## **Cell Management Unit**





## Features

- The fast control for the balanced voltage of Li-ion battery cell and the charging output of the AC charger
- Real-time battery voltage monitoring for 4 cells and 8 cells of Li-ion battery
- Adjustable maximum and minimum voltage 1.8V~5V per cell is suitable for different kinds of Li-ion batteries
- Cell balancing ability with 3A to ensure the safe charging for battery cells
- RS485/CAN2.0B ports to communicate with CMUR relay board, AC charger and Computer to maximize the performance of the battery management system
- User friendly interface for parameter settings such as cell voltage protection values and heatsink temperature protection values
- External temperature sensors to detect the actual temperature of battery
- Variable speed control of external fan for temperature cooling











## **Cell Management Unit**



## **Specifications**

Battery Input Voltage Range	Орссии	ations					
4 battery cells in series   5-8 b	Model No.			CMU-4S3A-R	CMU-8S3A-R	CMU-4S3A-C	CMU-8S3A-C
Number of the CMU	Battery Input Voltage Range			4 battery cells	5~8 battery cells	4 battery cells	5~8 battery cells
Number of the CMU	Cell Balance Current			Max.: 3A			
Cell Temperature   Range	Cell Voltage Range			1.8 ~ 5VDC per cell (Resolution: 1.5mV)			
Cell Vorltage	Number of the CMU						
Cell Voltage	Cell Temperature Range			0°C ~ 50°C (Resolution: 1°C)			
Cell Under Voltage		Cell Over Voltage		4.0V (Default) , Selectable			
Protection   Cell Under Voltage   2.6V (Default)   Selectable		Cell Balance		3.8V (Default) , Selectable			
Heatsink Warm (Fan Active) Heatsink Hot (Fan Full Speed) Heatsink Over Temperature Protection  Fan Control Fan operating speed depends on the temperature of heatsink  CMU Power Consumption  CMU Power Consumption  External Fan Control 12VDC 12VDC 12VDC 24VDC 12VDC 24VDC Communication Interface RS485 CAN2.0B  Controller Size (H x W x D) mm 32 x 145 x 77.5  Weight (Kgs) 0.26 0.28 0.28 0.30  Pin 1 X Over Temperature Pin 2 RS485 D+ CAN H Pin 3 RS485 D- CAN L  RJ-45 Port / 8 Pin Terminal Output Signal Pin 4 GND  Pin 6 Cell Under Voltage (Low Active) Pin 6 Cell Over Voltage (High Active) Pin 7 10 ~ 15V (Input Voltage)		Cell Under Voltage Warning		2.6V (Default) , Selectable			
Heatsink Hot (Fan Full Speed) Heatsink Over Temperature Protection  Heatsink Over Temperature Protection  Fan Control Fan Control  CMU Power Consumption  External Fan Control  Communication Interface  Communication Port  Communication Port  Controller Size (H x W x D) mm  Pin 1  X  Over Temperature  Pin 2  RS485 D+  CAN H  Pin 3  RS485 D-  CAN L  Pin 4  Pin 4  Pin 5  Cell Under Voltage (High Active)  Pin 7  10 ~ 15V (Input Voltage)		Cell Under Voltage		2.4V (Default) , Selectable			
Heatsink   Temperature   Fan Control   Fan Operating speed depends on the temperature of heatsink	Temperature	Heatsink Warm (Fan Active)		50℃ (Default) · Selectable			
Temperature   Protection   Fan Control   Fan Operature   Fan		Heatsink Hot (Fan Full Speed)		65°ℂ (Default) <sup>,</sup> Selectable			
Fan Control   Fan Operating speed depends on the temperature of heatsink		Heatsink Over Temperature		80°ℂ (Default) <sup>,</sup> Selectable			
External Fan Control   12VDC   24VDC   12VDC   24VDC		Fan Control					
Communication Interface	CMU Power Consumption			<10mA ± 1mA			
Communication Port   2 RJ-45 Ports / 8 Pin	External Fan Control			12VDC	24VDC	12VDC	24VDC
Controller Size (H x W x D) mm         32 x 145 x 77.5           Weight (Kgs)         0.26         0.28         0.30           Pin 1         X         Over Temperature           Pin 2         RS485 D+         CAN H           Pin 3         RS485 D-         CAN L           Pin 4         GND           Pin 5         Cell Under Voltage (Low Active)           Pin 6         Cell Over Voltage (High Active)           Pin 7         10 ~ 15V (Input Voltage)	Communication Interface			RS485 CAN2.0B		2.0B	
Neight (Kgs)   0.26   0.28   0.28   0.30	Communication Port			2 RJ-45 Ports / 8 Pin			
Pin 1 X Over Temperature  Pin 2 RS485 D+ CAN H  Pin 3 RS485 D- CAN L  Pin 4 GND  Terminal Output Signal  Pin 5 Cell Under Voltage (Low Active)  Pin 6 Cell Over Voltage (High Active)  Pin 7 10 ~ 15V (Input Voltage)	Controller Size (H x W x D) mm			32 x 145 x 77.5			
Pin 2 RS485 D+ CAN H Pin 3 RS485 D- CAN L  Pin 4 Pin 5 Cell Under Voltage (Low Active) Pin 6 Pin 7 Pin 7 Pin 7 Pin 2 RS485 D+ CAN H Pin 3 RS485 D- CAN L  OAN L  OA	Weight (Kgs)			0.26	0.28	0.28	0.30
RJ-45 Port / 8 Pin Terminal Output Signal  Pin 3  RS485 D-  GND  Pin 5  Cell Under Voltage (Low Active)  Pin 6  Cell Over Voltage (High Active)  Pin 7  10 ~ 15V (Input Voltage)	RJ-45 Port / 8 Pin Terminal Output Signal  Pin 2  Pin 3  Pin 4  Pin 5		Х		Over Temperature		
RJ-45 Port / 8 Pin Terminal Output Signal  Pin 5  Cell Under Voltage (Low Active)  Pin 6  Cell Over Voltage (High Active)  Pin 7  10 ~ 15V (Input Voltage)			Pin 2	RS485 D+		CAN H	
Terminal Output Signal  Pin 5  Cell Under Voltage (Low Active)  Pin 6  Cell Over Voltage (High Active)  Pin 7  10 ~ 15V (Input Voltage)			Pin 3	RS485 D-		CAN L	
Pin 6 Cell Over Voltage (High Active)  Pin 7 10 ~ 15V (Input Voltage)			Pin 4	GND			
Pin 7 10 ~ 15V (Input Voltage)			Pin 5	Cell Under Voltage (Low Active)			
			Pin 6	Cell Over Voltage (High Active)			
Pin 8 Cell Under Voltage Warning (Low Active)			Pin 7	10 ~ 15V (Input Voltage)			
Time   Total total (2011 Addres)	Pin 8			Cell Under Voltage Warning (Low Active)			









