehicle power ON. *Once the power is on, release the button.*
- The LED digit will display **t**, indicating entry into tank sensor calibration mode.
- Tap the calibration button and the LED display will change to **1**. Continuing to tap the calibration button causes the display to cycle through **1, 2, 3, 4, 5, 6, 7, 8** (for standard sensors) and **A** (for custom sensor range).
  - If the selection has previously been set, the display will show that setting upon entering the sensor calibration mode.

Option Number	Sender Resistance Range
1	240-33 (Standard Aftermarket)
2	0-90 (GM Type 1966 to 1998)
3	0-30 (GM Type 1964 and earlier)
4	16-158 (Ford Type 1987 and later)
5	75-10 (Ford Type 1967 and earlier)
6	90-0 (Toyota and Nissan 1985 and later)
7	10-180 (VDO)
8	40-250 (GM Type 1998 and later)
A	Manually Entered Resistance Range

- Push and hold the calibration button for approximately 4 seconds to enter the sensor option indicated by the LED display on the module. If **A** is chosen, the display will remain on **A** for the calibration step. Otherwise, the display will change to **g** to show setting is complete and to prepare for the next calibration step.
  - If **A** is chosen, then the fuel sender resistance range will need to be manually entered.
  - Push and hold the calibration button with **A** displayed until the LED starts alternating between **t** and **E**.
  - Move the fuel sender float to the *empty* position, then press and hold the calibration button to set the empty tank value. The display will change to **A** again to show setting is complete and to prepare for the next calibration step.
  - Push and hold the calibration button again with **A** displayed until the LED starts alternating between **t** and **F**.
  - Move the fuel sender float to the *full* position, then press and hold the calibration button to set the full tank value. The display will change to **g** to show setting is complete and to prepare for the next calibration step.
- Press and hold the calibration button with the LED indicating **g** until the **g** starts alternating with **E**. The gauge **empty** indication will now be set.
- Press and hold the calibration button to change the fuel gauge's pointer position. The first time the button is pressed and held, the fuel level shown on the gauge will decrease (*or in some cases increase*). The next time the button is pressed and held, the fuel level shown on the gauge will change in the opposite direction. The direction the fuel level indicator changes will alternate between increasing and decreasing every time it is pressed and held.

- Once the fuel gauge is indicating **empty**, wait 8 seconds without pushing the calibration button to save the calibration. The LED display will change back to **g** to confirm calibration is saved.
- Press and hold the calibration button with the LED indicating **g** until the **g** starts alternating with **2**. The gauge **1/4** tank indication will now be set.
- Press and hold the calibration button to change the fuel gauge's pointer position. The first time the button is pressed and held, the fuel level shown on the gauge will decrease (*or in some cases increase*). The next time the button is pressed and held, the fuel level shown on the gauge will change in the opposite direction. The direction the fuel level indicator changes will alternate between increasing and decreasing every time it is pressed and held.
- Once the fuel gauge is indicating **1/4**, wait 8 seconds without pushing the calibration button to save the calibration. The LED display will change back to **g** to confirm calibration is saved.
- Press and hold the calibration button with the LED indicating **g** until the **g** starts alternating with **5**. The gauge **1/2** tank indication will now be set.
- Press and hold the calibration button to change the fuel gauge's pointer position. The first time the button is pressed and held, the fuel level shown on the gauge will decrease (*or in some cases increase*). The next time the button is pressed and held, the fuel level shown on the gauge will change in the opposite direction. The direction the fuel level indicator changes will alternate between increasing and decreasing every time it is pressed and held.
- Once the fuel gauge is indicating **1/2**, wait 8 seconds without pushing the calibration button to save the calibration. The LED display will change back to **g** to confirm calibration is saved.
- Press and hold the calibration button with the LED indicating **g** until the **g** starts alternating with **7**. The gauge **3/4** tank indication will now be set.
- Press and hold the calibration button to change the fuel gauge's pointer position. The first time the button is pressed and held, the fuel level shown on the gauge will decrease (*or in some cases increase*). The next time the button is pressed and held, the fuel level shown on the gauge will change in the opposite direction. The direction the fuel level indicator changes will alternate between increasing and decreasing every time it is pressed and held.
- Once the fuel gauge is indicating **3/4**, wait 8 seconds without pushing the calibration button to save the calibration. The LED display will change back to **g** to confirm calibration is saved.
- Press and hold the calibration button with the LED indicating **g** until the **g** starts alternating with **F**. The gauge **full** tank indication will now be set.
- Press and hold the calibration button to change the fuel gauge's pointer position. The first time the button is pressed and held, the fuel level shown on the gauge will decrease (*or in some cases increase*). The next time the button is pressed and held, the fuel level shown on the gauge will change in the opposite direction. The direction the fuel level indicator changes will alternate between increasing and decreasing every time it is pressed and held.
- Once the fuel gauge is indicating **full**, wait 8 seconds without pushing the calibration button to save the calibration. The LED display will change to **C** to confirm calibration is saved.
- Press and hold the calibration button with the LED indicating **C** to exit calibration mode.

## Fuel Link Operating Mode Functionality

- At power up, the correct fuel will be displayed within 2 seconds.
- The Fuel Link keeps a running average of the sensed fuel level values to keep sloshing of fuel from moving the gauge indication significantly.
- The low fuel indicator will turn on when 10% or less fuel remains. It will turn off when the fuel level rises back above 15%.
- The LED display is off and the calibration button has no effect while in operating mode.