

Emtron CAN Gauge

USER
MANUAL

Rev 1.0



Kit Contents

When purchasing the Emtron CAN Gauge the following items are included:

- 1x Emtron CAN Gauge
- 1 x Mounting Bracket
- 2 x Mounting Bracket thumbscrews
- 1 x Unterminated standard flying loom



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1.0 Description

The Emtron CAN Gauge by Gauge ART is a compact 52mm OLED gauge that connects to all Emtron ECU's to display real-time data from CAN broadcasts. It is also compatible with aftermarket and factory ECU's.

The gauge is wirelessly configurable using an Android or Apple iOS mobile device through wifi. Gauge channels, bar graphs, warning points, and custom gauge labels can be configured using the "Gauge ART CAN Gauge App".

2.0 Specification

Emtron CAN Gauge main features summarised:

- 52mm display
- Configurable low and high warnings
- Day / Night dimming
- Wireless wifi configuration
- Connect more than one unit
- Runtime channel names user definable
- User defined channels can be displayed
- OLED Display
- 1,2 or 4 channel gauge layouts available
- Up to 10 different pages available

Inputs

- 1x CAN bus

Operating Temperature

- Operating Temperature Range: -30 to 85°C (-22 to 185°F)

3.0 Requirements

3.1 Compatible ECU:

All Emtron ECU's are compatible

Most common ECU's are compatible including:

Adaptronic

AEM EMS 4

AEM EMS Series 2

AEM Infinity

Factory CAN OEM (Requires OBD Link)

Hondata KPro4 / S300

Link G4+

MaxxECU

Megasquirt MS3

Motec M1 Series

ProEFI

Syvecs S6, S6+, S8

Vipec

Wolf EMS

3.2 Smartphone or Tablet:

Smartphone or tablet with Apple iOS or Android v4.4 or later.

3.3 ECU Terminals, Connector, & Installation tools:

The Emtron CAN Gauge includes an unterminated flying loom that will require connection to a power source and the ECU CAN bus.

4.0 Wiring

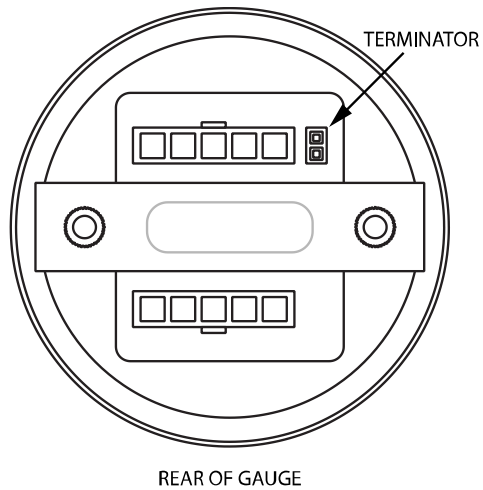
4.1 CAN Gauge Wiring

Wire	Function
Red	14 V Supply
Black	Ground
Orange	14 V Illumination
White	CAN Hi
Green	CAN Lo

Table 4.1. CAN Gauge Wiring

4.2 CAN Bus Wiring

The CAN Gauge includes a user-configurable 120 ohm terminating resistor jumper. The resistor is enabled when the jumper is in place.



CAN bus wiring precautions

- CAN Bus High and Low are differential signals, so twisted pair **MUST** be used. Failing to do so will compromise the entire CAN Bus System.
- In some extreme environments, shielded twisted pair may be required to help with reliability and data integrity.
- The less connectors in any transmission system the better. Unnecessary connectors are almost guaranteed to present an impedance discontinuity and hence may cause reflections and data loss.
- CAN Bus termination must be done correctly by using a 120 ohm 0.25W resistor at each END of the bus system.
- Maximum Stub length to a device from the main Bus is recommended at 0.3m, in accordance with High-Speed ISO 11898 Standard specification. See Figure 3.3.

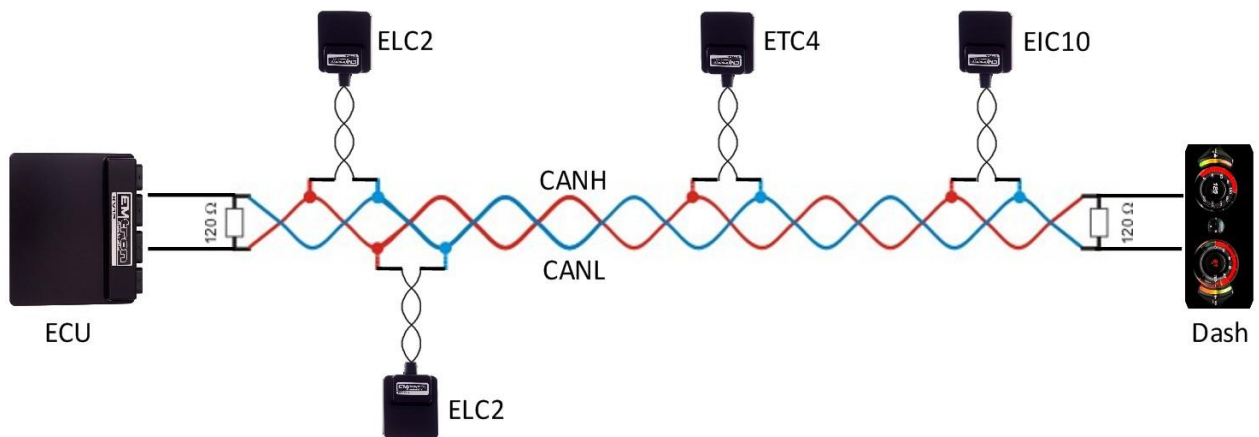


Figure 4.1. CAN Bus Wiring Example. ECU and Dash at each end with 120 Ohm Termination

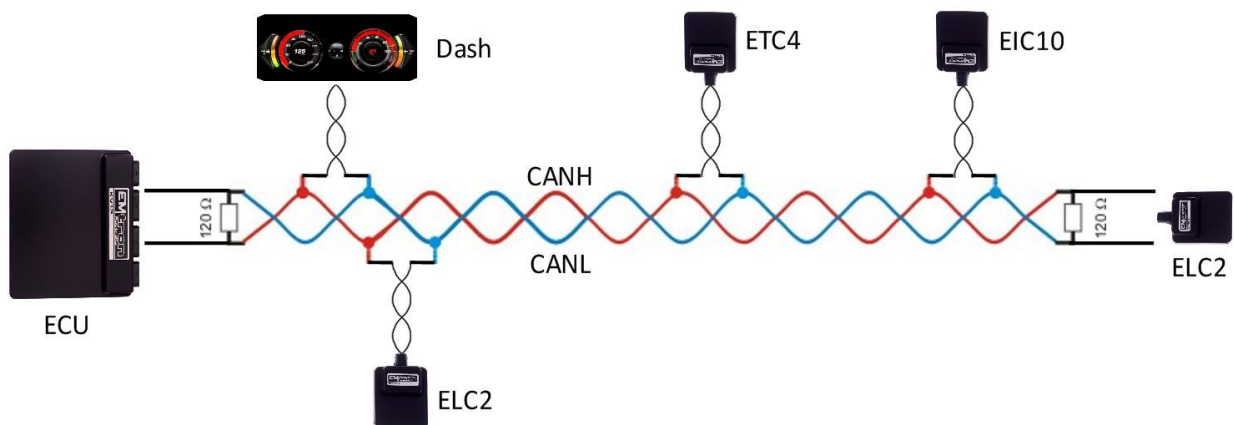


Figure 4.2. CAN Bus Wiring Example. ECU and ELC2 at each end with 120 Ohm Termination

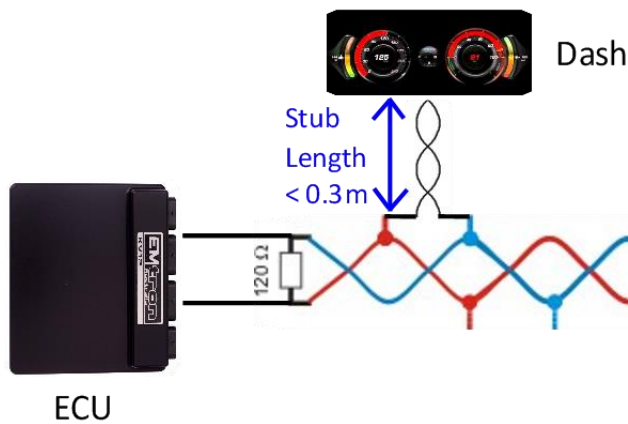


Figure 4.3. CAN Bus Wiring Example. Stub Length less than 0.3m

4.3 Illumination Signal Wiring

The CAN Gauge can dim illumination during night when the parking lights are on. Using the factory service manual, find a wire in the interior that switches to +12V power when the parking lights are on. Verify with a voltmeter or test light that the wire receives +12V when the parking lights are turned on.

Note that many vehicles have an illumination switched connector in the interior fuse box.

5.0 Gauge ART Application

Search “gaugeART” and download the gaugeART CAN Gauge App from your device’s app store.

If you have two gauges – remove one of the gauges from power – program one gauge at a time.

Turn on your ignition to turn on CAN Gauge. The welcome screen will be shown.

Connect to the gauge via Wi-Fi by tapping on settings > Wi-Fi.

Tap on gaugeART and enter the default password “12345678”. Allow the gauge to connect. If prompted with a message that internet is not available with this device, tap ok.

You may now open the gaugeART CAN Gauge App.

5.1 Create Configuration

Tap Create Configuration. Select ECU type and tap Next.

The gaugeART CAN Gauge allows you to create up to 10 pages of gauge layouts in 1, 2, or 4 gauge layouts. Tap the centre of the screen for Gauge Screen Setup. On this screen, select a channel, configure graph range, update speed, warnings, and gauge labels (e.g. rename “MAP” to “BOOST”).

Tap Previous Page to return. Tap the left side to change the configuration between 1, 2, or 4 gauge layout.



Figure 5.1

Tap Next Page to add a new page or delete to remove a page.

5.2 Save & Send Configuration

Tap the icon in the top right and tap Save.

Enter a name under “Enter Save File Name” and tap Save.

To program, tap Send Configuration. The gauge will be programmed and will show your configuration. Programming takes anywhere from 10-60 seconds and will update the gauge’s firmware automatically if an update is available.

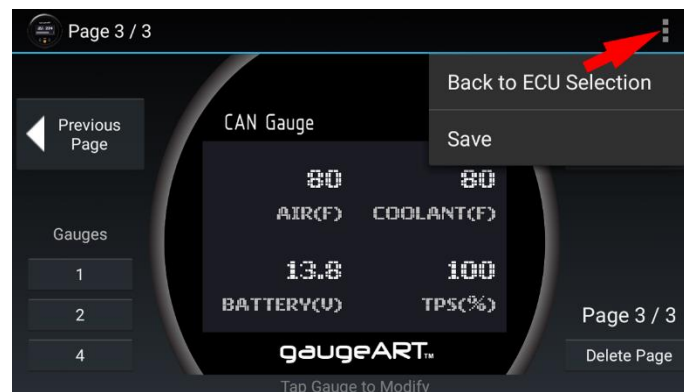


Figure 5.2

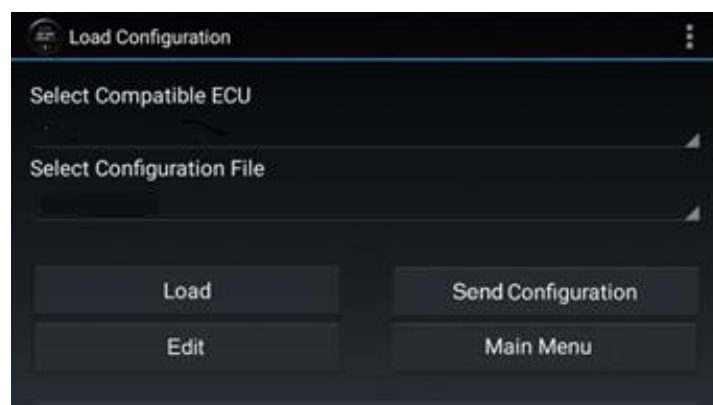
5.3 Load Configuration

Select “Emtron”.

Previously saved files will be shown in the second drop down. Click load to open the file.

To Edit your saved configuration, tap edit once loaded.

To program, tap Send Configuration.



6.0 Emtune Settings

Ensure the ECU firmware Version is 2.17.0. If using earlier firmware versions, the display may still be operational however some functionality and channels will not be available.

Make sure the ECU is powered up and is Online in Emtune.

Goto Config View->Communications->CAN Bus 1->CAN Bus 1 Setup->CAN 1 Baud Rate and set to 1Mbps.

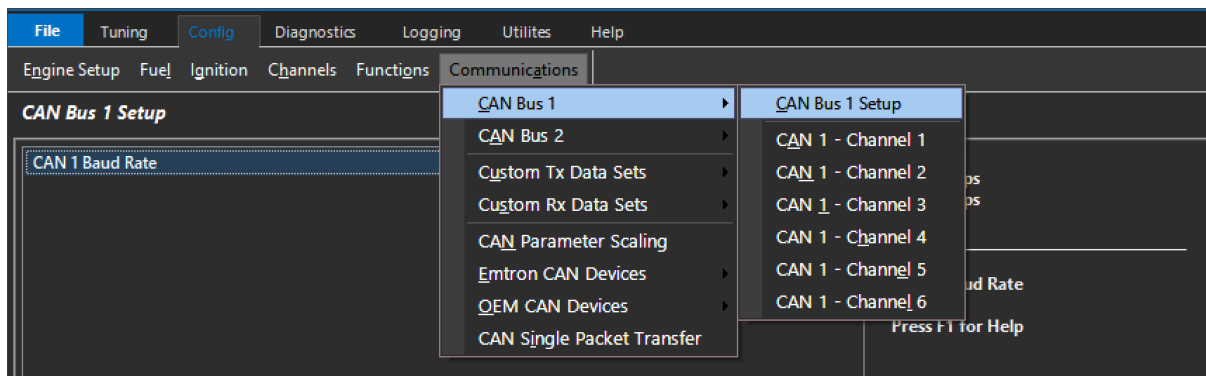


Figure 6.1 CAN Bus 1 Setup

Open the first available Channel. If there is nothing else already configured on the CAN bus then CAN 1 Channel 1 would be the first available channel. If this channel is already used, then simply select a channel that is free. The CAN 1 channel number selection will have no effect on the operation

Set CAN 1 – Channel 1 as per figure 6.2

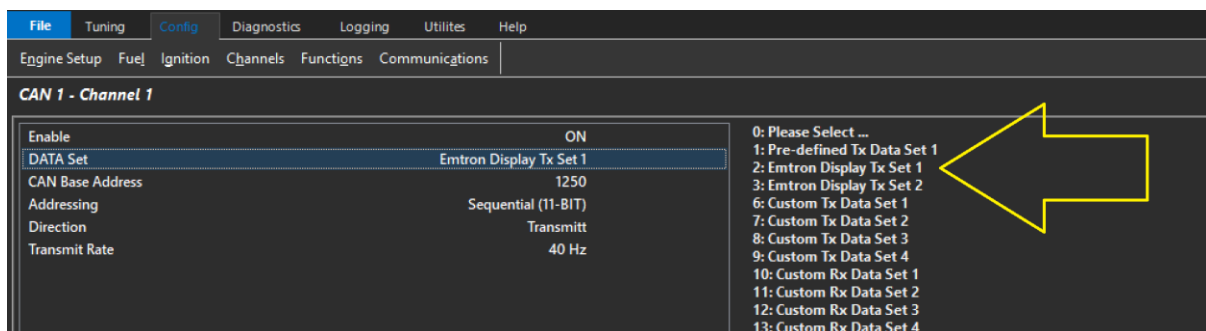


Figure 6.2 CAN 1 Channel 1 Setup menu

Store setting changes permanently in the ECU by pressing F4.

Switch power OFF and ON to the ECU to ensure the updated CAN bus settings have been initialised.

The Can Gauge should now be receiving and displaying live runtimes.

7.0 Ordering Information

Product	Part Number
Emtron CAN Gauge	537-711

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(See the www for contact information)

www.emtron.world

www.emtronaustralia.com.au