www.btigauges.com

CAN Bus Gauge for ECU Master
Installation Manual
Doc version 2.4
**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.

Software Configuration:

The ECU Master software must be configured in order for the BTI CAN gauge to function. The configuration only requires a few steps:

1. Open the client software and expand the "Ext. port" directory. Click on "General" and make sure that "Device" is set to "CAN-Bus", "CAN-Bus speed" is set to "1 Mbps", and "Send EMU data over CAN-Bus" is checked.
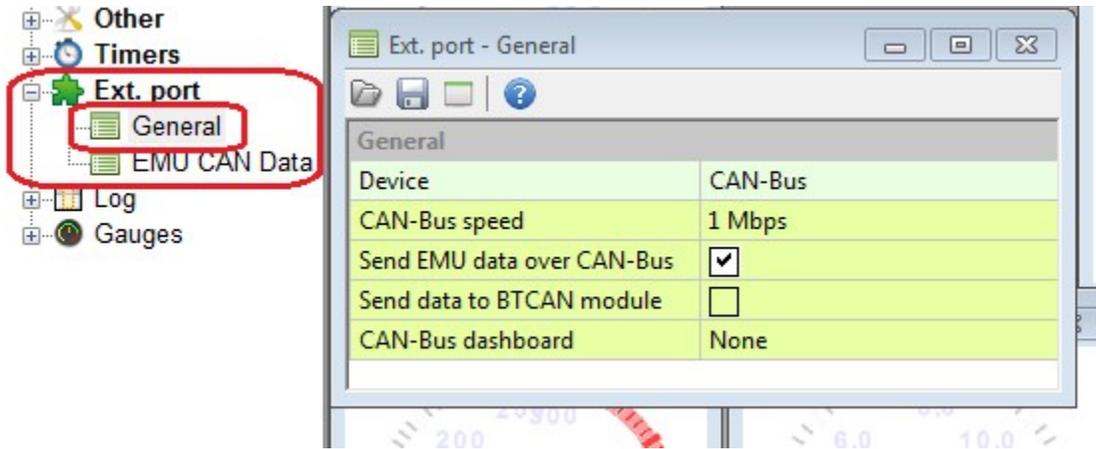
2. Open the "EMU CAN Data in the "Ext. port" directory and ensure that the "EMU CAN Data" has the following address listed:
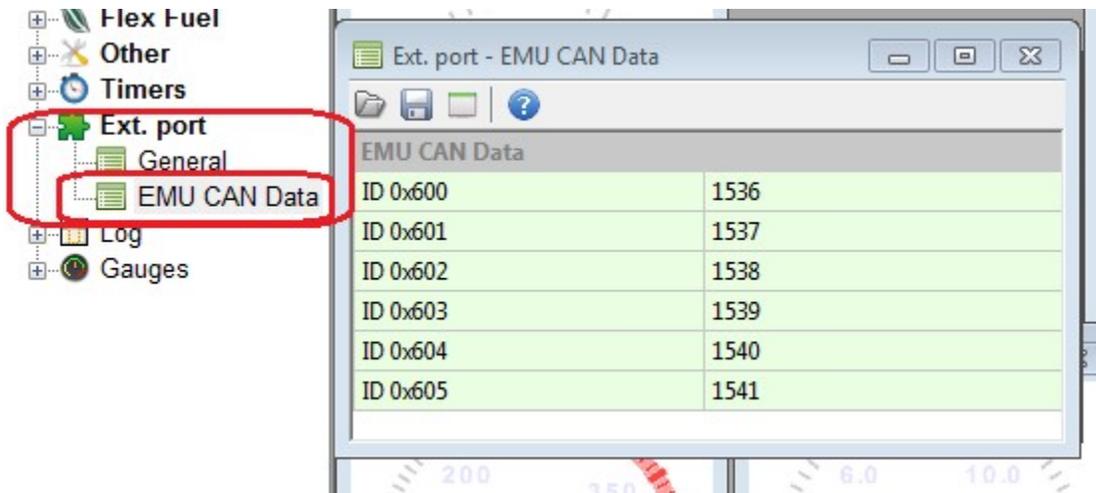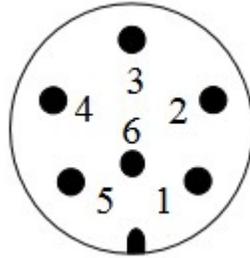
Termination:

The ECU Master Classic ECU does require that you have the CAN Expansion module in order to have access to the CAN bus communication feature.

Connect Pin 1 on the Module to the GREEN wire on the harness.
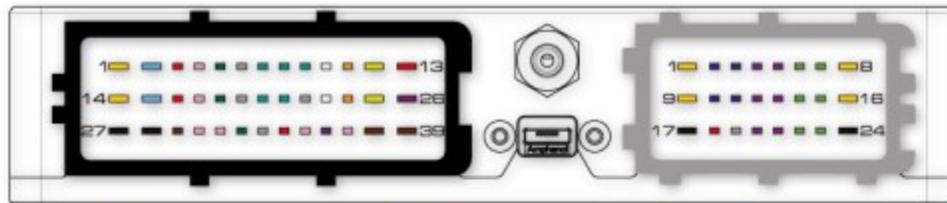Connect Pin 5 on the Module to the WHITE wire on the harness
The red wire on the BTI gauge harness should be tied to ignition +12 Volts while the black wire should be tied to ground.

1 – CAN L
5 – CAN H

ECU Master Black Termination

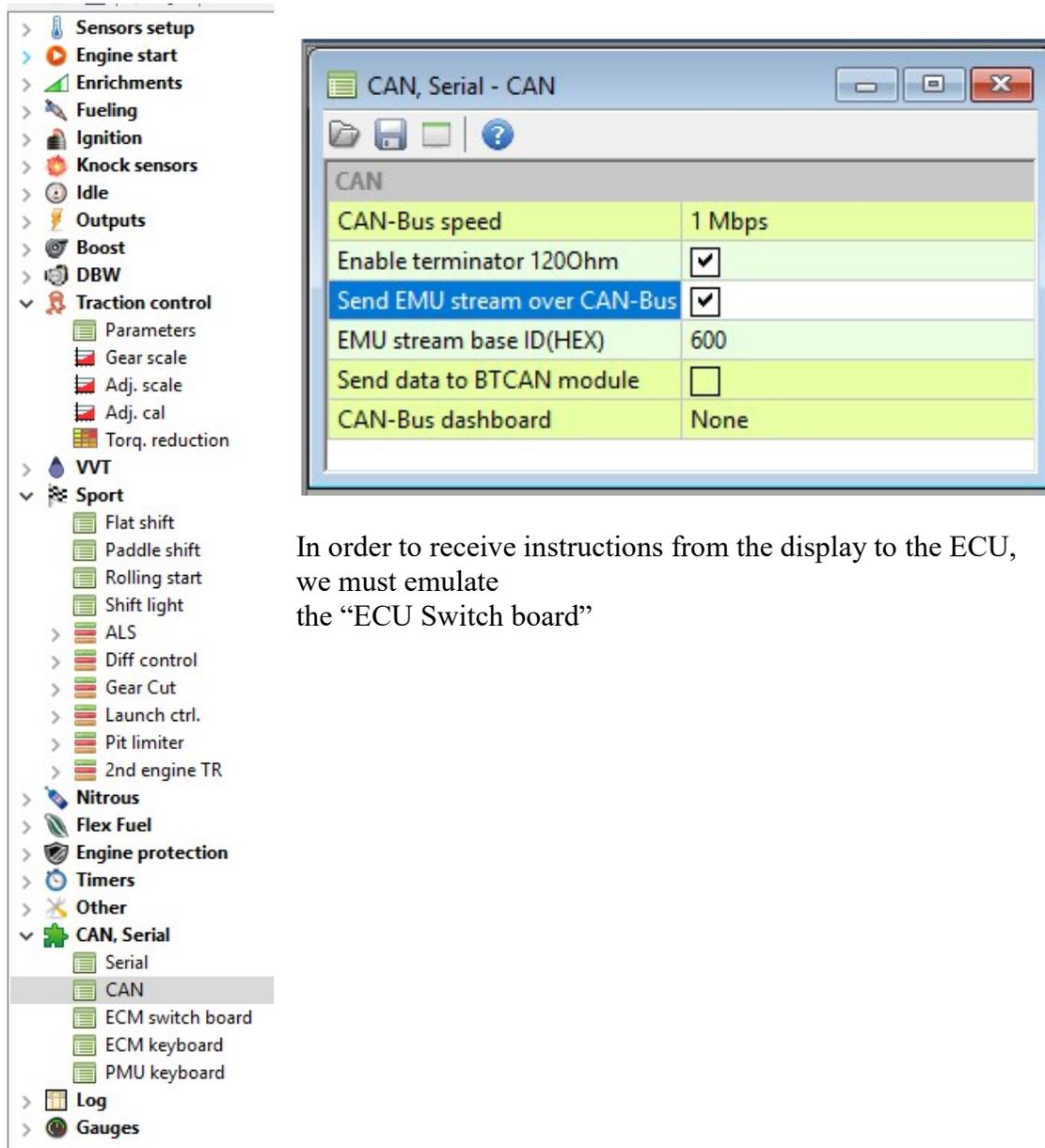|							
1	Ignition coil #5	14	Ignition coil #4	27	Power Ground
2	EGT in #1	15	EGT in #2	28	Ecu Ground
3	Knock Sensor in #1	16	Knock Sensor in #2	29	Sensor Ground
4	Analog In #2	17	Analog In #3	30	Analog In #4
5	CLT In	18	TPS In	31	Analog In #1
6	WBO Vs	19	WBO Ip	32	IAT In
7	Camsync In #2	20	VSS In	33	WBO VGND
8	Primary trigger	21	Camsync In #1	34	+5V supply
9	Flex Fuel In	22	WBO Rcal	35	Analog In #5
10	Switch #1 In	23	Switch #2 In	36	Switch #3 In
11	RS232 TXD	24	RS232 RXD	37	Analog In #6
12	CAN H	25	CAN L	38	Sensor Ground
13	Constant +12V	26	+5V supply	39	Sensor Ground

Wire the White wire (CAN high) to pin 12 on the 39 pin connector.
Wire the Green wire (CAN low) to pin 25 on the 39 pin connector. The Black wire will need to be tied to chassis ground and the Red wire will need to be tied to an ignition source that has power only when the ignition is energized.

ECU Master Black Software Configuration

Navigate to the CAN configuration and double click to begin the CAN configuration. Once you are in the CAN configuration, select the following:

In order to receive instructions from the display to the ECU, we must emulate
the "ECU Switch board"

Gauge Back

Mounting Bracket (Please note that the bracket holes have an offset. Make sure to align the holes to where the bracket does not cover the wiring harness.

Data LED

Can Bus Termination Jumper

White / CAN High Out

Green / CAN Low Out

Red / 12V

Black / Ground to chasis ground

Black / Ground

Black / Ground

Red / 12V

Red / 12V ignition wire energized when the ignition is on

Green / CAN Low IN

White / CAN High IN

Note the dual 4 pin connectors on the rear of the gauge: Either port can be used for power and data in or out to another gauge.

(Expansion cables can be purchased from www.btigauges.com or your BTI dealer)

Only the last gauge in a multi-gauge configuration should have the termination jumper installed.

Data LED: This indicator will flash when ever 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 stand alone installation and there is nothing else on the CAN Bus.

Operation:

Upon powering up a properly terminated gauge, the Gauge will display the interface and version number,

The gauge will then display a splash screen if one is programmed.

Following the splash screen, the gauge will display the first screen. (This screen usually has a parameter assigned from testing the gauge after manufacturing)
The remaining 11 screens will display the following message:

"No parameter selected for screen # 1-12"

Use the Left or Right buttons to scroll through the 12 screens.
Use the center button to enter the screen configuration.
Once in the screen configuration, use the Left or Right buttons to scroll to the desired parameter or compound parameters that you wish to assign to the selected screen number. After the desired parameter or parameters have been selected, use the Center button to complete the screen assignment.
When the gauge is powered off, the last screen that was used for more than 60 seconds will be the next screen displayed when power is reapplied to the gauge.

Shift Light Configuration:
Press and hold the left button after energizing the gauge until the shift light configuration screen appears. The menu will prompt you to enter an RPM number for each gear (1-5). Use the left and right button to increment or decrement the RPM value. Use the center button to save the value for each gear. The shift light will flash once the setup is complete.

Gauge Setup Options:
Press and hold the right button after energizing the gauge until the setup appears. The first option is for the display update rate. This value can be set from 0 – 200 milliseconds. Use the left and right buttons to adjust accordingly. Use the center button to accept the Update Rate value. You will then be prompted to enable or disable the peak hold screens. This applies only to single parameter screens and does not affect the Boost, Slip, or Knock screens which always display peak values when ever selected.

Baud Rate Configuration: Press and hold the right button after energizing the gauge until the Baud Rate selection screen appears. Use the right and left button to select 125 Kb/s, 250 Kb/s, 500 Kb/s, and 1Mb/s. Press Accept once the desired baud rate is selected.

Peak Hold Operation:
In order to reset the peak value on the selected single parameter screen, press and hold the center button for 3 seconds until the "Reset" prompt appears.
Note that the peaks on the single parameter screens will continue to record peak values no matter what parameter you are monitoring.

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.