

PRESS RELEASE

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# CAN I/O Modules with Relay Outputs

**Rugged Enclosures, Suitable for Harsh Environments**  
**DIN Rail Models Available**

Axiomatic Technologies offers a range of [CAN I/O Modules with Form C Relay Outputs](#) for diesel and marine engines, gensets, and machine control systems. Many of these units come in rugged enclosures of various forms and sizes which are suitable for use in harsh environments. Modules in compact and DIN Rail enclosures are also available. All these modules feature isolated CAN ports.



The users can use the *Windows-based Axiomatic Electronic Assistant* to configure the I/O modules over CAN for their applications. The setpoints can also be saved to files and flashed into other modules of the same part number over CAN bus. Settings are saved to non-volatile memory upon command. The DIN Rail units AX031950, AX031950-01, and AX031950-02 also feature NFC communication. They can be configured conveniently via Axiomatic's E-Write NFC Application which is available for a fee from Apple App Store for iOS devices and Google Play Store for Android devices like smartphones and tablets.



The AX180800 can read 20 thermocouple, 2 PT 100 RTD, and 4 universal signal inputs and can control 6 Form C relays. It can communicate over an Ethernet (TCP/IP) port as well as 2 isolated CAN ports. It uses SAE J1939 protocol with auto-baud-rate detection.

The models AX031800, AX031801, AX031850, AX031850-01, AX031850-02, and AX031851 can read 12 discrete inputs and operate 8 Form C relays. They can network with CAN SAE J1939 or CANopen® fieldbus based on the part number. A bicolor (red and green) LED in AX031800 and AX031801 shows the device's state.

DIN Rail mount units AX031950, AX031950-01, and AX031950-02 boast 1 universal input, 1 Form C relay output, 1 analog output, and a +5V reference. The state of the device is shown through a bicolor (red and green) LED indicator.

A few modules like AX130750, AX130751, AX130770, AX130770-01, AX130770-02, and AX130771 do not feature any inputs but provide 1 Form C relay and 2 analog/digital outputs. They support either CAN SAE J1939 or CANopen® networks depending on the model.

The CAN I/O Modules with Relay Outputs can work at nominal battery voltage of 12 or 24 Vdc. The voltage operating ranges of the devices are much wider. Electrical protections like reverse polarity, under and over-voltage, and transient and surge protection are provided. Details may vary in individual models. Please see their respective datasheets for details.

A brief comparison of these I/O modules is presented below.

Part Number	Inputs	Relay Outputs	Other Outputs	Communication	Enclosure
<a href="#">AX180800</a>	20 Thermocouple 2 PT 100 RTD 4 Universal	6	-	1 Ethernet TCP/IP 2 SAE J1939 ABR*	Rugged, 86-pin Connector
<a href="#">AX031800</a>	12 Discrete	8	-	1 SAE J1939 ABR*	Rugged with LED Indicator, 8-pin & 40-pin Connectors
<a href="#">AX031801</a>				1 CANopen®	
<a href="#">AX031850</a>	12 Discrete	8	-	1 SAE J1939 250 kbps	Rugged, 40-pin Connector
<a href="#">AX031850-01</a>				1 SAE J1939 500 kbps	
<a href="#">AX031850-02</a>				1 SAE J1939 1 Mbps	
<a href="#">AX031851</a>				1 CANopen®	
<a href="#">AX031950</a>	1 Universal	1	1 Analog	NFC 1 SAE J1939 250 kbps	DIN Rail with LED Indicator, 12-pin Screw Terminal
AX031950-01				NFC 1 SAE J1939 500 kbps	
AX031950-02				NFC 1 SAE J1939 1 Mbps	
<a href="#">AX130750</a>	-	1	2 Analog/ Digital	1 SAE J1939 ABR*	Rugged, Compact, 12-pin Connector
<a href="#">AX130751</a>				1 CANopen®	
<a href="#">AX130770</a>	-	1	2 Analog/ Digital	1 SAE J1939 250 kbps	Rugged, 12-pin Connector
<a href="#">AX130770-01</a>				1 SAE J1939 500 kbps	
<a href="#">AX130770-02</a>				1 SAE J1939 1 Mbps	
<a href="#">AX130771</a>				1 CANopen®	

\*ABR = Auto-Baud-Rate Detection



Their IP67-rated enclosures are fully sealed to protect against dirt, humidity, shock, and vibration for operation under the most harsh and demanding conditions. The AX130750 and AX130751 are housed in compact rugged enclosures. The operating temperature range is -40 to 85 °C (-40 to 185 °F). DIN Rail units are rated IP40 (enclosure) and IP20 (terminals).

Additionally, the AX031800 is UL certified and EMC compliant. It has marine type approvals from American Bureau of Shipping (ABS), Bureau Veritas (BV), China Certification Society (CCS), Det Norske Veritas (DNV), Lloyd's Register (LR), and RINA Services S.p.A.

You can browse through the complete catalog of our I/O Control and Signal Converter products at: <https://products.axiomatic.com/category/i-o-controls>

Axiomatic specializes in the design, development, and production of control solutions tailored for diverse applications where performance and reliability are of utmost importance. Our team of design engineers creates products and components in both Canada and Finland, while our manufacturing operations are located in Canada.

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