![Axiomatic Global Electronic Solutions logo]

16 Cell Battery Voltage Monitor
SAE J1939
with Electronic Assistant®
P/N: AX032050

Features:

- 16 Cell Battery Voltage Interface to monitor voltage level
- Suitable for most battery chemistries
- Battery Stack Voltage Input (0-90Vdc)
- 12V, 24Vdc input power (nominal) with rugged surge protection
- 1 CAN (SAE J1939) port
- IP67
- CE mark pending
- User configurable using Axiomatic Electronic Assistant®

Applications:

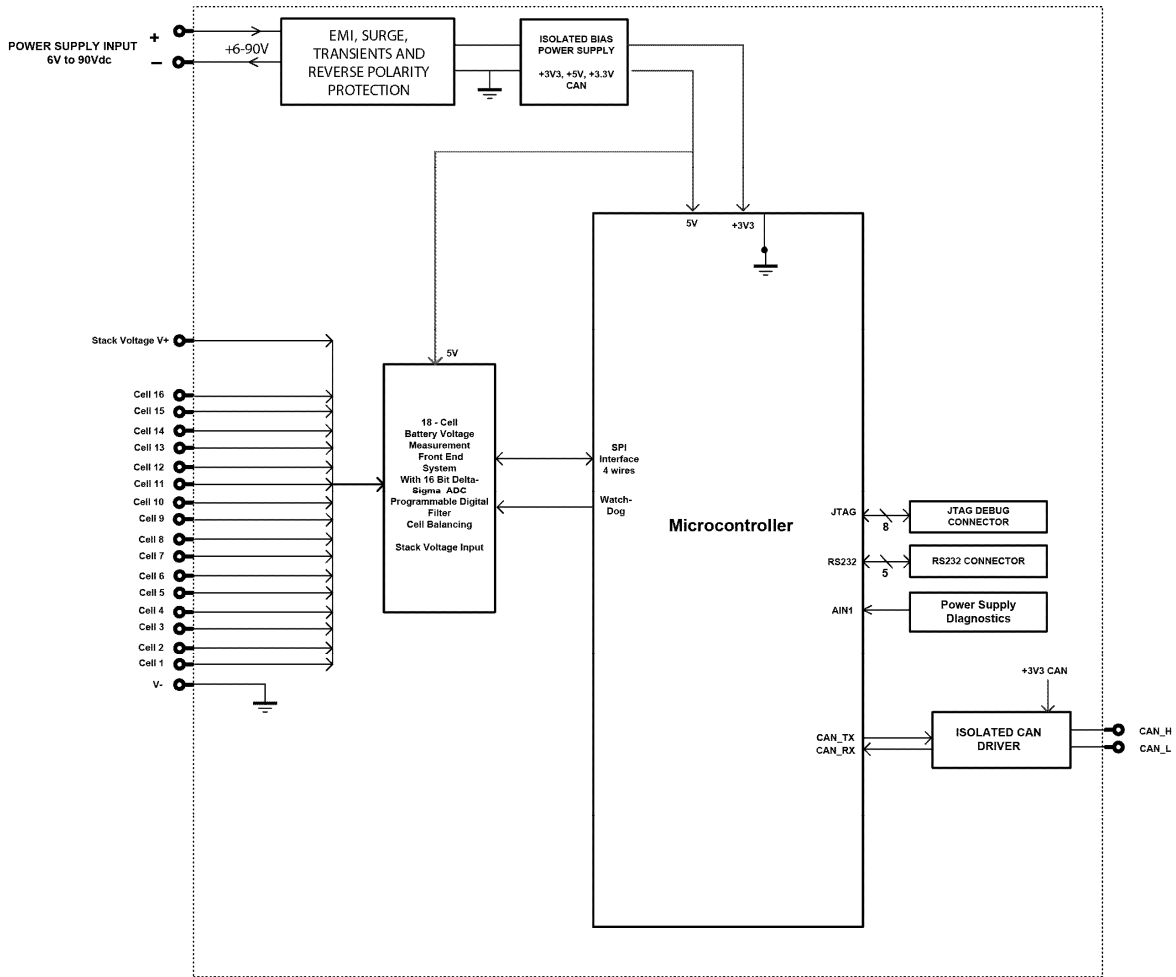- Fuel Cells, Hybrid Power Back-up Systems

Ordering Part Numbers:

SAE J1939 Controller:

Model P/N	Baud Rate	Standard Reference
AX032050	250 kBit/s	J1939/11, J1939/15.

Electronic Assistant® Configuration KIT: **AX070502**

Accessories: **PL-DTM06-12SA-12SB** Mating Plug Kit

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 www.axiomatic.com/service.html.

Input Specifications

Power Supply Input - Nominal	12V, 24Vdc nominal (6…90Vdc power supply range)
Isolation	Isolated power supply up to 1,000 V
Protection	Surge and reverse polarity protection are provided.
All Inputs	16 Differential Battery Cell Inputs 19 Input Pins are provided to permit multiple units to be connected in series. 16-bit Sigma-delta ADC with third order noise programmable digital filter Cell measurement range 0-5Vdc Scan rate is programmable from 1 to 200 milliseconds for all 16 cells. Total measurement error is 2.2mV maximum. Passive cell balancing up to 1A (max.) with individual programmable pulse width modulation duty cycle control for each cell. Suitable for most battery chemistries.
Battery Stack Voltage Input	1 0-90Vdc voltage input measurement 12-bit ADC 0.5% accuracy

General Specifications

|	
Microprocessor	STM32F405RG
Control Logic	Standard Control Logic
User Interface (PC-based)	Electronic Assistant® for *Windows* operating systems It comes with a royalty-free license for use. The Electronic Assistant® requires an Axiomatic USB-CAN converter to link the device's CAN port to a *Windows*-based PC. This is included in the Configuration KIT P/N AX070502.
CAN Communications	1 CAN port (SAE J1939) Isolated up to 1,000 V
Quiescent Current Draw	23 mA @ 24V 46 mA @ 12V
Compliance	RoHS Directive Pending CE marking for EMC Directive
Vibration	Pending Random Vibration: 7.7 Grms peak Sinusoidal Component: 10 g peak Based on MIL-STD-202G, Methods 204G and 214A
Shock	Pending 50 g half sine pulse, 6 x 6ms per axis Based on MIL-STD-202G, Method 213B, Test Condition A
Network Termination	It is necessary to terminate the network with external termination resistors. The resistors are 120 Ohm, 0.25W minimum, metal film or similar type. They should be placed between CAN_H and CAN_L terminals at both ends of the network.
Operating Conditions	-40 to 85 °C (-40 to 185 °F)
Protection	IP67, PCB is conformal coated and protected by the housing.
Weight	0.50 lb. (0.23 kg)
Enclosure and Dimensions	High Temperature Nylon housing - Deutsch IPD PCB Enclosure (EEC-325X4B) 4.66 x 5.25 x 1.42 inches 118.53 x 133.45 x 35.99 mm (W x L x H excluding mating plugs)
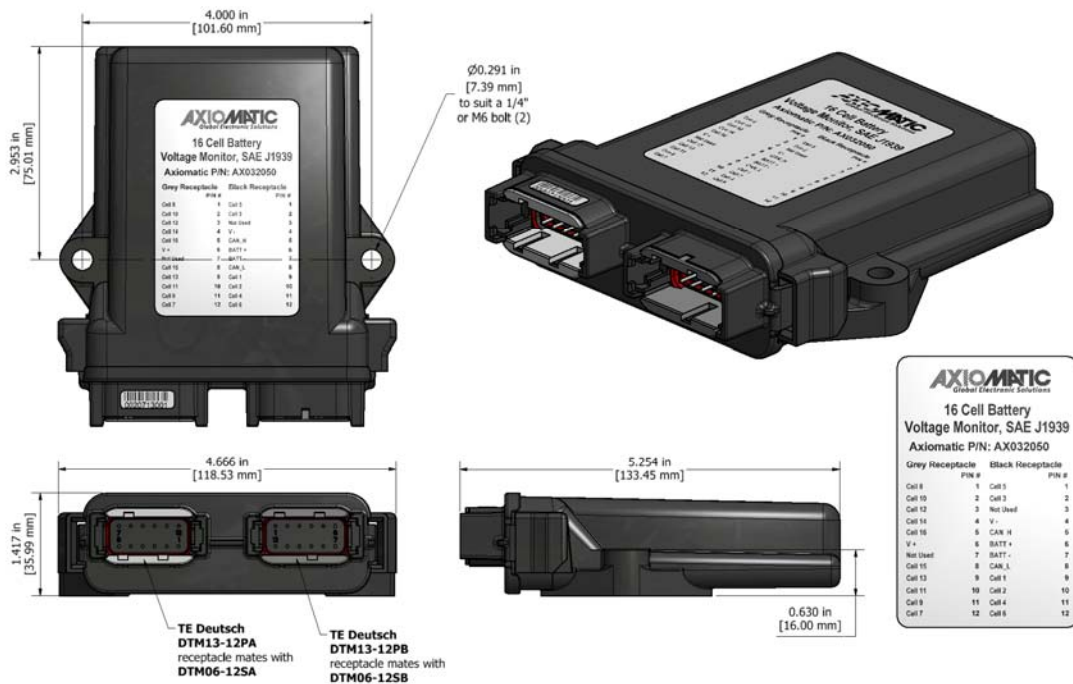
Figure 1.0 - Dimensional Drawing

Electrical Connections	Deutsch DTM series 24 pin receptacle (DTM13-12PA-12PB-R008) Mating plug: Deutsch DTM06-12SA and DTM06-12SB with 2 wedgelocks (WM12S) and 24 contacts (0462-201-20141). 20 AWG wire is recommended for use with contacts 0462-201-20141.

Key Arrangement B (black)
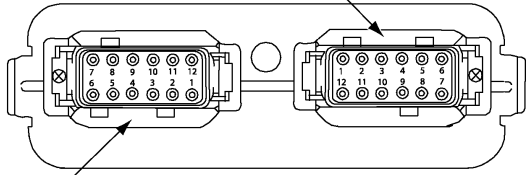
Key Arrangement A (grey)

FRONT VIEW 24 PIN RECEPTACLE

Grey Connector		Black Connector	
1	Cell 8	1	Cell 5
2	Cell 10	2	Cell 3
3	Cell 12	3	Not Used
4	Cell 14	4	V -
5	Cell 16	5	CAN_H
6	V +	6	BATT +
7	Not Used	7	BATT -
8	Cell 15	8	CAN_L
9	Cell 13	9	Cell 1
10	Cell 11	10	Cell 2
11	Cell 9	11	Cell 4
12	Cell 7	12	Cell 6

Notes:
Electronic Assistant® is a registered US trademark of Axiomatic Technologies Corporation.

Form: TDAX032050-01/31/19