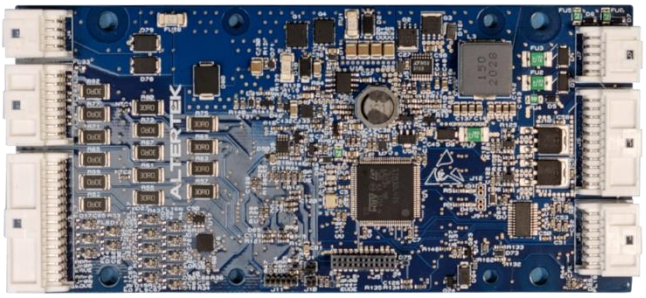
ALTERTEK
BATTERY TECHNOLOGY SPECIALISTS

PRODUCT SALES & MARKETING SHEET	
Product Name:	Low Voltage BMS GEN 1
Product Release Date:	August 2022
Part Number:	8000-016 Rev 1



OVERVIEW

The Altertek Low Voltage BMS is designed to be a general-purpose Battery Management System (BMS) that incorporates features necessary for managing modern battery systems. The product has been specifically designed to lower the overall system cost and reduce the development time necessary to launch new battery products.

The BMS product can manage a battery with up to 16 series cells with a maximum voltage of 65V, making it ideal for common battery systems such as:

- Light electric vehicles (E-bikes, E-scooters)
- Battery backup systems (Energy storage systems (ESS), uninterruptible power supplies (UPS)
- Industrial batteries (Industrial robots, forklift trucks, E-pallet trucks)

CONFIGURATION

The BMS is fully configurable using the AlterVU configuration software. AlterVU allows a user to configure aspects of the product without the need for software changes or additional testing, making new and existing product upgrades fast and easy.

EXPANSION

The BMS includes an expansion interface which allows further functions to be quickly added such as:

- Solid-state switches
- Additional temperature measurement
- Additional communication protocols

COMMUNICATIONS

The Low Voltage BMS includes a CAN Bus interface, which can be configured through AlterVU to transmit and receive messages with connected systems.

MAIN FEATURES

String Voltage	13 – 65V
Cell Count Range	6 – 16
Cell Balancing	130mA - Dissipative
Thermistors	Up to 16
GPIOs	8
Datalogging	Onboard
Communications	CAN Bus

INTEGRATION

There are eight GPIOs which can be configured as inputs or outputs (including PWM up to 5kHz), ideal for connecting relays, switches, indicators and fans. The GPIO behaviour is configured through AlterVU.

FAULT DETECTION

The Low Voltage BMS can detect a range of configurable battery faults which can provide warnings or disable the battery depending on the severity of the issue. The fault detection customisation allows the BMS to detect the faults relevant to the specific battery application.

SECURITY

The BMS has an array of security features securing the product from malicious or accidental tampering. It incorporates password protection to ensure that configurations cannot be tampered with, hardware interlocks that protect against remote tampering and allows for a key switch to enable maintenance changes to be made when active.

SUPPORT

This BMS is designed and manufactured in the UK, if you have any issues or new feature requirements our engineers are on hand to support you every step of the way.

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Main Features		Physical Data	
Cell Count Range	3 – 16	Length	150mm
Balance Current	130mA	Width	70mm
Communications	CAN Bus	Depth	15mm
Thermistor Connections	16	Weight	70g
GPIOs	8 x Configurable	Designed and manufactured	UK

Electrical Data		Environmental Data	
String Voltage Range	13 – 65V	Storage Temperature	-40°C to +85°C
Cell Voltage Range	0 – 5V	Operating Temperature	-40°C to +70°C
Quiescent Current	<15mA		

GPIO Data		Communication Data	
Quantity of Channels	8	Protocol	CAN Bus
Output Type	Open Drain	Receive Channels	11
Max PWM Frequency	5kHz	Transmit Channels	30
Max Drain Current	500mA	CAN Bus Speed	125kbps – 1Mbps
Max GPIO Voltage	32V		

Temperature Measurement		Additional Connections	
Measurement Inputs	16	5V	2 x (100mA Total)
Thermistor Value & Type	10kΩ NTC	12V General	8 x (250mA Total)
Probe Parameters	Beta / Steinhart (Configurable)	12V CAN Bus Auxiliary Supplies	2 x (100mA Total)

Cell Balancing		Current Measurement	
Methodology	Passive / Dissipative	External Current Measurement Connections	1
Max Balance Current	130mA	External Measurement Type	Hall / Shunt
Configurable Balance Voltage	Yes		