



CANBIS – Technical Specification

(CANbus Battery Integration System V3.2.3) April 2011

Physical characteristics:	
Dimensions	189mm(W) x 185mm(L) x 51mm(H)
Weight	900g
Material	High Impact ABS
Form Factor	CINCH - ModICE LE
Environmental:	
Operating Temperature	-40 to +85 Degrees C
Sealing	IP65, IP66, IP67, IP69K
Fluid	Resistant to most fluids used in industrial applications
RoHs Compliant	Yes
Electrical characteristics:	
Power consumption	6A 1 sec peak, 700mA continuous, 1W sleep mode.
Processor	ARM7 @ 72MHz
CANbus:	
Baud rate	500 MBit/sec X 2 inputs
Protocols	ISO11898
Hardware protocol	CAN V 2.0B (J1939 available on request)
Diagnostics:	
Baud rate	500 MBit/sec
Protocols	ISO14229
Hardware protocol	CAN V 2.0B (J1939 available on request)
Connectivity:	
RS232 (Opto Isolated)	LiFeBATT VMS - Control and Monitoring Interface
RS485	External Telematics / Vehicle Display Support (CANTRAK)
K-Line	Future Expansion
Contactor Drivers	8 x Low side driver 3A peak 180mA continuous.
Low Current Standard Automotive Relay Drivers	4 x Low side driver 3A peak 180mA continuous. (Charger Enable, Discharge Enable, Heating Enable & Cooling Enable)
TTL Inputs	2 x VMS Status Monitoring
Current Sensing	Supports 2 x External LEM LAC 300 S Sensors
Voltage Sensing	1 x Galvanic Isolated LEM LV- 25 Voltage Sensor
Weld Detection	8 x 100mA Weld Detect Monitoring
Connectors:	
CINCH	1.5mm - Sealed Header System
Conformity:	
TBD	Level of testing to be determined
Firmware:	
Define Battery Array, Battery Serial Numbers, Voltage/Current Parameters, Regen Braking Parameters, CAN Message Identifiers & Baud Rate, State of Charge, Battery Temperature, Max/Min Voltage, Cycle Counter, State of Health.	
System Configuration Software:	
State of Charge Calibration to suit Hybrid and EV applications, Cell Temperature & Age Calibration Algorithm to suit duty cycle, State of Health Monitor of cell balance to suit duty cycle, Battery Environment Control Configuration to drive standard automotive relays for heating and cooling systems actuation, Pre-Charge Time Control, Onboard/Offboard CANbus Charger Control.	
Safety Systems:	
Hardware & Software Emergency Stop I/O, Contactor Weld Detection, HV Continuity Input, Earth Leakage Device Input, Slow Charge Interlock, Fast Charge CHAdeMO Compliance,.	
Driver Display:	
Terminal Voltage, Live Current +/-, State of Health, State of Charge, Battery Temperature	

Important Information:

The CANBIS module is supplied with full code scheme, technical manual and onsite technical support as required. The PC based configuration software is used to develop and tune the BMS to each duty cycle application. This significantly reduces the need to employ CANbus coding staff to make minor and most major alterations to the system.



Parts Supplied:

- 1 X CANBIS Module
- 2 X Sealed Enclosure Headers
- 54 X Header Crimp Pins
- 1 X LEM LAC300S Current Sensor (0-100A or 0-500A as appropriate)
- 1 X LEM LV-25 Voltage Sensor (0-200V or 0-500V or 0-1000V as appropriate)

Additional Information:

This system is designed for use as a proof of concept system for early prototype or mule systems. The software has not been safety tested to automotive standards. Upon completion of mule vehicle testing it is recommended that all code is tested to MISRA safety standards.