

## CAN-Bluetooth Converter

P/N: AX141150

**CAN-Bluetooth Gateway transfers wireless data to a PC, smartphone, display or tablet.**

### Features:

- CAN bus (SAE J1939)
- Configurable baud rate
- Bluetooth (Classic & BLE)
- 164 ft. range
- 6-80Vdc (12V, 24V or 48Vdc nominal) with load dump
- - 30 to +85°C
- IP67
- Compact, ultrasonic welded enclosure
- 6-pin TE Deutsch type connector
- CE marking
- Vibration and shock compliance for off-highway applications
- Configurable via CAN2BT Configuration Android smartphone application or an Apple iOS application.
- Can be used with BT MAP Tool Android smartphone application to configure many Axiomatic devices
- The CAN-Bluetooth gateway can be accessed also using both Android and Apple phones or tablets.



### Ordering Part Numbers:

SAE J1939 CAN-Bluetooth Gateway for both Android and Apple:  
250 kbps baud rate SAE J1939: **AX141150**  
500 kbps baud rate SAE J1939: **AX141150-01**  
1 Mbps baud rate SAE J1939: **AX141150-02**

### Accessories:

**CAN2BT Configuration** Android smartphone application is available from Google Play.

Apple iOS application – Contact Axiomatic.  
Electronic Assistant **AX070502**

The CAN-Bluetooth Converter, AX141150, can access the configuration setpoints of other Axiomatic CAN devices connected to the CAN bus. The Android app for this is called the **BT MAP Tool** Android smartphone application, available from Google Play.

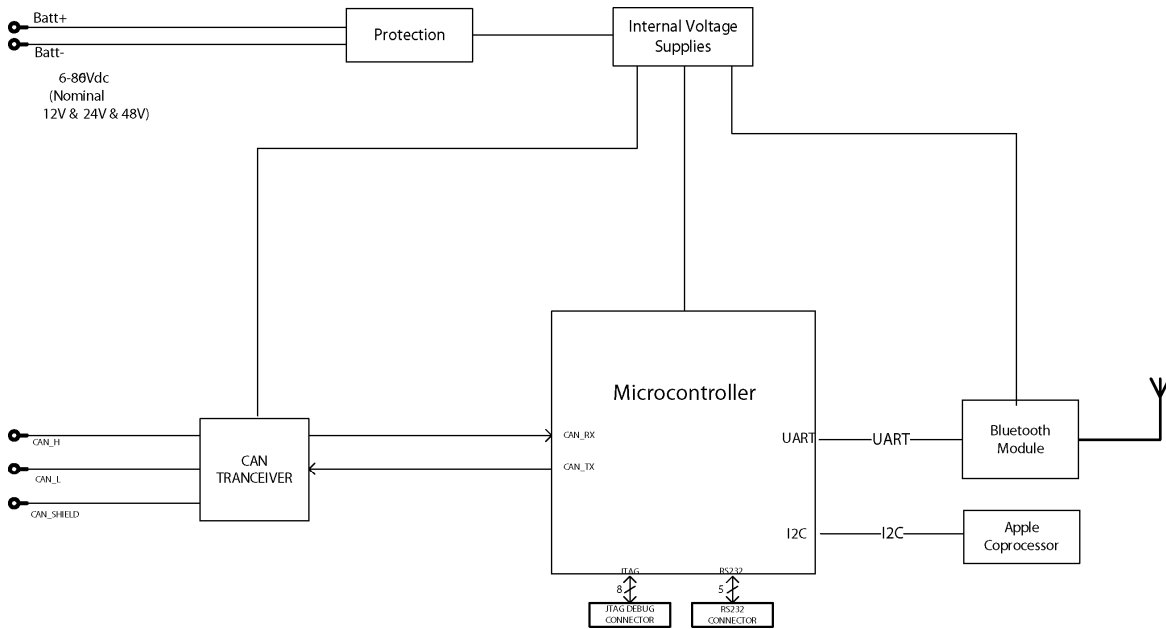
**AX070119** Mating Plug Kit: Mating Plug Kit (1 DT06-6S, 1 W6S, 6 0462-201-16141)

**Description:** The CAN-Bluetooth Converter transfers wireless data to a PC, smartphone, display or tablet. The setpoints are configurable using the **CAN2BT Configuration** Android smartphone application or an Apple iOS application. It has rugged packaging and performance for IP67, high vibration and off-highway machine environments. SAE J1939 is the CAN bus protocol; however, the CAN-Bluetooth Converter also handles CAN frames with standard ID's. The gateway has a configurable baud rate.

The device supports both Bluetooth standards, Classic and Low Energy (BLE), However, the BLE access is targeted for configuration purposes only due to its limited bandwidth.

The CAN-Bluetooth devices can be used as a pair for creating a bridge for CAN data. The bridge is always created using Classic Bluetooth for high data throughput.

**Block Diagram:**



**Technical Specifications:**

Power Supply Input - Nominal	12Vdc, 24Vdc or 48Vdc nominal (6...80 VDC power supply range) Load dump protection is provided.
Protection	Reverse polarity protection is provided. Overvoltage protection up to 88V is provided.
CAN	SAE J1939 CAN bus configuration allows changing the CAN interface baudrate. The list of available baudrate options include 50k, 100k, 125k, 250kbps (default), 500k and 1Mbps. Please order these models. Other baud rates are on request. 250 kbps baud rate SAE J1939: <b>AX141150</b> 500 kbps baud rate SAE J1939: <b>AX141150-01</b> 1 Mbps baud rate SAE J1939: <b>AX141150-02</b>
Bluetooth	TI CC2564MODA Bluetooth® Host Controller Interface Module Bluetooth LE V4.1 compliant Dual-Mode Bluetooth V4.0 with classic Bluetooth and BLE Connection Range*: Up to 50 m (164 ft.) Operating Range*: Up to 150 m (492 ft.) @ 13 dbm (Class 1) Serial Port Profile (SPP) Internal antenna <i>*Range depends on the operating environment and actual results may vary.</i>
Microprocessor	STM32F405RGT7 32-bit, 1024 Kbit program flash
Quiescent Current	15 mA @ 24Vdc Typical
Control Logic	User programmable functionality. Refer to the User Manual.
Communications	1 CAN port (SAE J1939)

User Interface	<p>Model AX141150: CAN2BT Configuration Application is available from Google Play.  <a href="https://play.google.com/store/apps/details?id=com.axiomatic.can2btconfiguration">https://play.google.com/store/apps/details?id=com.axiomatic.can2btconfiguration</a>  <a href="https://play.google.com/store/apps/details?id=com.axiomatic.btmaptool">https://play.google.com/store/apps/details?id=com.axiomatic.btmaptool</a></p> <p>A configuration application for Apple iOS can be developed on request.</p>																
CAN User Interface	<p>Axiomatic Electronic Assistant (AX070502)  In Interface mode, the user can set SAE J1939 parameters using the EA tool.</p>																
Software Flashing	<p>New software can be flashed over the CAN bus using the EA (AX070502).</p>																
Using the AX141150 as a mapping tool for other Axiomatic CAN devices.	<p>The CAN2BT device can access the configuration setpoints of other Axiomatic CAN devices connected to the CAN bus. The Android app for this is called the BT MAP Tool, available from Google Play.</p>																
Network Termination	<p>It is necessary to terminate the network with external termination resistors. The resistors are 120 Ohm, 0.25W minimum, metal film or similar type. They should be placed between CAN_H and CAN_L terminals at both ends of the network.</p>																
Operating Conditions	<p>-30 to 85 °C (-22 to 185 °F)</p>																
Protection	<p>IP67</p>																
Weight	<p>0.15 lb. (0.06 kg)</p>																
Approvals	<p>CE marking</p>																
Vibration (Pending)	<p>MIL-STD-202G, Method 204D test condition C (Sine)  and Method 214A, test condition B (Random)  10 g peak (Sine)  7.68 Grms peak (Random)</p>																
Shock (Pending)	<p>MIL-STD-202G, Method 213B, test condition A  50g (half sine pulse, 9ms long, 8 per axis)</p>																
Enclosure	<p>Molded Enclosure, Ultrasonic welded  Nylon 6/6, 30% glass  Integral 6-pin connector  Refer to the dimensional drawing.</p>																
Electrical Connections	<p>6 pin Deutsch IPD connector P/N: DT04-6P  A mating plug kit is available as Axiomatic P/N: <b>AX070119</b>.</p> <table border="1" data-bbox="591 1045 1019 1262"> <thead> <tr> <th colspan="2">CAN and I/O Connector</th> </tr> <tr> <th>Pin #</th> <th>Description</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CAN_Shield</td> </tr> <tr> <td>2</td> <td>CAN_H</td> </tr> <tr> <td>3</td> <td>CAN_L</td> </tr> <tr> <td>4</td> <td>BATT -</td> </tr> <tr> <td>5</td> <td>BATT +</td> </tr> <tr> <td>6</td> <td>Not Used</td> </tr> </tbody> </table>	CAN and I/O Connector		Pin #	Description	1	CAN_Shield	2	CAN_H	3	CAN_L	4	BATT -	5	BATT +	6	Not Used
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Mounting	<p>Mounting holes are sized for #8 or M4 bolts. The bolt length will be determined by the end-user's mounting plate thickness. The mounting flange of the controller is 0.425 inches (10.8 mm) thick. It should be mounted with connectors facing left or right to reduce likelihood of moisture entry. All field wiring should be suitable for the operating temperature range. Install the unit with appropriate space available for servicing and for adequate wire harness access (6 inches or 15 cm) and strain relief (12 inches or 30 cm).</p>																

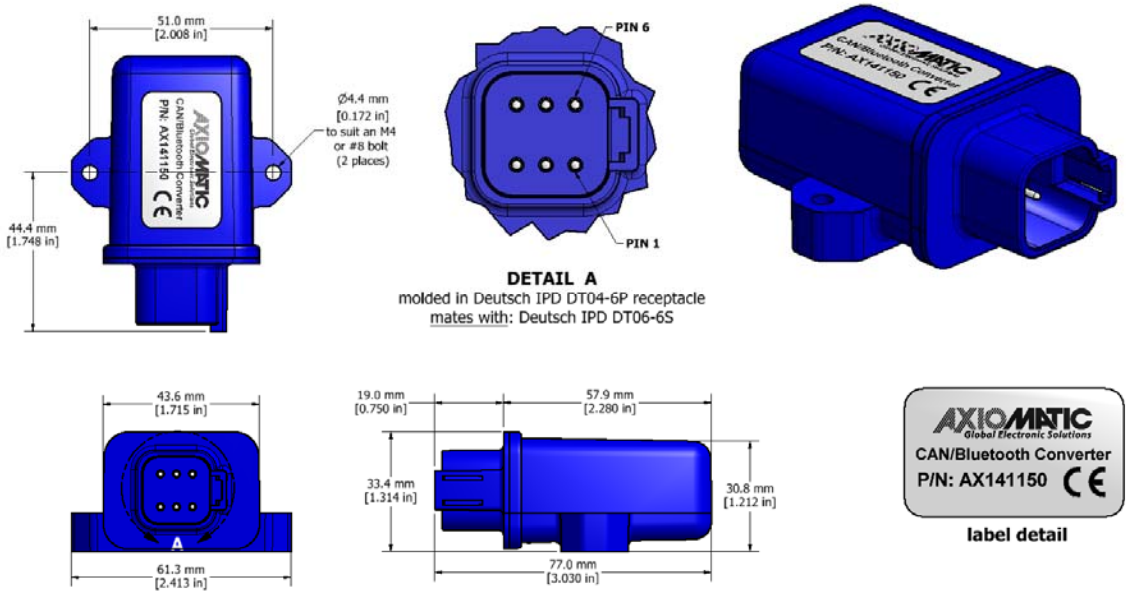


Figure 1.0. – Dimensional Drawing

Note: Bluetooth® is a registered trademark of Bluetooth SIG.

Specifications are indicative and subject to change. Actual performance will vary depending on the application and operating conditions. Users should satisfy themselves that the product is suitable for use in the intended application. All our products carry a limited warranty against defects in material and workmanship. Please refer to our Warranty, Application Approvals/Limitations and Return Materials Process as described on [www.axiomatic.com/service.html](http://www.axiomatic.com/service.html).

Form: TDAX141150-03/09/2020