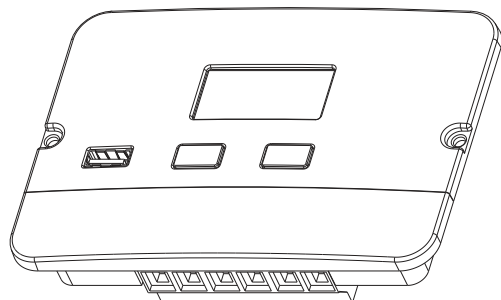




SOLAR CHARGE CONTROLLER SCC10AFM USER'S MANUAL



Icons Chart

Icons	Name	Description
	High Voltage	High voltage device. Installation should be performed by an electrician.
	High Temperature	This device will produce heat. Mount device away from other flammable items.
	Environmental Hazard	Electronic equipment. Do not put in landfill.
	Wire Stripper	A wire cutter is needed for cutting and stripping wires prior to connection.
	Multimeter	A multimeter is needed for testing equipment and verifying polarity of cables.
	Anti-static Glove	Anti-static gloves are recommended to prevent controller damage caused by static electricity.
	Electrical Tape	Electrical tape is recommended to safely insulate spliced or bare wires.
	Screwdriver	A screwdriver is needed when attaching wires to the controller.

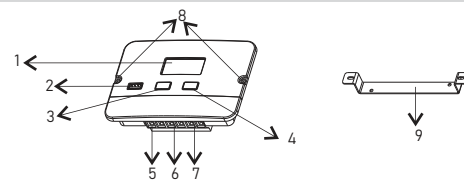
Product Features

The AIMS Power 10 amp flush mount solar charge controller has a flush mount or flat design for flexible mounting options. The controller is compatible with 12V & 24V battery systems. This device will regulate the voltage coming from a solar panel (s), and safely charge the battery (s). Most commonly used in small solar systems.

FEATURES

- Charging modes available for most common deep-cycle battery types. AGM (sealed lead acid batteries), GEL, Flooded, and Lithium. User may also use the customized parameter mode.
- Automatically recognizes 12V or 24V battery banks
- 5V 1A USB outlet provides charging for mobile devices.
- Industrial grade design with reverse polarity protection for solar panels and battery
- Flat mount with bracket or flush mount fixture included.

Device Layout

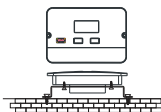


#	Description	#	Description
1	LCD Display Screen	6	Battery Terminals
2	5V 1A USB Port	7	Solar Terminals
3	Function Key	8	Mounting Holes
4	Load Key	9	Flat Mount Bracket
5	Load Terminals		

Mounting Instructions

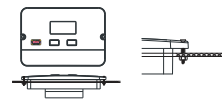
The SCC10AFM controller can be mounted flush or flat with included bracket. Mount in a dry and cool location. Do NOT allow controller to get wet.

Flat Mount with Bracket



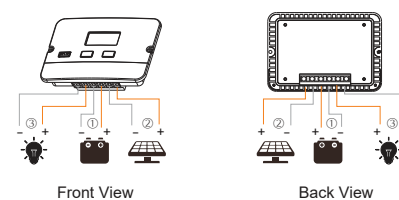
1. Attach the mounting bracket to the back of the controller using screws.
2. Mark the bracket's mounting holes on the mounting surface.
3. Attach the mounting bracket to the mounting surface using screws.

Flush Mount



1. Mark the controller's dimension and mounting holes on the mounting surface.
2. Make necessary alterations to ensure the controller fits into the mounting surface snugly. Pre-install wires if needed (turn to next page for instructions).
3. Attach the controller to the mounting surface using screws.

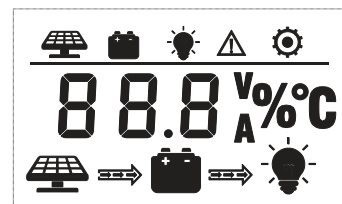
Wire Connection Sequences



During installation, follow the sequence below:

1. Connect the positive battery wire followed by the negative battery wire.
2. Make sure your solar panel (s) is fully covered to prevent electric shock. Connect the positive solar array output wire followed by the negative solar array output wire.
3. Connect the DC load wiring to the DC load output (if applicable).

LCD Display Interface Overview



Display Section	Status
Charge Status	
Charge Mode & Parameter	88.8 V% C
Active Functions	

Status Information

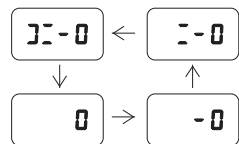
Status Icon	Indication	Status	Description
	Solar Charge	On	Sunlight Detected
		Off	No Sunlight Detected
		Flowing	Solar Charging Battery
		Flash	Solar System Over Voltage
	Battery	On	Battery Connected and Functional
		Off	No Battery Connection
		Flash	Battery Over-Discharged
	DC Load	Flowing	DC Load On
		Off	DC Load Off
		Flash	Over-Load / Short-Circuit

Key Functionality Chart

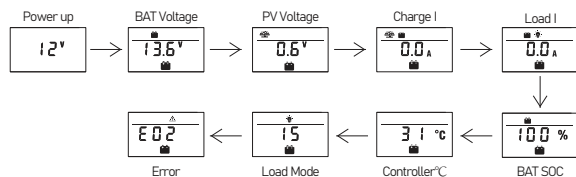
Function Key	System Mode	Input	Input Function
	View Mode	Press & Hold	Enter SET mode
		Quick Press	View Next Page
	View Mode	Press & Hold	N/A
		Quick Press	Switch Load On/Off (Manual Control Program Only)
	Set Mode	Press & Hold	Save Data & Exit SET Mode
		Quick Press	View Next Page
	Set Mode		
		Quick Press	Adjust parameter

LCD Display

Start-up display will cycle when the controller turns on. It may cycle for several seconds while controller detects operating environment.



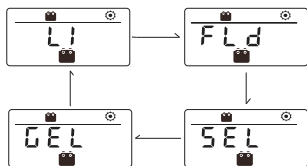
LCD Screen Display Cycle



The screens will automatically cycle every 5 seconds. The user can also use the up and down keys to move through the screens.

The error code page will display when an error is detected.

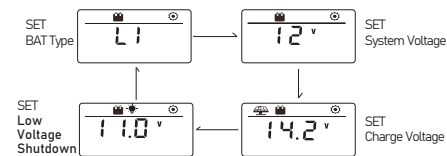
Setting Battery Mode



Abbreviation	Battery Types	Description
FLD	Flooded Battery	Auto-recognition with default parameters set for each type of batteries.
SEL	Sealed/AGM Battery	
GEL	Gel Battery	
LI	Lithium Battery	Custom charge & discharge voltages.

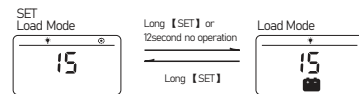
Advance Battery Settings

- In Lithium mode, press and release arrow key quickly and again to cycle through each parameter view.
- Use the load key to adjust parameter value, press and hold arrow key to save and exit.



Load Mode Settings

- Enter Load SET Mode by pressing the arrow key in Load Mode view only.
- Press and release the arrow key to cycle through load modes before pressing and holding the arrow key down again to save and exit.



Mode	Definition	Description
0	Daylight Auto-Control	PV voltage turns on the load when there is sunlight
1~14	Daylight On/Timer Off	DC load turns on when sunlight is detected. DC load turns off according to timer. Mode 1 = turn off after 1 hour, and so on...
15	Manual Mode	DC load turns on/off by pressing the load key.
16	Testing Mode	DC load turns on and off in a quick succession.
17	Always on	DC load stays on.

Error Code Chart

Code	Error	Description & Quick Troubleshoot
E00	No error	No action needed.
E01	Battery Over-discharged	Battery voltage is too low. DC load will stay off until battery re-charges to recovery voltage.
E02	Battery Over-voltage	Battery voltage has exceeded controller limit. Check battery bank voltage for compatibility with controller.
E04	Load Short Circuit	DC load short circuit.
E05	Load Overload	DC load power draw exceeds controller's rated capacity. Reduce load size or upgrade to a larger charge controller.
E06	Overheating	Controller exceeds operating temperature limit. Ensure the controller is placed in a well-ventilated cool, dry place.
E08	Solar Over-amperege	Solar array amperage exceeds controller's rated input amperage. Decrease the amperage of solar panels connected to the controller or upgrade to a higher rated controller.
E10	Solar Over-voltage	Solar array voltage exceeds controller's rated input voltage. Decrease the voltage of solar panels connected to the controller.
E13	Solar Reverse Polarity	Solar array input wires connected incorrectly. Disconnect and re-connect with correct wire polarity.
E14	Battery Reverse Polarity	Battery wires connected incorrectly. Disconnect and re-connect with correct wire polarity.

* Contact [AIMS Power](mailto:techsupport@aimscorp.net) for detailed troubleshooting.

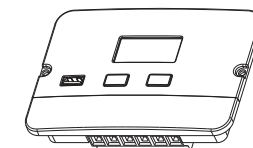
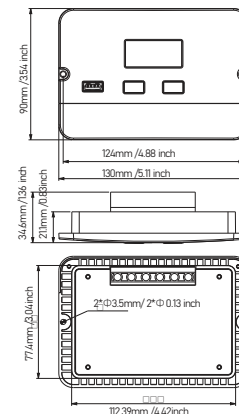
AIMS Power
techsupport@aimscorp.net
775-359-6703

Controller Specification

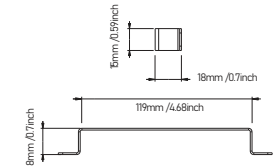
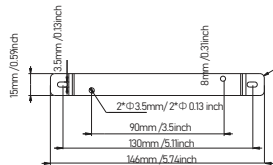
- The variable "n" is adopted as a multiplying factor when calculating parameter voltages, the rule for "n" is listed as: if battery system voltage is 12V, n=1; 24V, n=2.
- For example, the equalize charge voltage for a 12V FLD (Flooded) battery bank is 14.8V*1=14.8V.
- The equalizing charge voltage for a 24V FLD (Flooded) battery bank is 14.8V*2=29.6V.

Parameter	Specification			
Model No.	SCC10AFM			
Battery System Voltage	12V/24V Auto (FLD/GEL/SLD) Manual (Li)			
No-load Loss	8ma (12V), 12ma (24V)			
Max Solar Input Voltage	<55Voc			
Rated Solar Charge Current	10A			
Max Solar Input Power	170W/12V 340W/24V			
Light Control Voltage	5V*n			
Light Control Delay Time	10s			
Max Load Output Current	10A			
Operating Temperature	-35°C ~ +45°C			
IP Protection	IP32			
Net Weight	.5 lb			
Operating Altitude	≤ 3000 meters			
Controller Dimension	5 1/8" W x 3.5" H x .75" D			
Parameter	Battery Type			
Battery Types	FLD	SEL	GEL	LI
Equalize Charge Voltage	14.8V*n	14.6V*n	--	--
Boost Charge Voltage	14.6V*n	14.4V*n	14.2V*n	14.4V*n (adjustable)
Float Charge Voltage	13.8V*n			
Boost Charge Recovery Voltage	13.2V*n			
Over-discharge Recovery Voltage	12.6V*n			
Over-discharge Voltage	11.1V*n			11.1V*n (adjustable)

Product Dimensions



Product Dimension:
130*90*34.6 mm / 5.11*3.54*1.36 inch
Flat Mount Size:
124 mm / 4.88 inch
Flush Mount Size:
130 mm / 5.11 inch
Installation Hole Size:
Φ 3.5 mm / Φ 0.13 inch



*Specifications may change without notice