

TECHNICAL DATASHEET #TDAX140510
J2497/J1939 Protocol Converter
1 Isolated CAN bus port (SAE J1939)
Power Line Communications (SAE J2497)

P/N: AX140510

Features:

- Bi-directional message conversion between SAE J2497 and SAE J1939
- The SAE J1939 Protocol defines serial control and communications in heavy duty vehicles.
- The SAE J2497 Protocol for power line communications (PLC) can be used for the following applications.
 - A bidirectional, serial communications link over the vehicle power supply line
 - Permits communication between tractors and trailers
- 1 Isolated CAN port (SAE J1939) with auto-baud-rate detection
- Operational from 9 to 32 Vdc (12 Vdc, 24 Vdc nominal)
- Configurable with the Axiomatic Electronic Assistant
- Integrated 8-pin connector (equivalent to a TE Deutsch P/N)
- Fully sealed compact enclosure with a rugged IP67 protection rating



Applications:

- Transport Vehicles, Trailers, Tractors, Military Vehicles

Ordering Part Numbers:

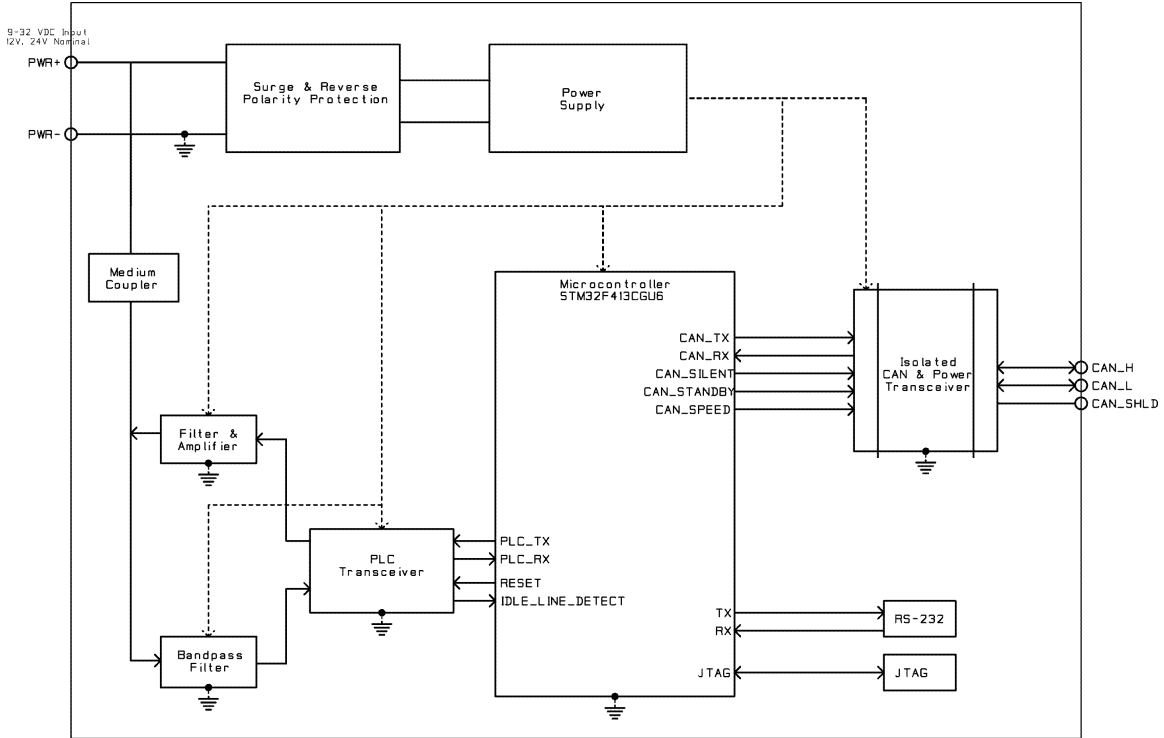
Protocol Converter, 1 SAE J1939, 1 J2497 - P/N: **AX140510**

Accessories:

Mating Plug Kit, P/N: **AX070112** (1 DT06-08SA, 1 W8S, 8 0462-201-16141, 3 114017)

Axiomatic Electronic Assistant KIT, P/Ns: **AX070502** or **AX070506K**

Block Diagram



Technical Specifications:

Specifications are typical at nominal input voltage and 25 degrees C unless otherwise specified.

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 <https://www.axiomatic.com/service/>.

Power

Power Supply Input - Nominal	12 V or 24 Vdc nominal; 9...32 Vdc The minimum allowable supply voltage for the power pin is 6 Vdc.
Surge Protection	120 Vdc
Reverse Polarity Protection	Provided

Control Logic

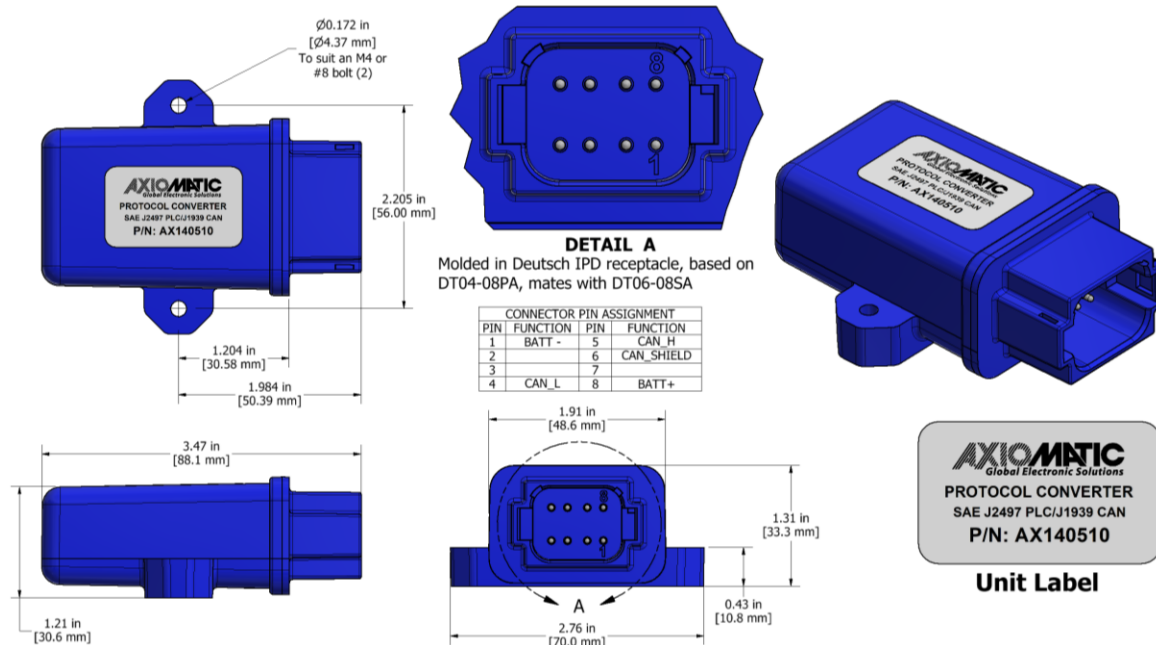
Software Platform	AX140510 implements message conversion from SAE J2497 to SAE J1939. Refer to the user manual.
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General Specifications

Memory	STM32F413CGU6 32-bit, 1 MByte Flash Program Memory
CAN Port	1 Isolated CAN 2.0B (SAE J1939 Protocol) 250kbit/s, 500kbit/s, 667kbit/s, 1Mbit/s. Automatic Baud Rate Detection
Isolation	300 Vrms
Power Line Communications	SAE J2497
Configuration	Axiomatic Electronic Assistant KIT, P/Ns: AX070502 or AX070506K
Firmware Reflashing	Axiomatic Electronic Assistant KIT, P/Ns: AX070502 or AX070506K
Quiescent Current Draw	107mA @ 12V; 65mA @ 24V Typical
Vibration	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)

Shock	MIL- STD-202G, Method 213B, test condition A 50g (half sine pulse, 9ms long, 8 per axis)
Operating Conditions	-40 to 65°C (-40 to 149°F)
Storage Temperature	-55 to 85°C (-67 to 185°F)
Compliance	RoHS
Enclosure and Dimensions	Molded Enclosure, integral connector Nylon 6/6, 30% glass, ultrasonically welded 3.47 x 2.75 x 1.31 inches (88.2 x 70.0 x 33.3 mm) L x W x H including integral connector Refer to the dimensional drawing.

Dimensional Drawing



Electrical Connections	<p>Integral 8-pin receptacle (equivalent TE Deutsch P/N: DT04-08PA) 18 AWG wire is recommended for use with contacts 0462-201-16141.</p> <p>A mating plug kit is available. Ordering P/N: AX070112 is comprised of 1 DT06-08SA, 1 W8S, 8 0462-201-16141, and 3 114017.</p> <table border="1"> <thead> <tr> <th>Pin #</th> <th>Function</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>BATT -</td> </tr> <tr> <td>2</td> <td>Not Used</td> </tr> <tr> <td>3</td> <td>Not Used</td> </tr> <tr> <td>4</td> <td>CAN_L</td> </tr> <tr> <td>5</td> <td>CAN_H</td> </tr> <tr> <td>6</td> <td>CAN_SH</td> </tr> <tr> <td>7</td> <td>Not Used</td> </tr> <tr> <td>8</td> <td>BATT +</td> </tr> </tbody> </table>	Pin #	Function	1	BATT -	2	Not Used	3	Not Used	4	CAN_L	5	CAN_H	6	CAN_SH	7	Not Used	8	BATT +
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Weight	0.15 lb. (0.068 kg)																		
Protection Rating	IP67																		
Installation	<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>																		

Form: TDAX140510-01/23/2024