

CAN to 2 Analog/Digital Signals and 1 Relay Output Converter

SAE J1939

with Axiomatic Electronic Assistant

P/N: AX130750

Features

- 2 analog/digital signal outputs configurable as: 0-5 V, 0-10 V, 4- 20 mA, or frequency/PWM
- 1 relay output
- 1 isolated CAN port (SAE J1939)
- Operational 9 Vdc to 36 Vdc (12 Vdc or 24 Vdc)
- Integrated TE Deutsch equivalent 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 Analog/Digital and Relay Outputs Converter, SAE J1939 with auto-baud-rate detection, P/N: **AX130750**

CAN to Analog/Digital and Relay Outputs Converter, CANopen®, P/N: **AX130751**

Accessories:

Axiomatic Electronic Assistant KIT, P/N: **AX070502**, **AX070505K**, or **AX070506K**

Mating Plug KIT, P/N: **PL-DTM06-12SA** (includes DTM06-12SA plug, 1 WM12S wedgelock, 12 0462-201-20141 contacts, and 6 0413-204-2005 sealing plugs)

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

Power

Power Supply Input	12 Vdc or 24 Vdc nominal (9 Vdc to 36 Vdc) The minimum allowable supply voltage for the power pin is 7 Vdc.
Quiescent Current	63 mA @ 12 V typical; 33 mA @ 24 V typical
Surge Protection	Meets the surge requirements of SAE J1445
Reverse Polarity Protection	Provided
Under and Over-Voltage Protection	Under-voltage shutdown at 7 V Over-voltage shutdown at 39 V

Output

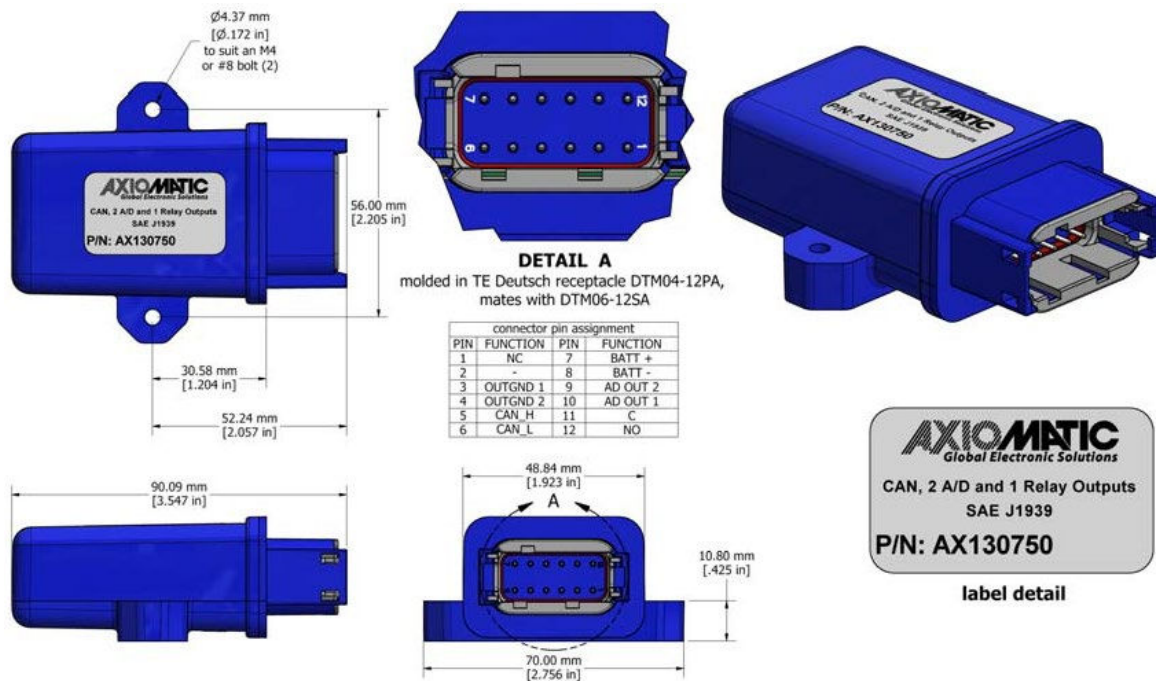
Analog/Digital Output	2 signal outputs configurable as: 0-5 V, 0-10 V, 4-20 mA, or PWM/frequency Voltage and current outputs: 12-bit DAC, output short circuit protected <u>Analog Voltage Output:</u> 0-5 Vdc or 0-10 Vdc -5 Vdc to 5 Vdc, -10 Vdc to 10 Vdc Maximum load: 30 mA <u>Analog Current Output:</u> 0-20 mA or 4-20 mA Maximum load resistance is < 500 Ω Compliance voltage: 14 V <u>PWM or Frequency Output:</u> 0.1 Hz to 20 kHz Duty cycle: 0 to 100% Amplitude: 5 V or 12 V Push-pull output Maximum load: 50 mA Over-current protection (50 mA)
Output Accuracy	Voltage: 0.2% Current: 0.2% PWM Signal: 0.1% Frequency Signal: 0.1%
Relay Output	Sets 1 Form C relay output Resistive load: <ul style="list-style-type: none"> 5 A (NO) / 5 A (NC) at 220 Vdc / 250 Vac Dielectric strength: <ul style="list-style-type: none"> 3000 Vac, 50/60 Hz for 1 min between coil and contacts 2500 Vrms between open contacts There is no special overcurrent/overvoltage protection on the relay outputs. The user is advised to provide a fast acting 6 A fuse or an adequate external protection, if necessary.

General Specifications

Microcontroller	STM32F405RGT7, 32-bit, 1024 KB flash program memory
Control Logic	Pre-programmed with standard logic. Refer to the user manual.
Communications	1 CAN port (SAE J1939)
Baud Rate	SAE J1939 250 kbps, 500 kbps, 667 kbps, 1 Mbps auto-baud-rate detection
Isolation	300 Vrms isolation for CAN port
Response Time	<10 ms typical
User Interface for Reflashing	Axiomatic Electronic Assistant P/N: AX070502 , AX070505K or AX070506K
Vibration	MIL-STD-202G, Test 204D and 214A (Sine and Random) 10 g peak (Sine), 7.86 Grms peak (Random)
Shock	MIL-STD-202G, Test 213B, 50 g
Operating Temperature	-40°C to 85°C (-40°F to 185°F)

Storage Temperature	-50°C to 125°C (-58°F to 257°F)																										
Protection	IP67																										
Weight	0.16 lb. (0.071 kg)																										
Enclosure and Dimensions	Molded enclosure, integral connector Nylon 6/6, 30% glass Ultrasonically welded Flammability rating: UL 94V-0 3.55 in x 2.76 in x 1.31 in (90.09 mm x 70 mm x 33.35 mm) L x W x H including integral connector Refer to dimensional drawing.																										
Electrical Connections	Integral 12-pin receptacle (equivalent to TE Deutsch P/N: DTM04-12PA) <table border="1"> <thead> <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>Analog/Digital Output 2</td></tr> <tr><td>10</td><td>Analog/Digital 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>	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	Analog/Digital Output 2	10	Analog/Digital Output 1	11	Relay Output (C)	12	Relay Output (NO)
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Dimensional Drawing



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Form: TDAX130750-04/24/23