Preliminary

TECHNICAL DATASHEET #TDAX140501

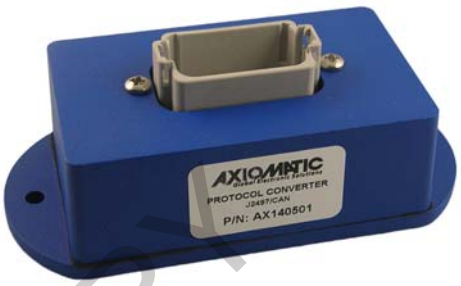
J2497/CAN Protocol Converter

1 Isolated CAN bus port (SAE J1939)
Power Line Communications (SAE J2497)

P/N: AX140501

Features:

- Implements Haldex ABS ECU diagnostic message conversion from SAE J2497 to 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 (CAN 2.0B)
- Operational from 9 to 32 Vdc (12 Vdc, 24 Vdc nominal)
- Integrated Deutsch IPD 12-pin connector
- Fully sealed enclosure with a rugged IP67 protection rating
- Compact size



Applications:

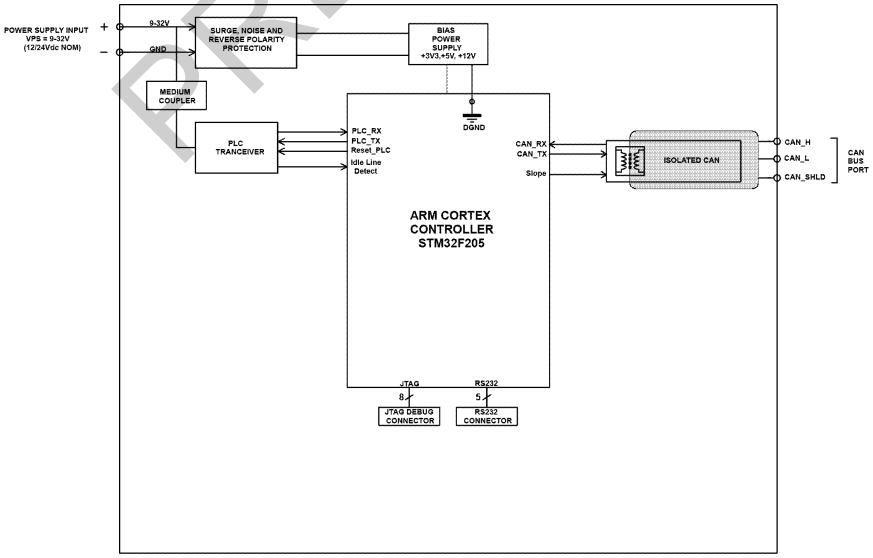
- Transport Vehicles, Trailers, Tractors, Military Vehicles

Ordering Part Numbers:

Protocol Converter, 1 SAE J1939, 1 J2497 - P/N: **AX140501**

Accessories:
Mating Plug KIT (DT06-12SA, W12S, 12 0462-201-16141 contacts, 3 sealing plugs) P/N: **AX070105**

BLOCK DIAGRAM



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Technical Specifications:

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

Power

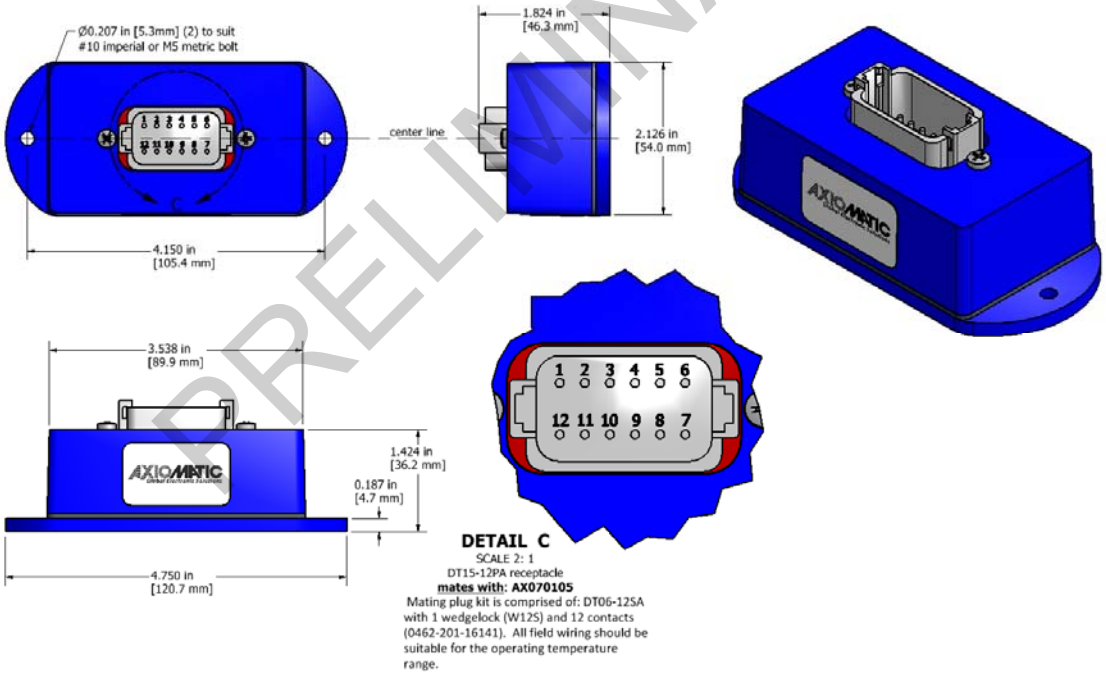
Power Supply Input - Nominal	12 V or 24 Vdc nominal; 9…32 Vdc The minimum allowable supply voltage for the power pin is 6 Vdc.
Surge Protection	120 Vdc
Reverse Polarity Protection	Provided

Control Software

Software Platform	AX140501 implements Haldex ABS ECU diagnostic message conversion from SAE J2497 to SAE J1939.

General Specifications

Memory	STM32F205 32-bit, 512 Kbytes Flash Program Memory
CAN Port	1 Isolated CAN 2.0B (SAE J1939 Protocol)
Isolation	300 Vrms
Power Line Communications	SAE J2497
Firmware Reflashing	Use the Electronic Assistant® P/N: **AX070502**
Quiescent Current Draw	Contact Axiomatic.
Operating Conditions	-40 to 85°C (-40 to 185°F)
Storage Temperature	-55 to 85°C (-67 to 185°F)
Enclosure and Dimensions	Aluminum enclosure, Integral Deutsch IPD connector, Encapsulation Refer to dimensional drawing (below).



<table>
<tr><td>Electrical Connections</td><td>12 pin Deutsch IPD connector P/N: DT15-12PA
A mating plug kit is available as Axiomatic P/N: AX070105.

<table>
<tr><th colspan="2">CAN and I/O Connector</th></tr>
<tr><th>Pin #</th><th>Description</th></tr>
<tr><td>1</td><td>BATT-</td></tr>
<tr><td>2</td><td>Frame GND</td></tr>
<tr><td>3</td><td>Not Used</td></tr>
<tr><td>4</td><td>Not Used</td></tr>
<tr><td>5</td><td>Not Used</td></tr>
<tr><td>6</td><td>Not Used</td></tr>
<tr><td>7</td><td>CAN1_H</td></tr>
<tr><td>8</td><td>CAN1_L</td></tr>
<tr><td>9</td><td>CAN1_SH</td></tr>
<tr><td>10</td><td>Not Used</td></tr>
<tr><td>11</td><td>Not Used</td></tr>
<tr><td>12</td><td>BATT+/PLC</td></tr>
</table></td></tr>
<tr><td>Weight</td><td>0.70 lb. (0.32 kg)</td></tr>
<tr><td>Protection Rating</td><td>IP67; Unit is encapsulated within the housing.</td></tr>
<tr><td>Installation</td><td>Mounting holes sized for #10 or M4.5 bolts. The bolt length will be determined by the end-user’s mounting plate thickness. The mounting flange of the controller is 0.19 inches (4.75 mm) thick.

If the module is mounted without an enclosure, it should be mounted to reduce the likelihood of moisture entry. 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).

The CAN wiring is considered intrinsically safe. The power wires are not considered intrinsically safe and so in hazardous locations, they need to be located in conduit or conduit trays at all times. The module must be mounted in an enclosure in hazardous locations for this purpose.

All field wiring should be suitable for the operating temperature range of the module.

All chassis grounding should go to a single ground point designated for the machine and all related equipment.</td></tr>
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Notes:
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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.

Form: TDAX140501-03/03/16