www.btigauges.com

TFT CAN Bus Gauge for Haltech
Plug and Play Installation Manual
Doc version 1.2

Notice: This product is intended for Off-Road use only.
Never take your eyes off of the road while using this device.
If you are uncomfortable with wire termination, please have this device installed by a competent shop.

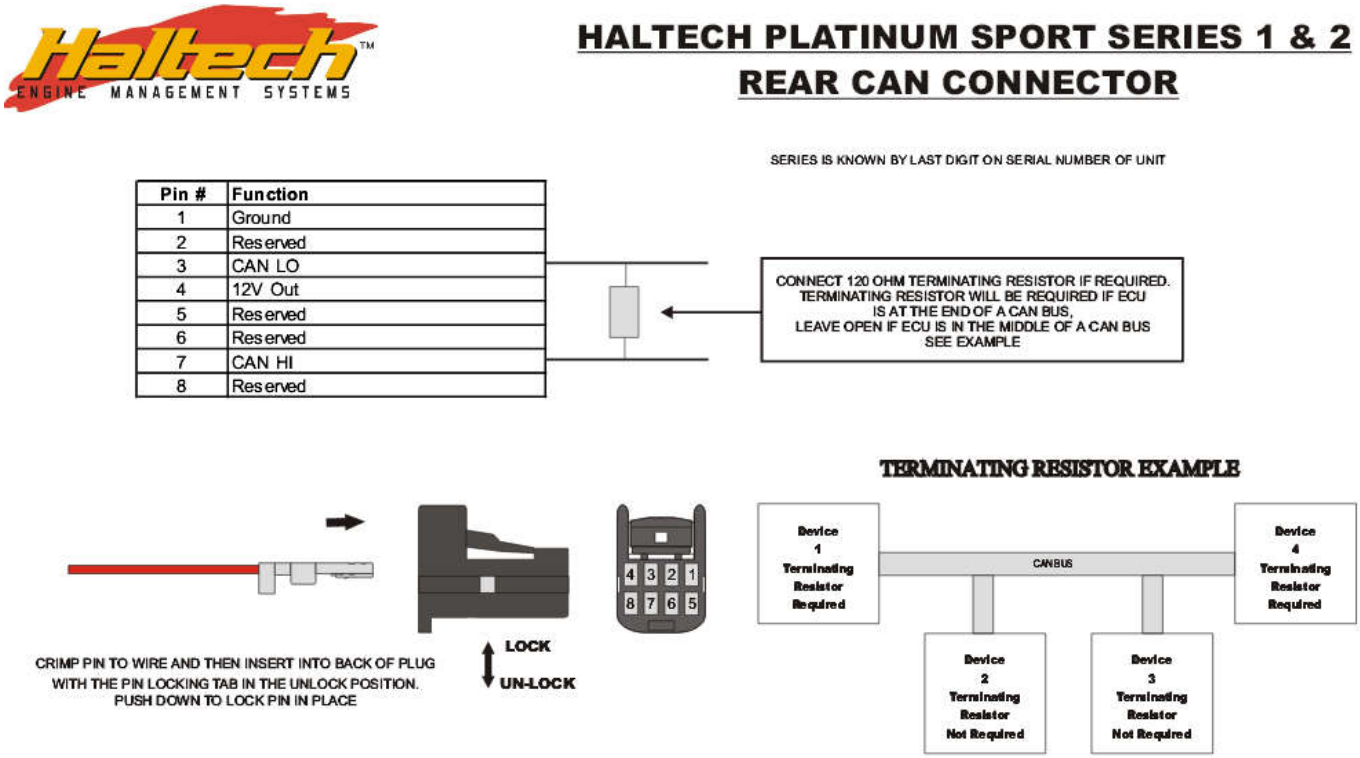
**** Notice! This device should be configured by competent personnel. Raising the BOOST too much, reducing the Traction Control too much, improper use of nitrous, or improper use of a line lock can have severe consequences. You could blow your engine and or lose control of your vehicle****

Plug and Play harness installation:

Plug and play wiring harness for Haltech ECUs with the BTI wiring harness:

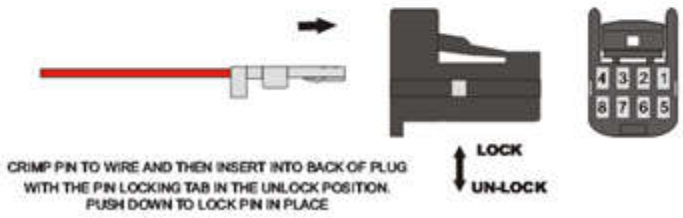
Simply plug the BTI connector straight into the Haltech ECU and the gauge will receive both power and CAN bus communications.

Notice! This diagram is for the Tyco connectors that are plugged directly into the ECU

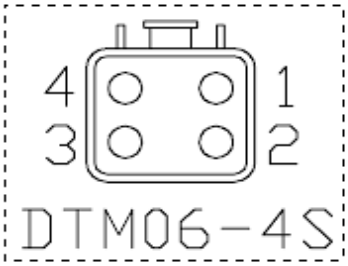


Notice! This diagram is for the Tyco connectors that are plugged into the Haltech CAN hub:

Pin#	Function	Color
1	Ground	Black
4	12V Out	Red
2,3,6	CAN Low	Green
7,8	CAN High	White



Elite DTM06 Connector:

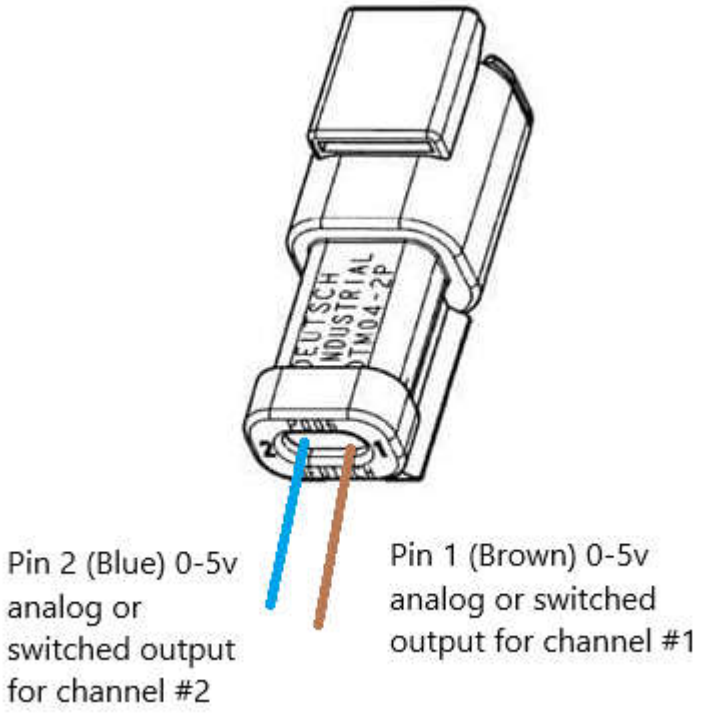


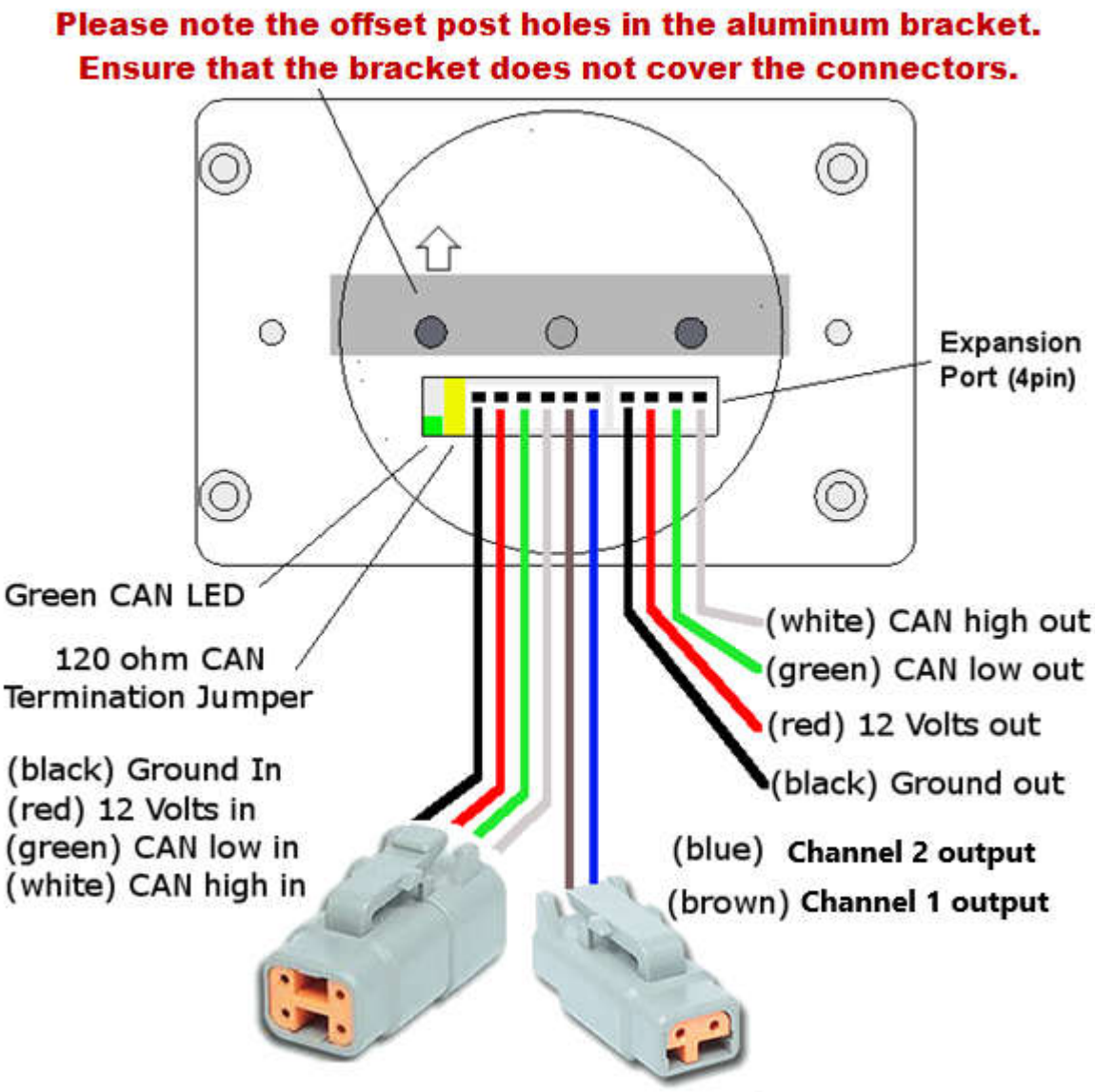
Deutsch 4pin connector:
1- 12v
2- Ground
3- CAN High
4- CAN Low

Make sure you select which CAN port you are using in ESP

2 Pin Analog Out Connector (Brown and Blue Wires)

The termination of these two wires is dependent on the inputs that are assigned in the Haltech Tuner software. These two outputs may be configured for **Boost Control, Traction Control, Map Selection, Timed Line Lock, Nitrous Arm, and Nitrous Purge**. Either output may be connected to a different ECU input (5 volt low current) or used with a 5 volt relay for Nitrous Arm / Purge or a line lock if desired. We offer both 1 channel and 2 channel optically isolated 5 volt relay for these scenarios listed on page 19 of this manual.

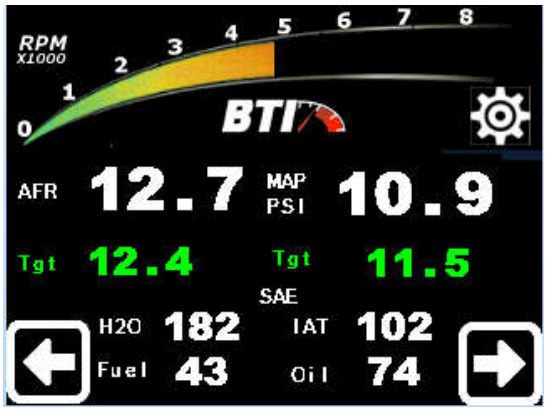




Data LED: This indicator will flash whenever the gauge is energized and CAN communications are present. Use this to confirm communications.

CAN Bus Termination Jumper: Remove this jumper if the gauge is not the last device on the CAN Bus. If there are multiple gauges, the last gauge should be the only gauge with the jumper installed.
Leave the jumper installed if the gauge is a standalone installation and there is nothing else on the CAN Bus.

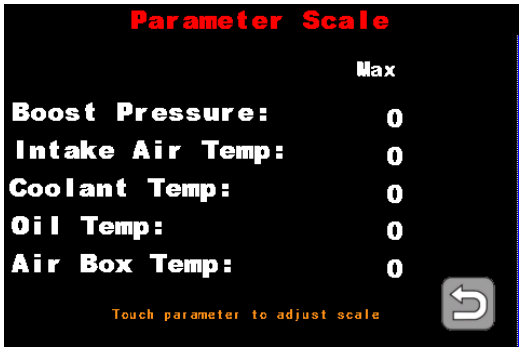
Configuration:



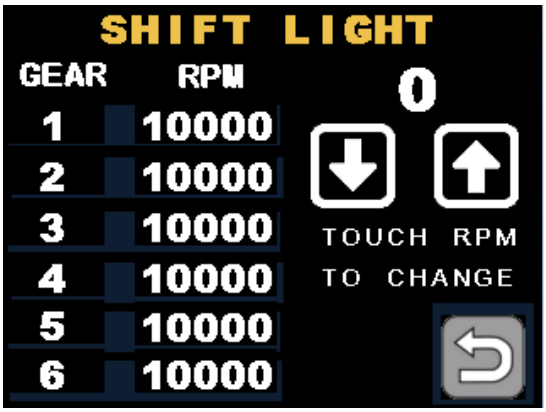
The Setup may be accessed by touching the cog wheel pictured on the top right of the diagram pictured. This is where the Units, Outputs, Boost level, Slip level, Map, Shift Light and output steps may be changed.

Touching the **Units** button will change the units from **SAE** to **SI** units.
Touching the O2 Display button will change the O2 sensor output from AFR to Lambda
Touching the Turbocharger (left) will allow the boost level to be changed (if configured).
Touching the Traction button (center) will allow the traction control to be adjusted (if configured)
Touching the Map button (right) will allow the Map output to be changed (if configured)

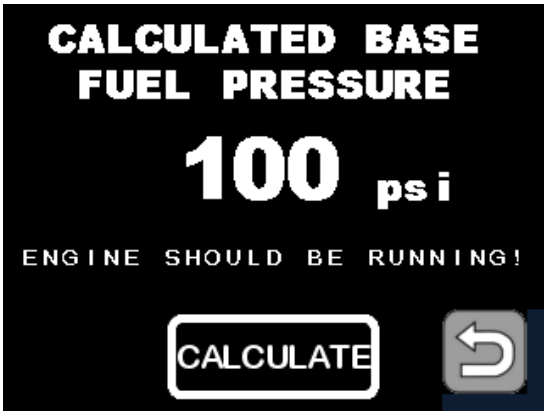
Touching the **Settings** button will allow for Outputs, Shift Light, Base Fuel Pressure, and Output levels to be configured:
O2 Count: Use this function to display 2 wide band sensors instead of 1.
RPM Scale: Use this function to switch between an 8K RPM scale vs. a 10K RPM scale for higher revving vehicles.



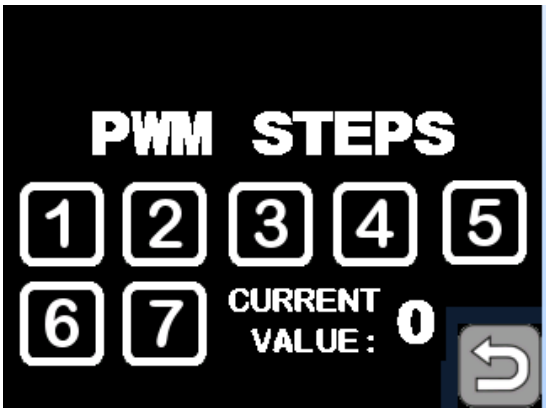
Parameter scale: Use this screen to set the maximum range for boost pressure and various temperature slide bars and graphs.
Example: You will be running a 30 psi boost target. The max boost pressure could be 35 psi to give the slide bars and graphs the best resolution. The same goes for temperatures. These values should be entered with respect to which units are selected: SI or SAE. If SI units are selected, Boost Pressure should be entered in kPa and temps should be entered in Celsius. If SAE units are selected, Boost Pressure should be entered in psi and temps in Fahrenheit.



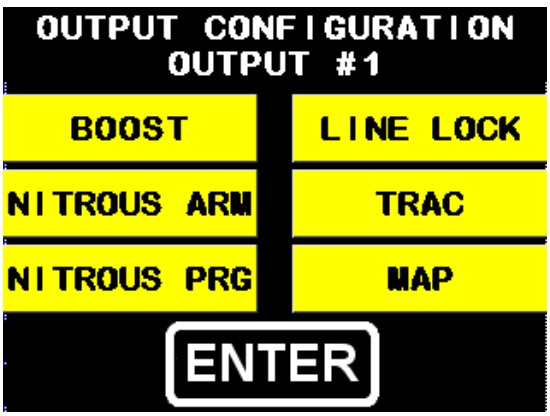
The **Shift Light** functions by RPM per gear. This means that a shift light may be configured in 1st gear at 6500 RPM while the Shift light could be illuminated in 2nd gear at 7000 RPM if desired. Simply touch the Gear or RPM that you wish to change and adjust accordingly using the arrow keys. Touch the Back arrow to save and the shift light should illuminate while saving.



Base Fuel Pressure: Use this feature to calculate the base fuel pressure while the vehicle is at normal idle. This will be used on the **Fuel** screen in order to verify proper fuel pressure regulator function (assuming that you are using a rising rate regulator with a 1:1 ratio).

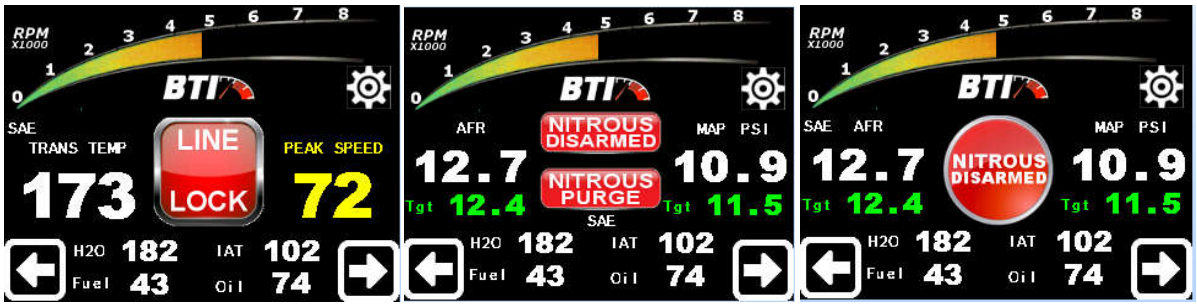


TRAC, BOOST, and **MAP PWM Steps:**
Use these screens to program how many steps that these feature will have. These outputs provide a low current 0-5 volt analog output. That output will be divided by how many steps are programmed.
Example: You have boost assigned to Output # 1 and you wish to have the max number of steps (7). This will actually be 8 steps including 0. The full voltage will be divided by the number of steps.
Example: (5 volts / 7 steps = .71 volts per step)



Output Configuration:
The two outputs may be configured for the following functions:
Boost: 0-5 Volt scalable analog output
Nitrous Arm: Toggle on / off 5 volt output
Nitrous Purge: Momentary 5 volt output
Line Lock: Timed 5 volt output (up to 60 seconds max)
Trac: 0-5 volt scalable analog output

Map: 0-5 volt scalable analog output
Boost, Trac, and Map are accessed using the cog wheel on all screens.
Nitrous Arm, Nitrous Purge, and Line Lock unlock an additional screen where those functions may be accessed: *Notice: The outputs are limited to 20 milliamps. There is an add on module available to boost these up to 10 amps in order to directly control nitrous and line lock solenoids. Contact BTI Gauges for details.*



Operation:

Parameters written in White are live data, Green parameters are targets, parameters written in Yellow are peaks, and blue parameters are freeze frame data. In most cases, touching the peaks will reset that peak. The Boost peak is by episode (this resets every time positive boost is reached).

Notice: Older Haltech ECUs may not have all available parameters. Always ensure that you are running the most recent firmware to get the most current CAN transmission.

Warranty:
All BTI Gauges carry a 1 year warranty effective at the time of purchase.

- This warranty extends only to products distributed and/or sold by BTI Gauges. It is effective only if the products are purchased and operated in the USA. (Within the USA including US 48 States, Alaska and Hawaii.)
- This warranty covers only normal use of the computer. BTI Gauges shall not be liable under this warranty if any damage or defect results from (i) misuse, abuse, neglect, improper shipping or installation; (ii) disasters such as fire, flood, lightning or improper electric current; or (iii) service or alteration by anyone other than an authorized BTI Gauge representative.
- You must retain your bill of sale or other proof of purchase to receive warranty service.
- No warranty extension will be granted for any replacement part(s) furnished to the purchaser in fulfillment of this warranty.
- Warranty claims must be sent to sales@btigauges.com.