

Features:

- 2 Analog/Digital isolated 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 12-pin, TE Deutsch equivalent connector.
- Fully sealed TE Deutsch equivalent 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

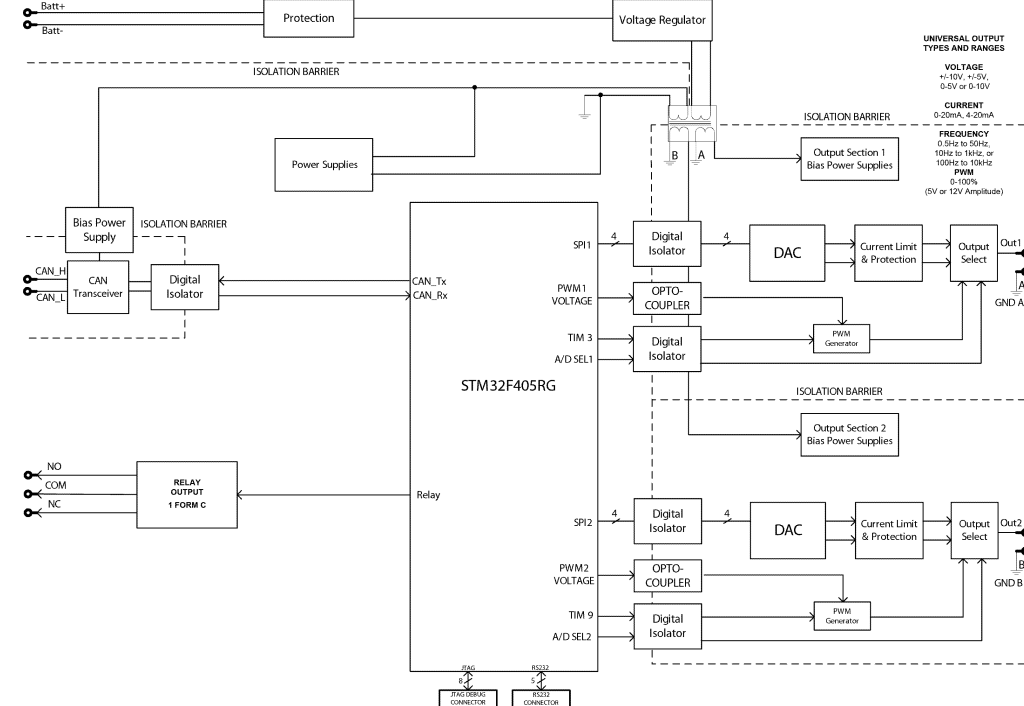
Ordering Part Numbers:

CAN to A/D and Relay Outputs Converter, 250 kbps Isolated SAE J1939 - P/N: **AX130770**
 CAN to A/D and Relay Outputs Converter, 500 kbps Isolated SAE J1939 - P/N: **AX130770-01**
 CAN to A/D and Relay Outputs Converter, 1 Mbps Isolated SAE J1939 - P/N: **AX130770-02**

Accessories:

Configuration Tool: Electronic Assistant KIT, P/N: **AX070502**, **AX070505K**, or **AX070506K**
 Mating Plug KIT: **PL-DTM06-12SA**

BLOCK DIAGRAM



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 - 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
Under and Over Voltage Protections	Under-voltage shutdown at 8V. Over-voltage shutdown at 48V.

Outputs

Analogue/Digital Output	<p>2 isolated signal outputs configurable as: 0-5V, 0-10V, 4-20 mA, PWM/Frequency or Digital</p> <p>Analogue 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>Digital Types: 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> <p>12-bit Protected against shorts to GND or +Vcc</p>
Output Accuracy	<p>Voltage: 0.2% Current: 0.2% PWM Signal: 0.1% Frequency Signal: 0.1% Digital: 1%</p>
Relay Output	<p>Sets 1 Form C relay output Resistive load: <ul style="list-style-type: none"> 5 A (NO)/5 A (NC) at 30Vdc Dielectric strength: <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 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>

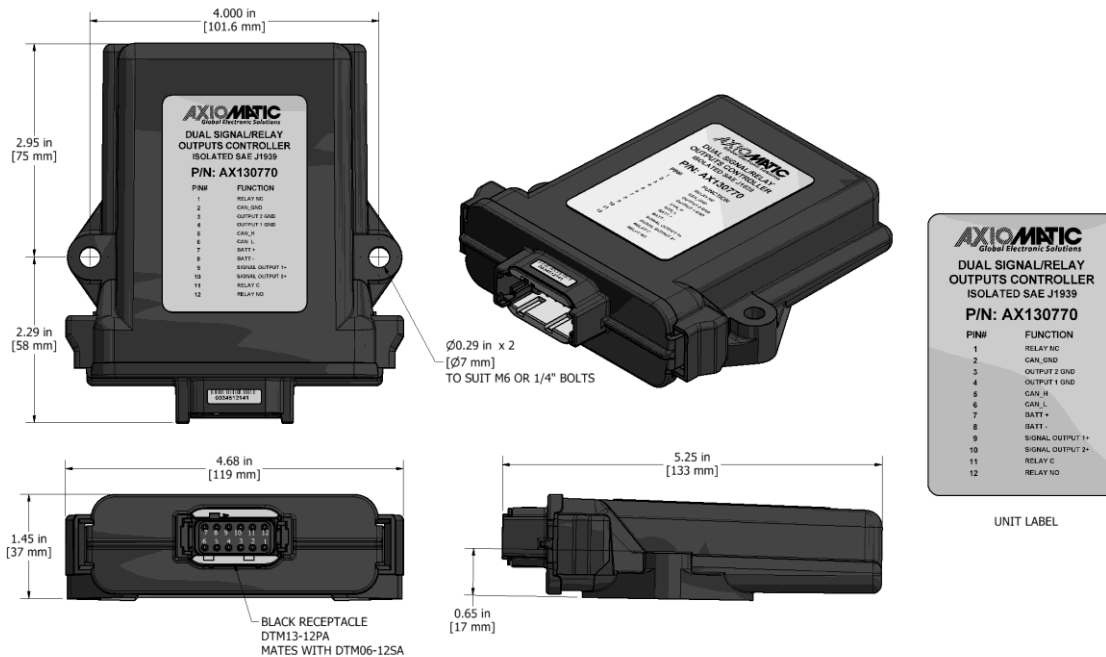
Control Software

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

Microcontroller	STM32F405RGT7; 32-bit, 1024 Kbytes Flash Program Memory
CAN Port	1 Isolated CAN (SAE J1939) AX130770: 250 kbps baud rate AX130770-01: 500 kbps baud rate AX130770-02: 1 Mbps baud rate
Isolation	300 Vrms; 4 Way isolation (power-output1-output2-CAN)
Quiescent Current Draw	Typical 65mA @12Vdc; 35mA @ 24Vdc
Response Time	<10 mSec. Typical
Operating Temperature	-40°C to 85°C (-40°F to 185°F)

Storage Temperature	-50°C to 125°C (-58°F to 257°F)																												
Weight	0.50 lb. (0.227 kg)																												
Protection Rating	IP67																												
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																												
Enclosure and Dimensions	High Temperature Nylon enclosure – (Equivalent TE Deutsch P/N: EEC-325X4B) Flammability Rating: UL 94V-0 4.677 x 5.236 x 1.417 inches 118.80 x 133.00 x 36.00 mm (W x L x H excluding mating plugs) Refer to Figure 1.0, dimensional drawing.																												
Electrical Connections	Integral 12 pin receptacle (TE Deutsch equivalent P/N: DTM13-12PA-R008) <table border="1" style="margin-left: 20px;"> <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>CAN_GND</td> </tr> <tr> <td>3</td> <td>Output 2 GND</td> </tr> <tr> <td>4</td> <td>Output 1 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 1</td> </tr> <tr> <td>10</td> <td>A/D Output 2</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	CAN_GND	3	Output 2 GND	4	Output 1 GND	5	CAN_H	6	CAN_L	7	BATT +	8	BATT-	9	A/D Output 1	10	A/D Output 2	11	Relay Output (C)	12	Relay Output (NO)
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Mating Plug Kit	Axiomatic PN: PL-DTM06-12SA It is comprised of the following TE Deutsch equivalent parts: DTM06-12SA; wedglock WM12S; 12 contacts (0462-201-20141); and 6 sealing plugs (0413-204-2005).																												
User Interface, Reflashing	Axiomatic Electronic Assistant KIT, P/N: AX070502 , AX070505K , or AX070506K																												



Form: TDAX130770-05/31/23