

24Vdc/26Vdc, 1.2A Lithium-ion Battery Charger

SAE J1939

P/N: AX090690

Features:

- 24Vdc to 26Vdc, 1.2A (31 Watts) Converter
- 26Vdc, 1.2A Battery Charger Lithium-ion batteries
- Non-isolated
- 1 CAN port (SAE J1939) - Battery charge status is communicated over CAN
- Auto-baud-rate detect for CAN bus
- Operates from 21Vdc to 28Vdc (24Vdc nominal)
- Typical efficiency of 89%
- Thermal protection for over temperature
- Reverse battery, over and under-voltage protection
- Short circuit and overcurrent protection
- -40 to 70 °C (-40 to 158 °F) operating temperature
- Compact, ultrasonic welded enclosure
- 8-pin TE Deutsch type connector
- LED Indicator
- IP67
- EMI/EMC compliant
- User configurable with the Axiomatic Electronic Assistant USB-CAN converter and software



Applications: The Charger/Converter is suitable for Lithium-ion battery charging applications on vehicle CAN based systems.

- ❖ Mining Equipment
- ❖ Off-highway Equipment
- ❖ Fire trucks and municipal vehicles

Ordering Part Numbers:

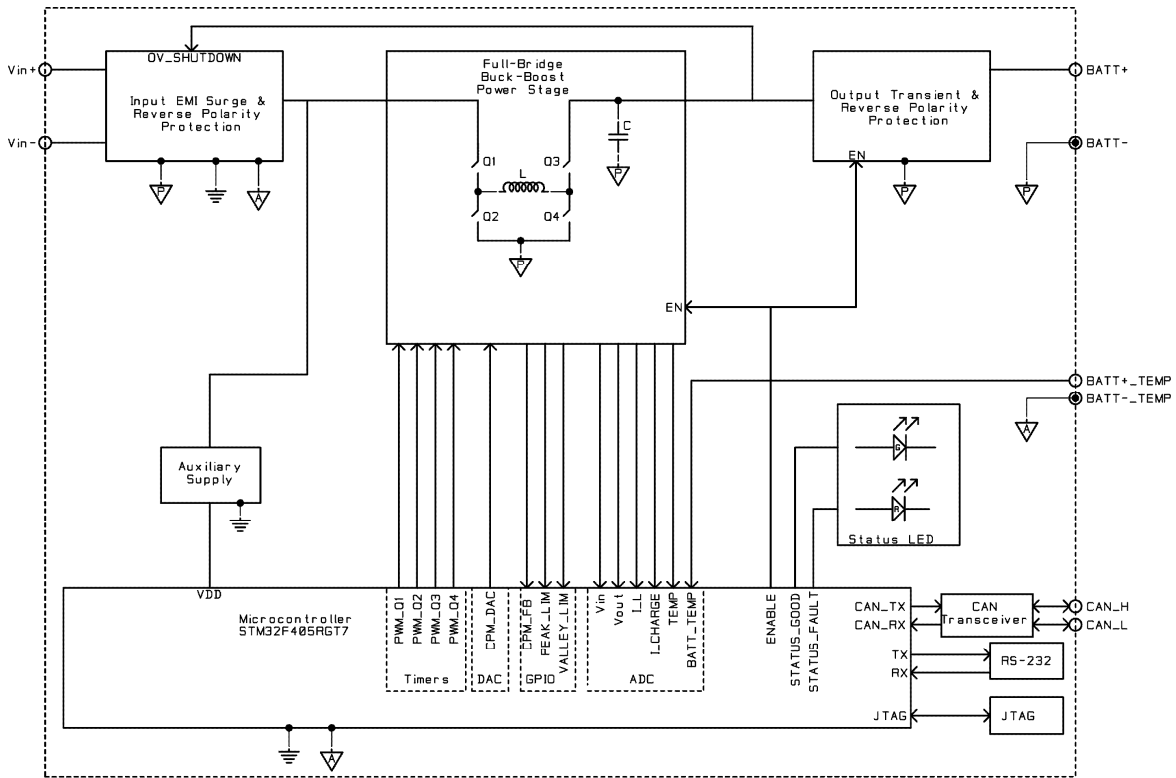
24V/26V, 1.2A Charger/Converter, SAE J1939 with auto-baud-rate detect P/N: **AX090690**

Accessories:

AX070112 Mating Plug Kit :1 DT06-08SA, 1 W8S, 8 0462-201-16141, 3 114017

AX070502 Axiomatic Electronic Assistant

Block Diagram



Technical Specifications:

Input Specifications		Output Specifications	
Power Source	24 Vdc nominal	Nameplate Rating (Output Power)	31.2 VA nominal
Operating Voltage Range	21 to 28 Vdc	Output Current (DC)	1.2 A continuous
Maximum Input Current	1.7 ADC @ 20Vdc	Output Voltage	26Vdc \pm 2%
Engine Load Dump	Designed to meet load dump conditions (up to 120Vdc)	Output Voltage Ripple	$V_{O(RIPPLE)} \leq 100$ mVpp
Reverse Voltage Protection	Provided	Turn-on time (at full load)	<100 ms typical
Under-voltage Shutdown	20 Vdc typical	Stability	Stable at all loads (no minimum load requirement)
Over-voltage Shutdown	29 Vdc typical	Short Circuit Current	Protection provided Self-recovery 1.6A current limit

General Specifications

Microprocessor	STM32F405RGT7 1 MB Flash Program Memory
Quiescent Current	30 mA @ 24Vdc typical
Communications	1 CAN port (SAE J1939)
Baud rate	SAE J1939, 250kbit/s, 500kbit/s, 667kbit/s, 1Mbit/s. Automatic Baud Rate Detection
LED	Green: Normal operation Red: Fault
Control Logic	Refer to user manual.
User Interface	Electronic Assistant, P/N: AX070502
Operating Temperature	-40 to 70 °C (-40 to 158 °F)
Efficiency	89% in buck and boost modes; 83% in buck-boostmode
Weight	0.15 lb. (0.068 kg)

Vibration	MIL-STD-202G, Method 204D test condition C (Sine) and Method 214A, test condition B (Random) 10 g peak (Sine) 7.65 Grms peak (Random)																		
Shock	MIL-STD-202G, Method 213B, test condition A 50g (half sine pulse, 9ms long, 8 per axis)																		
Enclosure	Molded Enclosure, integral connector Nylon 6/6, 30% glass, Ultrasonically welded 3.47 x 2.75 x 1.31 inches (88.2 x 70.0 x 33.3 mm) L x W x H including integral connector Refer to the dimensional drawing.																		
Electrical Connections	Integral TE Deutsch 8 pin receptacle (P/N: DT04-08PA) 18 AWG wire is recommended for use with contacts 0462-201-16141. A mating plug kit is available. Ordering P/N: AX070112 is comprised of 1 DT06-08SA, 1 W8S, 8 0462-201-16141, and 3 114017. <table border="1"> <thead> <tr> <th>PIN #</th> <th>FUNCTION</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>CAN_L</td> </tr> <tr> <td>2</td> <td>CAN_H</td> </tr> <tr> <td>3</td> <td>BATT_TEMP -</td> </tr> <tr> <td>4</td> <td>BATT_TEMP+</td> </tr> <tr> <td>5</td> <td>V In +</td> </tr> <tr> <td>6</td> <td>V In -</td> </tr> <tr> <td>7</td> <td>BATT -</td> </tr> <tr> <td>8</td> <td>BATT +</td> </tr> </tbody> </table>	PIN #	FUNCTION	1	CAN_L	2	CAN_H	3	BATT_TEMP -	4	BATT_TEMP+	5	V In +	6	V In -	7	BATT -	8	BATT +
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7	BATT -																		
8	BATT +																		
Mounting	Mounting holes are sized for #8 or M4 bolts. The bolt length will be determined by the end-user's mounting plate thickness. The mounting flange of the controller is 0.425 inches (10.8 mm) thick. It should be mounted with connectors facing left or right to reduce likelihood of moisture entry. All field wiring should be suitable for the operating temperature range. Install the unit with appropriate space available for servicing and for adequate wire harness access (6 inches or 15 cm) and strain relief (12 inches or 30 cm).																		

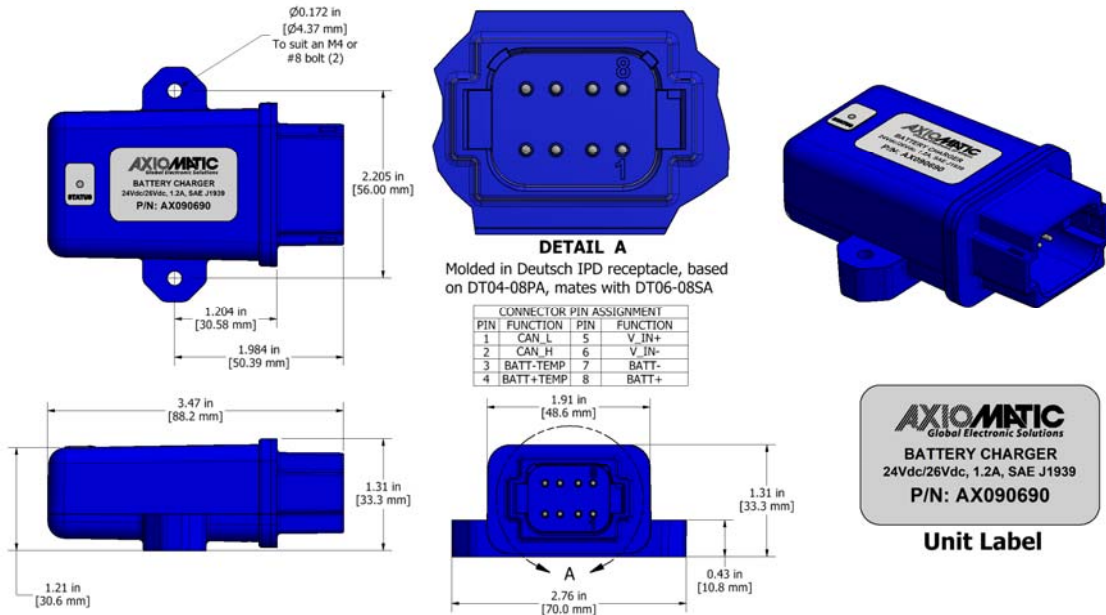


Figure 1.0 – Dimensional Drawing

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.

Form: TDAX090690-05/29/20