Smart Battery Management System (Smart BMS): LFP-16S-150A

Configurable From 8S to 16S

General Specifications

Product Name	BMS16S-150A
Model No.	AQ16-150A V6.15
Type of BMS	Smart
Cell Chemistry	LFP
Number of cells in series	8S to 16S
AIS 156 Compliances	Yes
Communication	CAN (500kbps)
Temperature Sensor	4 (Cells) +1 (MOSFET)
Dimension	214x81x18mm

Technical Specifications

Cycle	Functions	Conditions	Specification			Unit	Remark
			Min	Typical	Max		
Charging	Over Charge Protection	Over Charge Voltage Protection	3.60	**3.65**	3.70	V	Configurable
		Over Charge Protection Delay	3	**5**	7	S	Configurable
		Over Charge Protection Release Voltage	3.50	**3.55**	3.60	V	Configurable
		Over Charge Release Protection Delay	9	**10**	11	S	
	Balancing Function	Balance Start Voltage	3.40	**3.45**	3.50	V	Configurable
		Balance Current	75	**100**	125	mA	
		Delta Voltage among cells (on which balancing starts) *	45	**50**	55	mV	
	Charge Current Protection	Normal Charging Current		**110**		A	
		Charging Over Current	111	-	149	A	Configurable
		Charging Over Current Detection Delay	3	**4**	5	S	Configurable
		Charging Peak Current		**≥150**		A	Configurable
		Charging Peak Current Detection Delay		**2**		S	Configurable
		Charging Over Current Release Delay	59	**60**	61	S	
	Temperature Protection During Charge	High Temperature	53	**55**	57	˚C	Configurable
		High Temperature Recovery	48	**50**	52	˚C	Configurable
		Low Temperature	-12	**-10**	-8	˚C	Configurable
		Low Temperature Recovery	-7	**-5**	-3	˚C	Configurable
		Temperature Cut-off Delay	1	**2**	3	S	
Discharging	Over Discharge Protection	Over Discharge Protection Voltage	2.65	**2.70**	2.75	V	Configurable
		Over Discharge Protection Delay	8	**10**	12	S	Configurable
		Over Discharge Protection Release Voltage	2.80	**2.85**	2.90	V	Configurable
		Over Discharge Release Protection Delay		1		S	
	Discharge Current Protection	Max Constant Current		**150**		A	Configurable
		Discharging Overcurrent Protection-1	151	-	299	A	
		Discharging Overcurrent Detection Delay-1	119	**120**	121	S	
		Discharging Overcurrent Protection-2	300	-	349	A	Configurable
		Discharging Overcurrent Detection Delay -2	3	**4**	5	S	Configurable
		Discharging Overcurrent Protection-3		**≥350**		A	Configurable
		Discharging Overcurrent Detection Delay -3		**1**		mS	Configurable
		Discharging Overcurrent Release Delay	29	**30**	31	S	Configurable
	Temperature Protection During Discharge	High Temperature	58	**60**	62	˚C	Configurable
		High Temperature Recovery	53	**55**	57	˚C	Configurable
		Low Temperature	-12	**-10**	-8	˚C	Configurable
		Low Temperature Recovery	-7	**-5**	-3	˚C	Configurable
		Temperature Cut-off Delay	1	**2**	3	S	

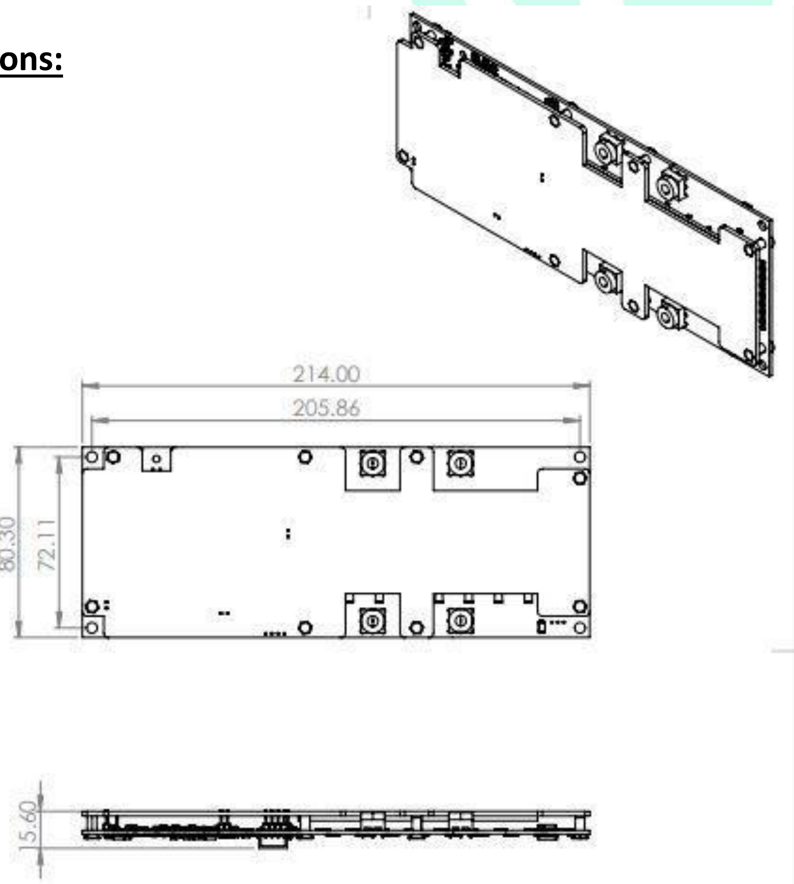
Short Circuit Protection	Short Circuit Protection	**Enabled**				
	Short Circuit Recovery	**Load removal**				
Sleep Mode Time	During Normal Mode	10	**12**	14	hour	Configurable
	During Discharged Mode	55	**60**	65	Min.	Configurable
MOSFET Temp	MOSFET Temperature Protection	83	**85**	87	˚C	Configurable
	MOSFET Temperature Protection Release	63	**65**	67	˚C	Configurable
Thermal Run Away	As per AIS156	Enabled				
	Recovery	By long press (>40 sec) of Reset switch				
Charger parameters	Set voltage (16 cells)		58.8*		V	configurable
	Set current		60		A	configurable
Light and Sound Indication (LED/Buzzer)	During Thermal Runaway	Continuous Glow and Blow				
	During MOSFET Fail	2 Sec ON & 2 Sec OFF				

Note: -

1. To calibrate SOC, first we will do one full charge cycle until charging voltage cut off and then one full discharge cycle until discharging voltage cut off.
2. Charger set voltage will be ((Number of cells in series*3.65) + 0.4V)

NOTE: This **0.4V** is to overcome wire loss between charger and battery.

Mechanical Specifications:



Illustrative Connection Diagram of 16 Cells: