

**CAN to 2 Analog/Digital Isolated Signals and 1 Relay Output Converter
Isolated CANopen®**

P/N: AX130771

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 (CANopen®)
- Operational 9...36 Vdc (12 Vdc or 24 Vdc)
- Integrated TE Deutsch IPD 12-pin connector
- Fully sealed TE Deutsch enclosure, IP67
- Meets the surge requirements of SAE J1445
- Designed for EMC compliance
- EDS File



Applications:

- Throttle controls for marine engine applications
- Servo applications

Ordering Part Numbers:

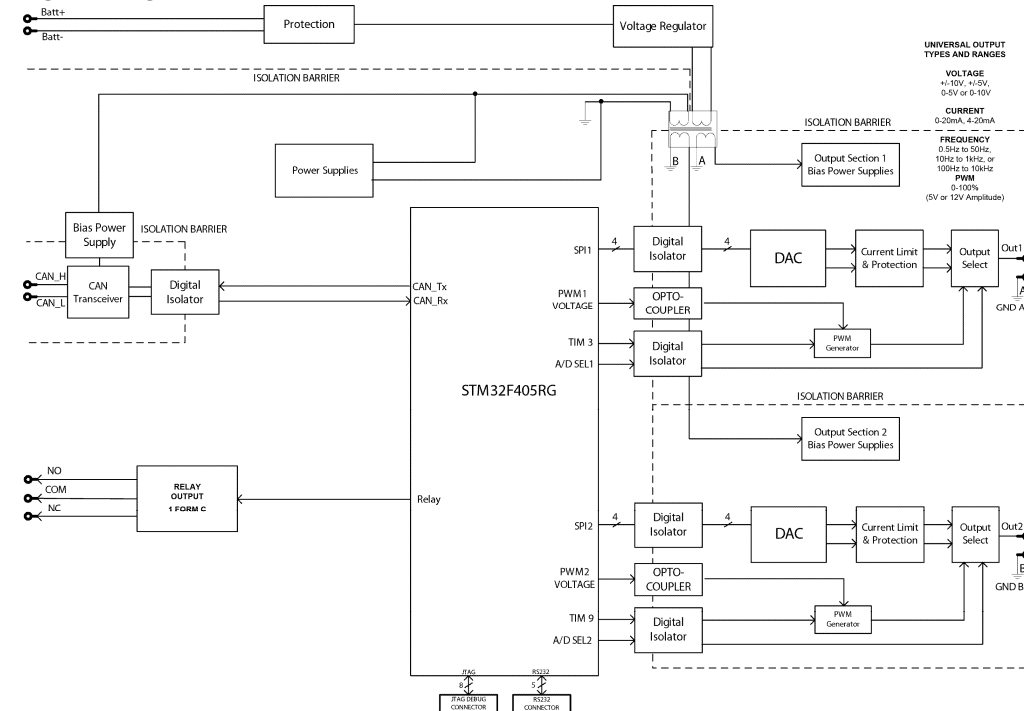
CAN to A/D and Relay Outputs Converter, Isolated CANopen® - P/N: **AX130771**

EDS File

Accessories:

Mating Plug KIT: **PL-DTM06-12SA**

BLOCK DIAGRAM



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

Outputs

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|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Analog/Digital Output | <p>2 isolated signal outputs configurable as: 0-5V, 0-10V, 4-20 mA, PWM/Frequency or Digital</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>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:</p> <ul style="list-style-type: none"> • 5A (NO)/5 A (NC) at 30Vdc <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

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|-------------------|---------------------------------------------------------------|
| 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 Isolated CAN (CANopen®) SAE J1939 model is PN AX130770 |
| Isolation | 300 Vrms; 4 Way isolation (power-output1-output2-CAN) |
| Quiescent Current Draw | Typical 65mA @12Vdc; 35mA @ 24Vdc |
| Response Time | <10 mSec. Typical |
| Operating Conditions | -40 to 85°C (-40 to 185°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 housing – TE Deutsch PCB Enclosure (EEC-325X4B) 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 TE Deutsch 12 pin receptacle (P/N: DTM13-12PA-R008) <table border="1" data-bbox="597 390 1024 762"> <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) |
| 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 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 8 | BATT- | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 9 | A/D Output 1 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 10 | A/D Output 2 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 11 | Relay Output (C) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 12 | Relay Output (NO) | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mating Plug Kit | Axiomatic PN: PL-DTM06-12SA It is comprised of the following TE Deutsch parts: DTM06-12SA; wedgelock WM12S; 12 contacts (0462-201-20141); and 6 sealing plugs (0413-204-2005). | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| User Interface | EDS File | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Refashing | Axiomatic Electronic Assistant AX070502 | | | | | | | | | | | | | | | | | | | | | | | | | | | | |



Figure 1.0 – Dimensional Drawing

Notes:

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Form: TDAX130771-03/02/20