

Preliminary
TECHNICAL DATASHEET #TDAX130750
CAN to 2 Analog/Digital Signals and 1 Relay Output Converter
SAE J1939
P/N: AX130750

Features:

- 2 Analog/Digital signal outputs configurable as: 0-5V; 0-10V; 4-20 mA; Frequency or PWM Signal.
- 1 Relay output
- 1 isolated CAN port (SAE J1939)
- Operational 9...36 Vdc (12 Vdc or 24 Vdc)
- Integrated Deutsch IPD 12-pin connector
- Compact, fully sealed enclosure, IP67
- Meets the surge requirements of SAE J1445
- Designed for EMC compliance
- Configure with Axiomatic Electronic Assistant



Applications:

- Throttle controls for marine engine applications
- Servo applications

Ordering Part Numbers:

CAN to A/D and Relay Outputs Converter, 250 kbps SAE J1939 - P/N: **AX130750**
 CAN to A/D and Relay Outputs Converter, 500 kbps SAE J1939 - P/N: **AX130750-01**
 CAN to A/D and Relay Outputs Converter, 1 Mbps SAE J1939 - P/N: **AX130750-02**

Accessories:

Configuration Tool: Electronic Assistant® P/N: **AX070502**
 Mating Plug KIT: **AX070148**

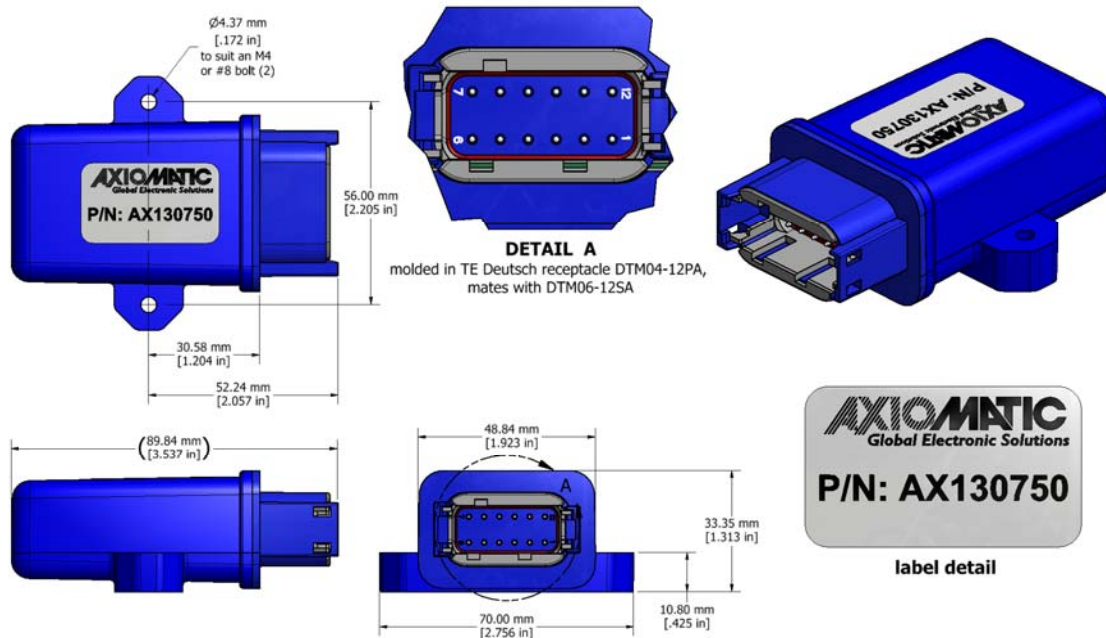


Figure 1.0 – Dimensional Drawing

Technical Specifications: *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.*

Power

Power Supply Input - Nominal	12 V or 24 Vdc nominal; 9...36 Vdc The minimum allowable supply voltage for the power pin is 7 Vdc.
Surge Protection	Meets the surge requirements of SAE J1445
Reverse Polarity Protection	Provided

Outputs

Analog/Digital Output	<p>2 signal outputs configurable as: 0-5V, 0-10V, 4-20 mA or PWM/Frequency</p> <p>Analog Voltage or Current Outputs: Voltage Output: 0-5 Vdc, 0-10 Vdc Maximum load is 30 mA. Current Output: 0-20 mA or 4-20 mA Maximum load resistance is < 500 Ohms. Compliance Voltage is 14V.</p> <p>PWM or Frequency Outputs 0.1 Hz to 20 kHz 0-100% D.C. 5 V or 12 V Amplitude Push pull output Maximum load is 50 mA. Over-current protection (50 mA)</p>
Output Accuracy	<p>Voltage: 0.2% Current: 0.2% PWM Signal: 0.1% Frequency Signal: 0.1%</p>
Relay Output	<p>Sets 1 Form C relay output Resistive load:</p> <ul style="list-style-type: none"> • 5A (NO)/5 A (NC) at 220VDC/250VAC <p>Dielectric strength:</p> <ul style="list-style-type: none"> • 3,000 VAC, 50/60 Hz for 1 min between coil and contacts • 2,500 Vrms between open contacts <p>There is no special overcurrent/overvoltage protection on the relay outputs. The user is advised to provide a fast acting 6A fuse or an adequate external protection if necessary.</p>

Control Software

Software Platform	Pre-programmed with standard logic. Refer to the user manual.
-------------------	---

General Specifications

Memory	STM32F405RGT7; 32-bit, 1024 Kbytes Flash Program Memory																												
CAN Port	1 CAN (SAE J1939) AX130750: 250 kbps baud rate																												
Isolation	300 Vrms isolation for CAN port																												
Quiescent Current Draw	Typical 63mA @12Vdc; 33mA @ 24Vdc																												
Response Time	<10 mSec. Typical																												
Operating Conditions	-40 to 85°C (-40 to 185°F)																												
Weight	0.15 lb. (0.068 kg) preliminary																												
Protection Rating	IP67																												
Vibration	pending MIL-STD-202G, Test 204D and 214A (Sine and Random) 10 g peak (Sine); 7.86 Grms peak (Random)																												
Shock	pending MIL-STD-202G, Test 213B, 50 g																												
Enclosure and Dimensions	Molded Enclosure, integral connector Nylon 6/6, 30% glass Ultrasonically welded 3.54 x 2.75 x 1.31 inches (90.09 x 70.00 x 33.35 mm) L x W x H including integral connector Refer to Figure 1.0, dimensional drawing.																												
Electrical Connections	Integral TE Deutsch 12 pin receptacle (P/N: DTM04-12PA) <table border="1" data-bbox="597 810 1024 1184"> <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>Relay Output (NC)</td> </tr> <tr> <td>2</td> <td>Not Used</td> </tr> <tr> <td>3</td> <td>Output 1 GND</td> </tr> <tr> <td>4</td> <td>Output 2 GND</td> </tr> <tr> <td>5</td> <td>CAN_H</td> </tr> <tr> <td>6</td> <td>CAN_L</td> </tr> <tr> <td>7</td> <td>BATT +</td> </tr> <tr> <td>8</td> <td>BATT-</td> </tr> <tr> <td>9</td> <td>A/D Output 2</td> </tr> <tr> <td>10</td> <td>A/D Output 1</td> </tr> <tr> <td>11</td> <td>Relay Output (C)</td> </tr> <tr> <td>12</td> <td>Relay Output (NO)</td> </tr> </tbody> </table>	CAN and I/O Connector		Pin #	Description	1	Relay Output (NC)	2	Not Used	3	Output 1 GND	4	Output 2 GND	5	CAN_H	6	CAN_L	7	BATT +	8	BATT-	9	A/D Output 2	10	A/D Output 1	11	Relay Output (C)	12	Relay Output (NO)
CAN and I/O Connector																													
Pin #	Description																												
1	Relay Output (NC)																												
2	Not Used																												
3	Output 1 GND																												
4	Output 2 GND																												
5	CAN_H																												
6	CAN_L																												
7	BATT +																												
8	BATT-																												
9	A/D Output 2																												
10	A/D Output 1																												
11	Relay Output (C)																												
12	Relay Output (NO)																												
Mating Plug Kit	AX070148 Mating Plug Kit (1 DTM06-12SA, 1 WM-12S, 10 0462-201-20141, 2 0413-204-2005 Sealing Plug)																												
User Interface, Reflashing	Axiomatic Electronic Assistant AX070502																												

Form: TDAX130750-08/22/19