Socius Technology

BATTERY PROTECTION SYSTEM

+24/-48VDC

Socius Technologies Battery Protection System delivers sophisticated control, monitoring and protection of high value battery assets to the telecommunications and utility markets. The Battery Protection System makes it possible to deploy more robust and energy dense battery chemistries into networks, reducing space, increasing performance and lowering ongoing operational costs of telecommunications assets.

The Battery Protection System is built from two products: The Battery Protection Unit (BPU) and the Battery Cell Module (BCM).

Battery Protection Unit (BPU)

The BPU delivers local monitoring and control of battery pack via the communication channels to Battery Cell Modules. Features of the BPU include:

- High (BPU-HCV) and low (BPU-LCV) current variants to suit battery pack size and installation profile
- Intuitive GUI for local configuration, diagnostics and view battery health
- Logging of utilisation and performance statistics
- Manageable by SNMP or the Socius Technology NMS platform in distributed deployments
- Accepts external voltage, temperature and cell loop inputs (from 3rd party balance modules).

Battery Cell Module (BCM)

The BCM delivers dynamic cell balancing, cell voltage and temperature measurement. Features for the BCM include:

- Dynamic balancing throughout the battery voltage range when deployed with a BPU,
- Passive top and bottom balancing without a BPU
- Cell monitoring temperature and voltage
- Wireless interface to the BPU, simplifying installation
- Simple push button wireless paring with BPU
- One size fits all, single module will fit a range of cell sizes

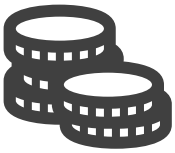
Battery Protection System – Key Benefits

The Socius Technologies Battery Protection System brings your battery assets into your network. Often sitting outside the visibility of Network Management Systems, telecommunications batteries require coarse maintenance and replacement programs which are costly and time consuming. The Socius Technologies Battery Protection System makes it possible for network operators to run targeted maintenance programs, and deploy robust, energy dense and longer-life battery chemistries, delivering substantial operating and battery hardware cost reductions.

Centralized monitoring and management of battery assets

Real time monitoring of battery health, cycle counting and long-term use

Real time state of charge of battery assets



Fewer schedule maintenance visits, fewer battery replacements, lower hardware and operating cost

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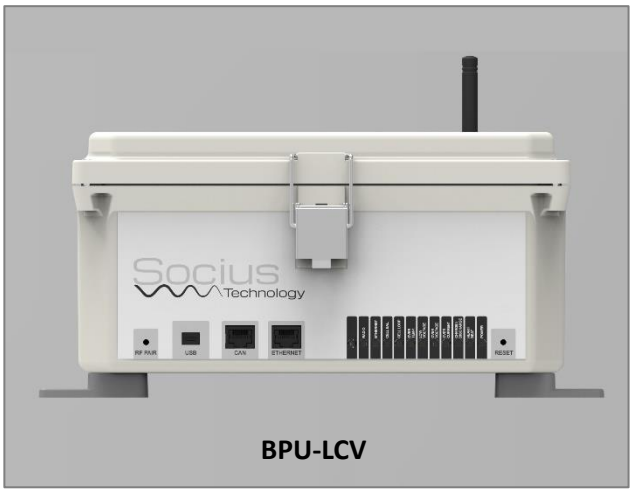
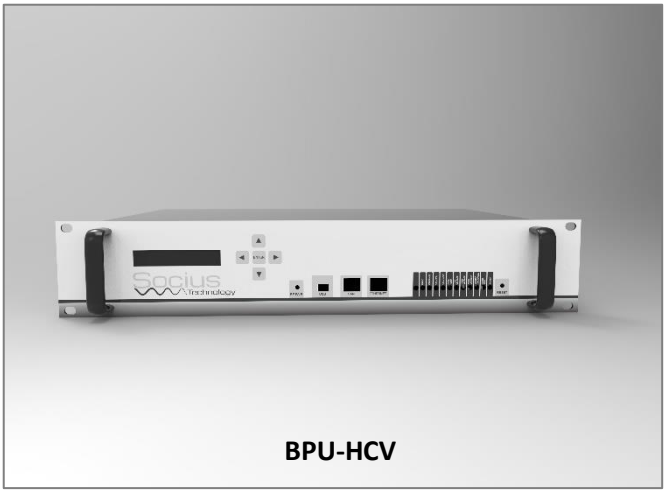
BATTERY PROTECTION UNIT - SPECIFICATIONS



BPU-LCV



BPU-HCV

		BPU-LCV	BPU-HCV
Power	Nominal	24/48VDC	
	Typical Operating	27.6/55.2VDC	
	Range	18VDC to 65VDC	
	Consumption	5W	15W
	Max In/Out Operating Current	50Amps	150Amps
System Connections	Electrical (battery & Load)	Screw Terminal Block, cross section 0.5-16mm^2	Screw Terminal Block, cross section 16-50mm^2
	Monitoring	Wireless Interface 433.05MHz to 434.79MHz to Socius Battery Cell Module	
		Cell Sense Loop (optional 3rd Party Battery Cell Modules)	
		Battery Voltage	
		Supply Voltage	
		Mid Pack Voltage	
		System Current	
		Temperature Sensor	
	I/0	6 x Digital in and Out	
		2 x Solid State Relay - 6x Relay–Dry/Form C Configurable Normally Open/Closed [Max capacity 75V/2A/60W]	
	Battery Disconnect	Solid State FET Driven Normally Open	Normally Open DC contactor
	Load Disconnect		
User interface	Visual Indicators	Led indicators	LCD Display and LED indicators
	Configuration	HTML GUI	
		Serial Local SW/FW Update	
		Push button for RF pairing to Battery Cell Module	
		Push button for system reset	
	Ethernet Port	RJ-45 - 10/100 BASE-T, HP Auto MDI/MDI-X, IP protocols: HTTP / SSL, SNMP v3, MODBUS TCP	
	CAN bus	Future use (CAN bus, MODBUS)	
	Micro USB	Future Use (Programming, MODBUS)	
General / Environmental	Temperature	Operational 0°C to 70°C	
		Storage -20°C to 85°C	
	Humidity	0 to 95% non-condensing relative humidity.	
	Dimensions	270 (L) x 220 (W) x 145 (H)	350 (L) x 485 (W) x 90 (H)
Compliance	Electrical Safety	AS/NZS 60950.1:2015	
	Electromagnetic Compliance	AS/NZS CISPR 22: 2010 + AC: 2011	
	RoHS	ROHS compliant	
	Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-3 (Class 3.2), ETSI EN 300 132-2, Telcordia NEBS GR63 CORE Zone 4, ROHS compliant	
	Wireless Communications	AS/NZS 4268:2012	
	MTBF	25 years	

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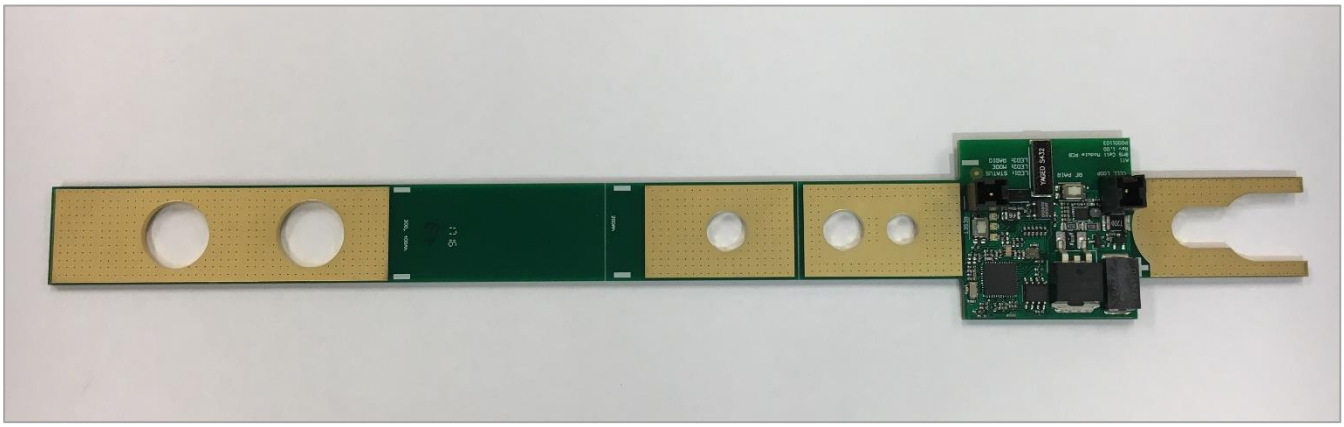
BATTERY CELL MODULE – SPECIFICATIONS



Cell Compatibility	LiFePO4 3.2Volt cell	40, 60, 100, 200, 300, 400Ah
Power	Nominal	3.2VDC
	Range	2.5VDC to 3.8VDC
	Consumption	32mW
	Max Shunt Current	1Amp
Functional	Shunting	Dynamic balancing through complete voltage range (with RF interface)
		Fixed Shunting at 3.6 VDC (when RF interface disabled)
	Monitoring	Wireless Interface 433.05MHz to 434.79MHz to Socius Battery Cell Module
		Shunting State
		Cell Temperature
		Cell Voltage
	System Connections	Solid State FET Driven Normally Open
User interface	Visual Indicators	Led indicators
	Configuration	Push button for RF pairing to Battery Cell Module
		Push for system reset
General Environmental	Temperature	Operational 0°C to 70°C
		Storage -20°C to 85°C
	Humidity	0 to 95% non-condensing relative humidity.
	Dimensions	116 (L) x 46 (W) x 10 (H)
Compliance	Electrical Safety	AS/NZS 60950.1:2015
	Electromagnetic Compatibility	AS/NZS CISPR 22: 2010 + AC: 2011
	RoHS	ROHS compliant
	Environment	ETSI EN 300 019: 2-1 (Class 1.2), 2-2 (Class 2.3) & 2-3 (Class 3.2), ETSI EN 300 132-2, Telcordia NEBS GR63 CORE Zone 4, ROHS compliant
	Communications	AS/NZS 4268:2012
	MTBF	25 years

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