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TFT CAN Bus Dash for Haltech / Adaptronic
Plug and Play Installation Manual
Doc version 1.0

**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.**

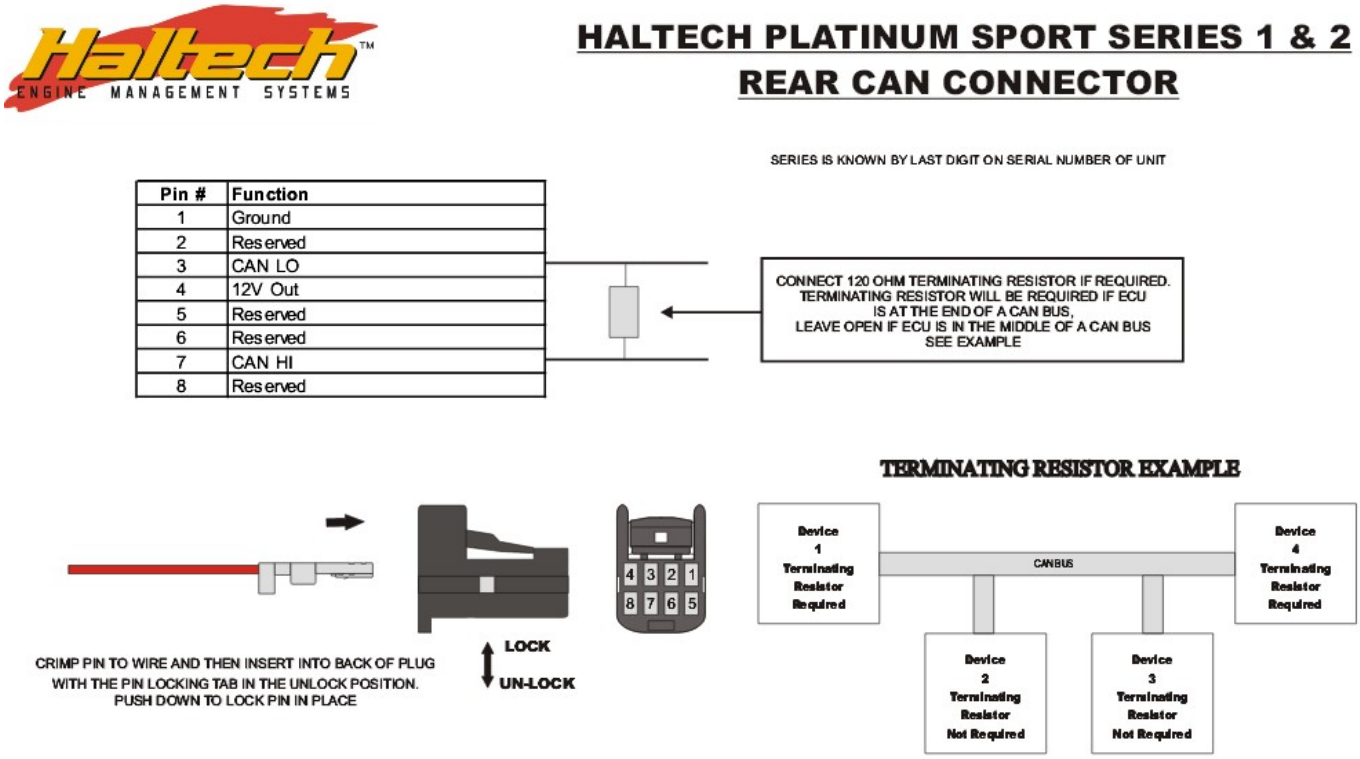
**** Notice! This device should be configured by competent personnel. Raising the BOOST too much or reducing the Traction Control too much can have severe consequences. You could blow your engine and or lose control of your vehicle****

Plug and Play harness installation:

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

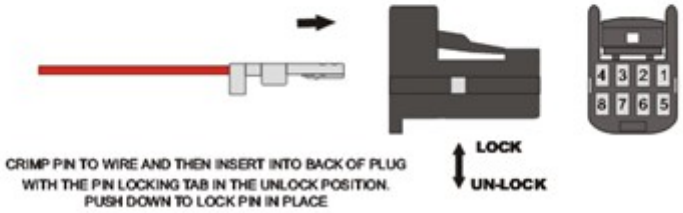
Simply plug the BTI connector straight into the Haltech ECU and the gauge will receive both power and CAN bus communications.

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

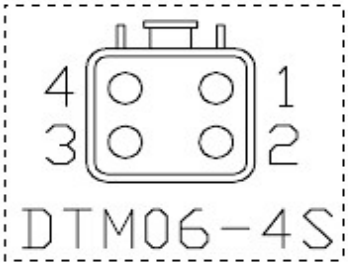



**Notice! This diagram is for the Tyco connectors that are plugged into the Haltech CAN hub:**

| 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

# Adaptronic CAN connections:

Included with your gauge is a 4 pin DTM connector pig tail. We are using the Haltech CAN wiring standard for this integration.
If you are connecting this gauge to a modular plug-in ECU, you will have to utilize the factory automotive wiring harness to make your CAN terminations

Listed below are the known supported ECUs and their connection locations:

Series 4 Rx7 FC3S
CAN H = Pin 1A
CAN L = Pin 1B

Series 5 Rx7 FC3S
CAN H = Pin 4P
CAN L = Pin 4O

Series 6 Rx7 FD3S
CAN H = Pin 2G
CAN L = Pin 2E

Series 7/8 Rx7 FD3S
CAN H = Pin 3F
CAN L = Pin 3E

Series 1 Mazda Rx8
CAN 2 H = Pin 5AH
CAN 2 L = Pin 5AG

Note that some connector locations may not be populated with pins and will need to have pins terminated to the pig tail.

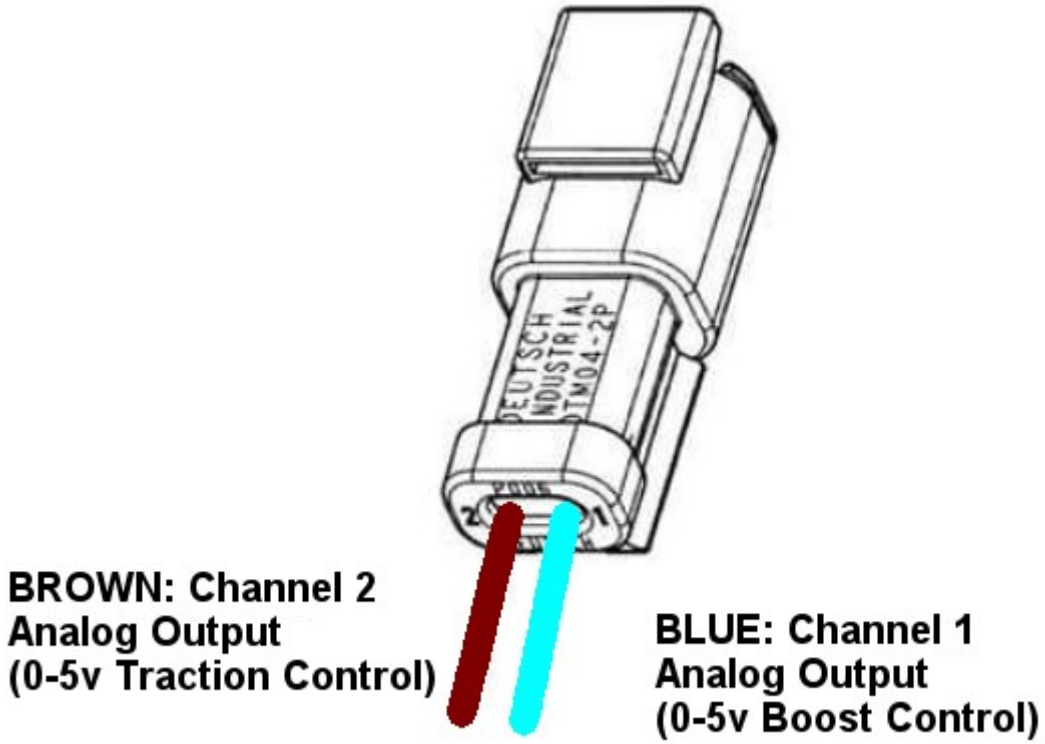
RX 7 pins: *not yet determined*

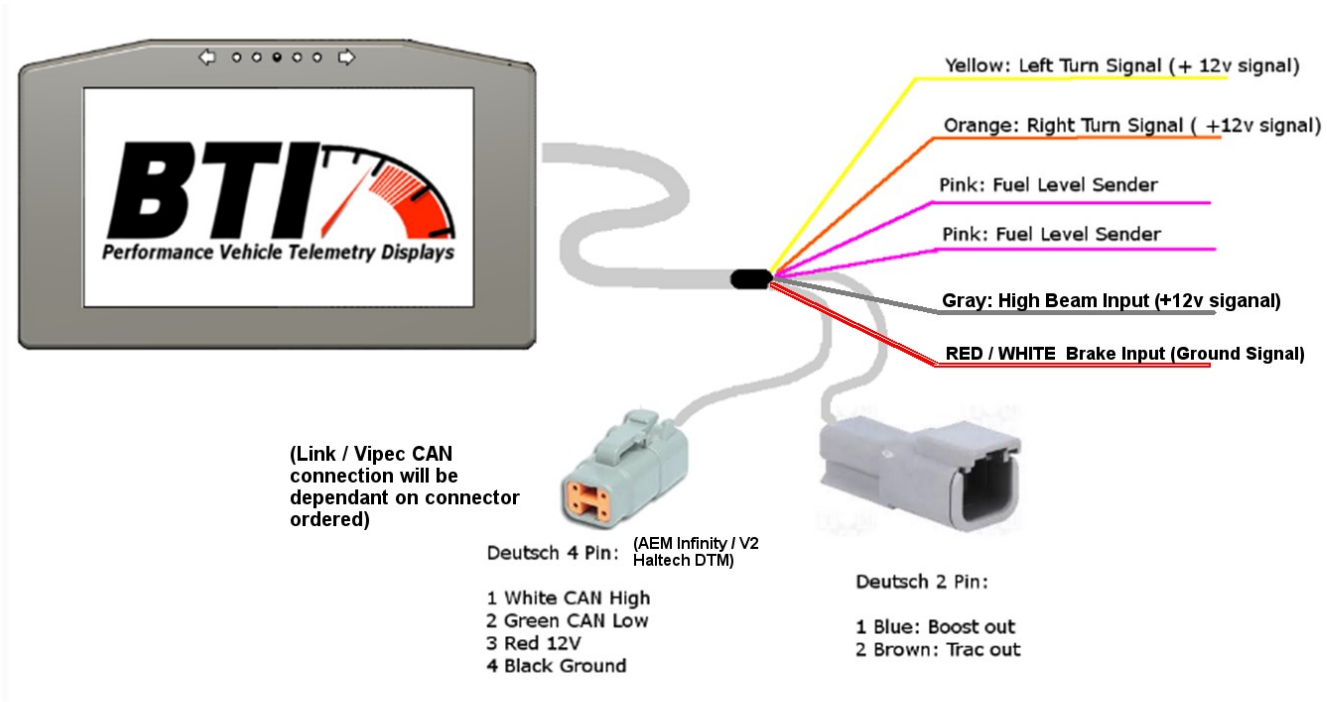
RX 8 pins: TE Connectivity 316836-1

## 2 Pin Analog Out Connector (Brown and Blue Wires)

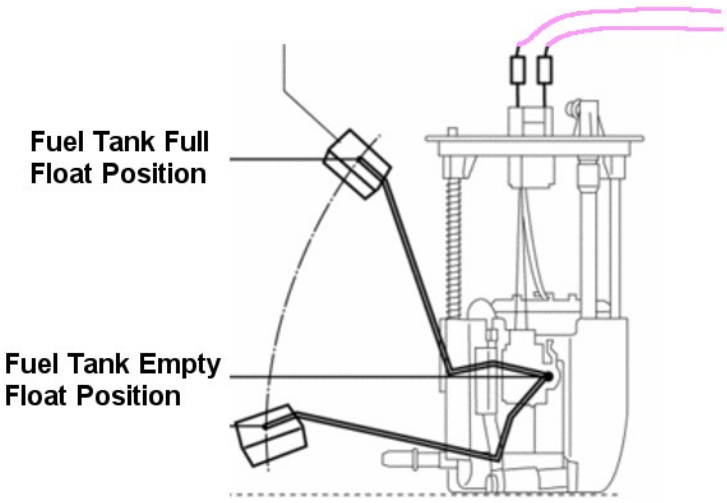
The termination of these two wires is dependent on the inputs that are assigned in your ECU tuner software. The analog outputs are low current 0-5 volt outputs that may be read into your ECU's analog inputs and used to control boost level and slip control. Please note that it is imperative that precautions are taken to prevent over-boosting your engine or an improper slip configuration.

The Input used will be defined here. Connect the blue and brown wires to the corresponding inputs that are selected for your application. There are more details regarding this under "BOOST and PWM STEPS" below.

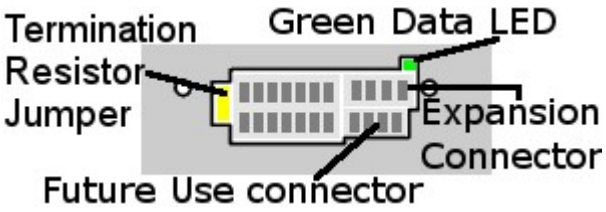





Warning! Ensure that Fuel Level Leads are only connected to the sending unit. Disconnect the sending unit form all other connections including the OEM gauge or ECU!

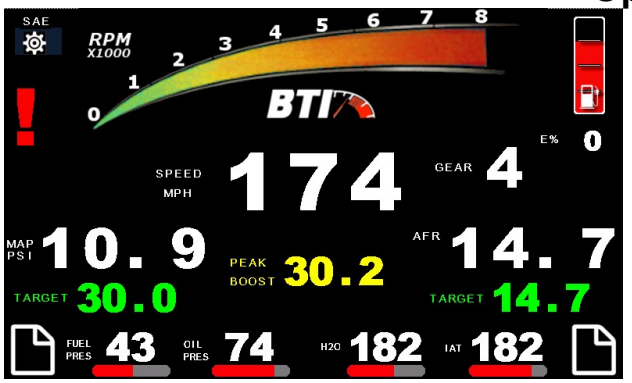



Terminate the Pink wires to the Fuel Tank sending unit. The Sending unit must be isolated from ground or power within the car (just like taking a resistancemeasurementwith a multi-meter) There is no polarity on the pink wires. Consult the vehicle manual to determine the proper wiring. When in doubt, always take your vehicle to a trained professional.



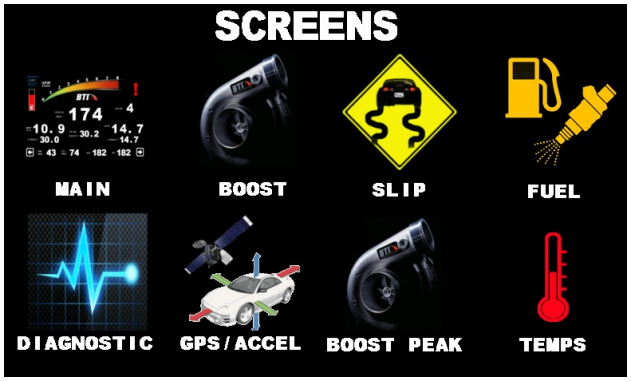
Data LED:  (back of the dash) This indicator will flash when ever the gauge is energized and CAN communications are present.  Use this to confirm communications.

## Operation:



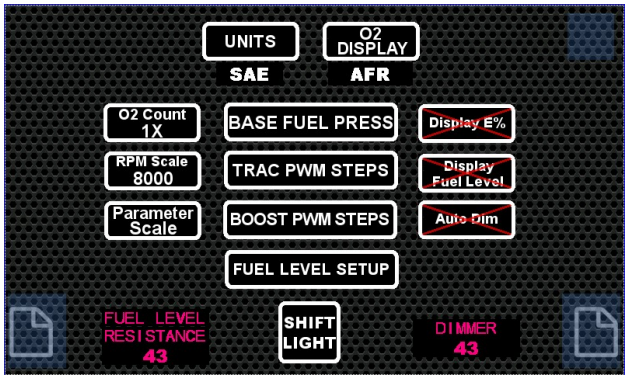

Upon powering up a properly terminated gauge, the Dash will display the interface and version number,
There are two page menu selection buttons at the bottom corner of all operational screens.

Use this button to ass the page menu:



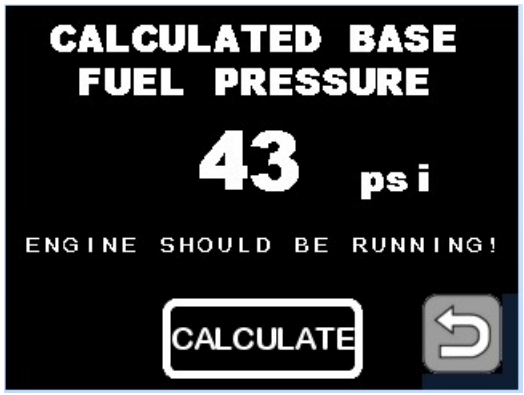

Select the corresponding screen that you wish to view.
**Parameter Data Color:**  The Parameters will be shown in White, Green, Yellow, and Blue.
White: Live Data
Green: Target
Yellow: Peak data ( can be reset by touching value in most instances with exception to boost which records its peak by boost episode)
Blue Data:  This only appears on the Peak Boost Freeze Frame screen.  This is freeze-frame data from the last boost episode.  Example:  your  Manifold Air Pressure goes up to 20 psi, the blue freeze-frame data will be recorded while the Manifold Air Pressure was at its peak.

## Dash Setup Options:



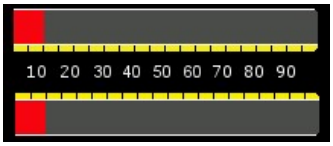

Touch the cog wheel on the touch screen in order to configure the gauge. 
This will bring you into a screen where the Units may be selected, the settings can be accessed, and the shift light may be setup.
The Units button will allow the user to toggle between SAE and SI units.  This

applies to temperature, pressure, speed and distance. The O2 Display button will change how the Oxygen sensor data is displayed. The options are AFR and Lambda.




**Base Fuel Pressure configuration**:

In order to calculate the base fuel pressure, the engine should be idling. Press the CALCULATE button and the base pressure will be calculated and displayed. This is used on the fuel screen in order to graph the fuel pressure vs. boost pressure for simple regulator function verification.

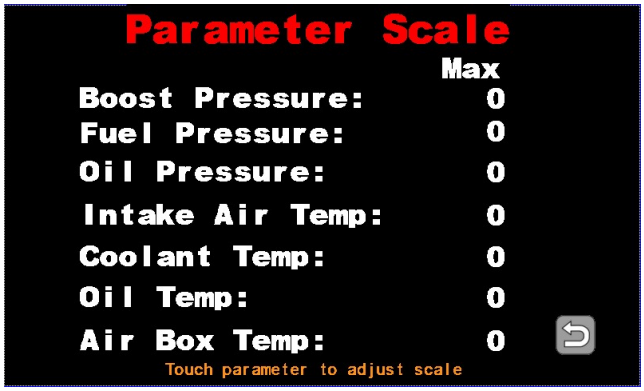




**Fuel Level Setup:** This is where the fuel level resistance may be programmed in order to take a reading from the fuel level sender. Consult the service manual for the fuel level resistance values.

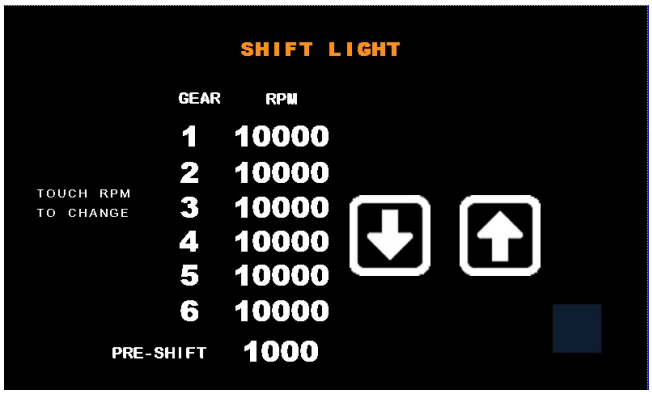
*Example: MKIV Toyota Supra Full = 4 ohms / Empty = 107 ohms.*


**TRAC and BOOST PWM Steps:**
Use these two buttons to configure how many steps are to be programmed in the Infinity Tuner software for Boost and Slip. Typically the scale is from 0-5 volts and the max amount of steps allowed is 7 which give you 8 settings (0-7). Example: a value of 7 here would make each step would have a value of .71 volts. A value of 1 here would give the step a value of 5 volts. It is **imperative** to view each step in the infinity tuner software when configuring this as there could be a potential difference with regard to ground.




**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.

**O2 Count 1X (2x)** Use this to display 1 or 2 wideband sensor readings.
**RPM Scale** This button switches the RPM scale from 8K RPM to 10K rpm.
**Display E%** This button adds or removes ethanol content on the screen.
**Fuel Level** This button adds or removes the fuel level gauge on the screen.
**Auto Dim** This button enables and disables the auto dim feature.
**Warnings** Use this to disable the warnings generated by the ECU. * (not all ECUs generate warnings over CAN)




**Shift Light Configuration:**
Touch the gear that you wish to change the shift light
RPM on. That gear number will appear above the up and down arrows for verification. Use the up and down arrows to adjust the shift light RPM set-point of said gear. Press the back arrow button at the bottom right hand corner to save the settings. PRE-SHIFT will fade the outside orange LEDs in the value less than the assigned RPM per gear. The shift light should flash once the settings are saved.

**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.