

MPPT solar charge controller

USER GUIDE

MPPT solar charge controller



Contents

1. ABOUT THIS MANUAL	1
1.1 Purpose	1
1.2 Scope	1
1.3 Safety Instructions	1
1.4 Parallel Connection	1
1.5 Bluetooth and WiFi	1
2. INTRODUCTION	1
2.1 Features	2
2.2 Product Overview	3
3. INSTALLATION	3
3.1 Unpacking and Inspection	3
3.2 Preparation	3
3.3 Mounting the Unit	3
3.4 Power Connection	4
3.5 RS485/CAN	5
3.6 Grounding and Ground Fault Interruption	6
4. OPERATION	7
4.1 Power-Up	7
4.2 Operation and Display Panel	7
4.3 LCD Display Icons	8
4.4 Setting Page	9
4.5 Base information Page	13
4.6 Reference Code	13
5. CHARGING LOGIC	15
5.1 3-stage Charging	15
5.2 Equalize Stage	16
5.3 Setting Parameter and Default Value	17
6. TROUBLE SHOOTING	18
7. SPECIFICATIONS	19
8. WIFI OPERATION GUIDE IN APP	21
8.1 Introduction	21
8.2 Download and Install APP	21

1. ABOUT THIS MANUAL

1.1 Purpose

This manual describes the assembly, installation, operation and troubleshooting of this unit. Please read this manual carefully before installations and operations. Keep this manual for future reference.

1.2 Scope

This manual provides safety and installation guidelines as well as information on tools and wiring.

1.3 Safety Instructions



WARNING: This chapter contains important safety and operating instructions. Read and keep this manual for future reference.

- Before using the unit, read all instructions and cautionary markings on the unit, the batteries and all appropriate sections of this manual.
- Do not disassemble the unit. Take it to a qualified service center when service or repair is required. Incorrect re-assembly may result in a risk of electric shock or fire.
- To reduce risk of electric shock, disconnect all wirings before attempting any maintenance or cleaning. Turning off the unit will not reduce this risk.
- CAUTION** – Only qualified personnel can install this device with battery.
- NEVER** charge a frozen battery.
- For optimum operation of this charger, please follow required spec to select appropriate cable size. It's very important to correctly operate this charger.
- Be very cautious when working with metal tools on or around batteries. A potential risk exists to drop a tool to spark or short circuit batteries or other electrical parts and could cause an explosion.
- Please strictly follow installation procedure when you want to disconnect PV or battery terminals. Please refer to Installation section of this manual for the details.
- GROUNDING INSTRUCTIONS** -This charger should be connected to a permanent grounded wiring system. Be sure to comply with local requirements and regulation to install this charger.
- NEVER cause short circuited on battery output.
- Warning!!** Only qualified service persons are able to service this device. If errors still persist after following troubleshooting table, please send this charger back to local dealer or service center for maintenance.

1.4 Parallel Connection

- The system can be connected in parallel, not in series.
- Each controller is connected to different solar photovoltaic panels, and connected to the same battery to achieve parallel connection.
- SCCM3024-III and SCCM4524-III do not have this function.
- The maximum number of parallel machines is 16.

1.5 Bluetooth and WiFi

- This machine have built-in Bluetooth and WiFi.

2. INTRODUCTION

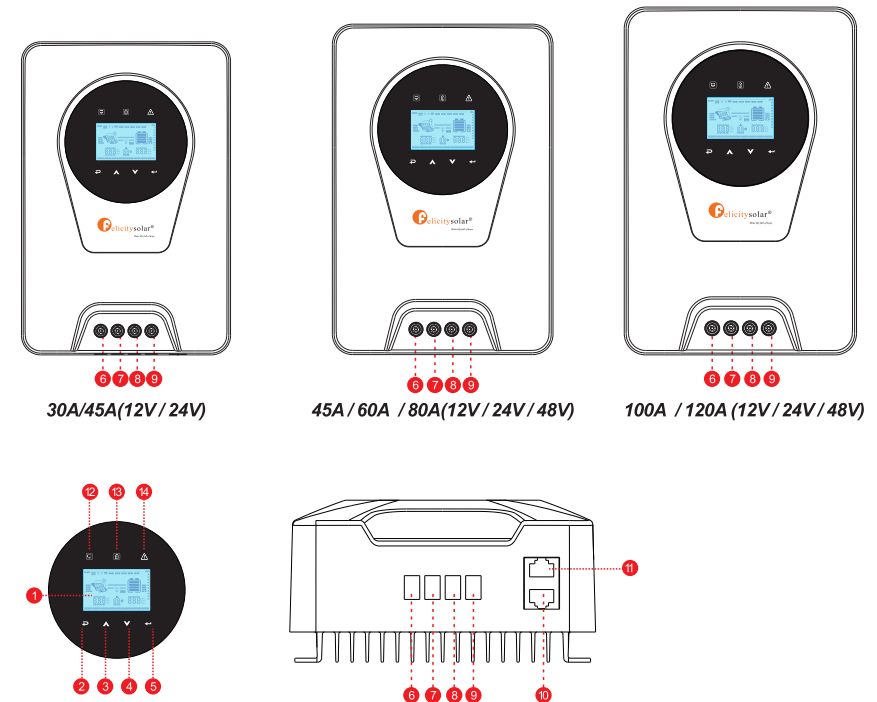
Thank you for selecting this solar charge controller. This solar charge controller is an advanced solar charger with maximum power point tracking. Applying intelligent MPPT algorithm, it allows solar charge controller to extract maximum power from solar arrays by finding the maximum power point of the array.

The MPPT battery charging process has been optimized for long battery life and improved system performance. Self-diagnostics and electronic error protections prevent damage when installation errors or system faults occur. This charger also features multifunctional LCD with communication ports for remote battery temperature and voltage measurement.

2.1 Features

- Intelligent Maximum Power Point Tracking technology increases efficiency 25%~30%
- Compatible for Battery systems in 12V, 24V or 48V
- Three-stage charging optimizes battery performance (Two-stage charging in lithium battery mode)
- Maximum charging current up to 120A
- Maximum efficiency up to 98%
- Automatic battery voltage detection(Lithium battery voltage needs to be set manually)
- Supports lithium battery and various lead-acid batteries, AGM and GEL battery
- Integrated intelligent slot compatible with MODBUS&CAN communication.

2.2 Product Overview



- LCD Display
- ESC Button
- UP Button
- DOWN Button
- ENTER Button
- PV Positive +
- PV Negative -
- Battery Negative -
- Battery Positive +
- Communication Port 1
- Communication Port 0
- Charging Indicator
- Fault Indicator

- UP Button
- PV Positive +
- Battery Positive +
- Communication Port 0
- Fault Indicator

3. INSTALLATION

3.1 Unpacking and Inspection

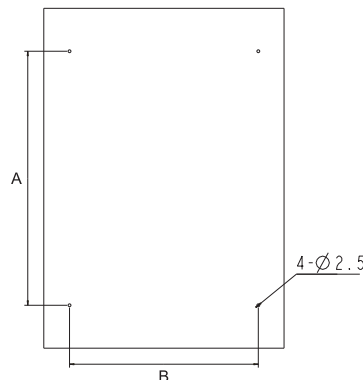
Before installation, please inspect the unit. Be sure that nothing inside the package is damaged. You should have received the following items inside of package:

- Solar charge controller x 1
- User manual x 1
- Installation hole map x 1

3.2 Preparation

please install the mounting holes according to the mounting hole position diagram

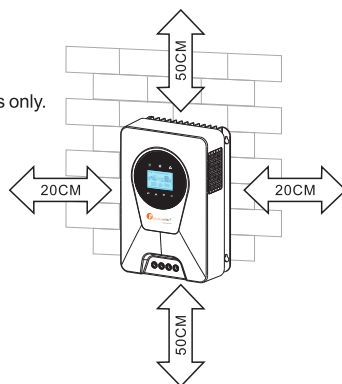
	A	B
SCCM 3024-III	140	119
SCCM 4524-III	178	134
SCCM 4548-III	222	165
SCCM 6048-III	222	165
SCCM 8048-III	224	178
SCCM 10048-III	255	197
SCCM 12048-III	255	197



3.3 Mounting the Unit

Consider the following points before selecting where to install:

- This solar charge controller is designed in IP20 for indoor applications only.
- Do not mount the unit on flammable construction materials.
- Mount on a solid surface
- Install this charger at eye level in order to allow the LCD display to be read at all times.
- For proper air circulation to dissipate heat, allow a clearance of approx. 20 cm to the side and approx. 50 cm above and below the unit.
- The ambient temperature should be between 0°C and 55°C to ensure optimal operation.
- The recommended installation position is to be adhered to the wall vertically.



Install the unit to the wall by screwing four screws. Refer to right chart.

3.4 Power Connection

Wire size

The four large power terminals are sized for 14 - 2 AWG (2.5 - 35mm²) wire. The terminals are rated for copper and aluminum conductors. Use UL-listed Class B 300 Volt stranded wire only. Good system design generally requires large conductor wires for solar module and battery connections that limit voltage drop losses to 2% or less.

Minimum Wire Size

The table below provides the recommended minimum wire size allowed for the charger. Wire types rated for 75°C and 90°C are listed.

Recommended wire size:

Typical Amperage	Wire Type	75°C Wire	90°C Wire
30A	Copper	8 AWG (10 mm ²)	8 AWG (10 mm ²)
	Aluminum	6 AWG (16 mm ²)	6 AWG (16 mm ²)
45A	Copper	4 AWG (25 mm ²)	6 AWG (16 mm ²)
	Aluminum	2 AWG (35 mm ²)	4 AWG (25 mm ²)
60A	Copper	4 AWG (25 mm ²)	6 AWG (16 mm ²)
	Aluminum	2 AWG (35 mm ²)	4 AWG (25 mm ²)
80A	Copper	2 AWG (35 mm ²)	4 AWG (25 mm ²)
100A	Copper	2 AWG (35 mm ²)	2 AWG (35 mm ²)
120A	Copper	2 AWG (35 mm ²)	2 AWG (35 mm ²)

Overcurrent Protection and Disconnects

CAUTION: Circuit breakers or fuses must be installed in both battery and solar circuits.

The battery circuit breaker or fuse must be rated to 125% of the maximum current or more. The recommended breaker/fuse rating for use with the charger is listed in the below table.

Recommended breaker rating:

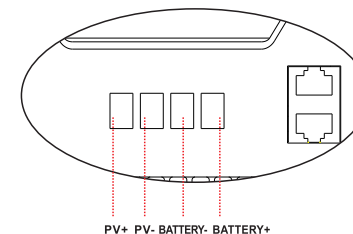
Minimum battery circuit breaker/fuse rating			
1.25 x 30Amps = 37.5 Amps	1.25 x 45Amps = 56.3 Amps		
1.25 x 60Amps = 75.0 Amps	1.25 x 80Amps = 100.0 Amps		
1.25 x 100Amps = 125 Amps	1.25 x 120Amps = 150 Amps		

A disconnect is required for the battery and solar circuits to provide a means for removing power from the charger. Double pole switches or breakers are convenient for disconnecting both solar and battery conductors simultaneously.

Connect the Power Wires

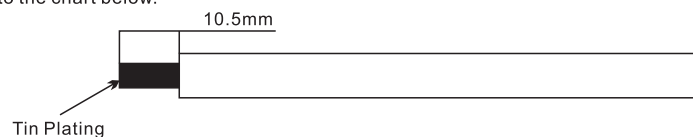
WARNING: Shock Hazard

The solar modules can produce open-circuit voltages in excess of 100 Vdc when in sunlight. Verify if solar input breaker or disconnect has been opened (disconnected) before connecting system wires.



Connect terminals by following below steps (Refer to diagram above):

1. Make sure that the system input and output disconnect switches are both turned off before connecting power wires to the charger. There are no disconnecting switches inside the charger.
2. Make 4 power wires first. Remove insulation sleeve 10.5mm and the conductor should be plated Tin. Refer to the chart below.



3. Pull all wires into the wiring box. The Remote Temperature Sensor and Battery Sense wires can be inside the conduit with the power conductors. It is easier to pull RTS and Sense wires before the power cables.

WARNING: Risk of Damage

Be sure that the battery connection is made with correct polarity. Turn on the battery breaker/disconnect and measure the voltage on the open battery wires BEFORE connecting to the controller. Disconnect the battery breaker/disconnect before wiring to the controller.

4. Connect positive terminal (+) of battery to the battery positive terminal (+) on the controller.
5. Connect negative terminal (-) of battery to one of the Common Negative terminals (-) on the controller.

WARNING: Risk of Damage

Be sure that solar connection is made with correct polarity. Turn on the solar breaker/disconnect and measure the voltage on the open wires BEFORE connecting to the controller. Disconnect solar breaker/disconnect before wiring to the controller.

6. Connect positive wire (+) of solar module to the solar positive terminal (+) on the controller.
7. Connect negative wire (-) of solar module to one of the Common Negative terminals (-) on the controller.
8. Screw four (4) power terminals tightly with 50 in-lbs torque. (5.65 Nm)

3.5 RS485/CAN

1. RS485/CAN port Used for communication between MPPT and BMS or between MPPT.
2. CAUTION - If the battery type of the MPPT is set to Lib mode, the MPPT must be properly communicated with the battery pack to charge.

Picture	PIN	Description
	1	Trigger-GND
	2	/
	3	CANL-BMS
	4	CANH-BMS
	5	RS485-B
	6	RS485-A
	7	CANL-SCCM
	8	CANH-SCCM

3.6 Grounding and Ground Fault Interruption

Use a copper wire to connect the grounding terminal in the wiring box to earth ground. The grounding terminal is identified by the ground symbol shown below that is stamped into the wiring box just below the terminal:



The minimum size of the copper grounding wire is 8 AWG (10 mm²).

WARNING: Risk of Fire

DO NOT bond system electrical negative to earth ground at the controller.

4. OPERATION

4.1 Power-Up

WARNING: Risk of Damage

Connecting the solar module to the battery connector will permanently damage the controller.

- Confirm that the solar and battery polarities are correctly connected to the controller.
- A battery must be connected to the controller before operating it. The controller will not operate only with solar input. Solar input can trigger the controller to start up when the battery is connected without pressing the button.
- Turn on battery disconnect switch first. And press operation button for a while. Then, it will indicate a successful start-up in LCD display.
- Turn on solar disconnect switch. If the solar module is in full sunlight, the controller will begin charging.

4.2 Operation and Display Panel

The operation and display panel, shown in below chart, is on the front panel of the controller. It includes three indicators, four operation button and a LCD display, indicating the operating status and input/output power information.



LED Indicator

LED Indicator			Messages
POWER ON	Green1	Solid On	The controller is on.
CHARGING	Green2	Solid On	The controller is charging
FAULT	Red	Solid On	Fault occurs

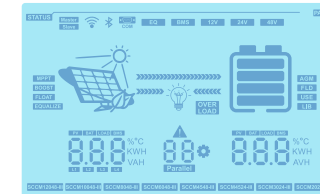
Button Operation

Function	Action Description
Backlight on	Press shortly
Enter LCD setting mode	Press the button for 3 seconds.
Select LCD setting programs or modify parameter	Press shortly.
Confirm selection in setting programs or return back to previous menu	Press shortly.

Button Operation

Function Key	Icon	Description
ESC	↩	To previous page
UP	▲	To go to previous selection
DOWN	▼	To go to next selection
ENTER	➡	To confirm the selection or go to next page

4.3 LCD Display Icons



Icon	Function description
Input Source Information	
PAGE	Show page numbers
OVER LOAD	Indicates output overload
88	Display fault code
88*	Display system setting code
88 Parallel	Display parallel status and parallel number
88.8 °C kWh VAh	Representing their respective corresponding data
STATUS Master Slave Wi-Fi Bluetooth 4G	Connection mode and master-slave state
Battery Icon	The battery capacity ranges from 0-24%, 25-49%, 50-74%, and The battery mode is 75-100%
SCCM12048-III	Product model

	Current direction
	Battery equalization enable status
	BMS connection status Battery type is set Lib mode, if BMS is not connected, the icon will flash
	Rated voltage of battery status
	Battery type
	PV status
	Charging status

Battery Charging Status.

Status	Battery voltage	LCD Display
Constant	< 2V/cell	4 bars will flash in turns.
Current	2 ~ 2.083V/cell	The right bar will be on and the other three bars will flash in turns.
mode /		
Constant	2.083 ~ 2.167V/cell	The two right bars will be on and the other two bars will flash in turns.
Voltage		
mode	> 2.167 V/cell	The three right bars will be on and the left bar will flash.
Floating mode	Batteries are fully charged.	4 bars will be on.

4.4 Setting Page

Press "Up" or "DOWN" button to select setting programs. And then, press "ENTER" button to confirm the selection or ESC button to exit.

Setting items:

Program	Description	Options
00	Exit setting mode	Escape 00* ESC

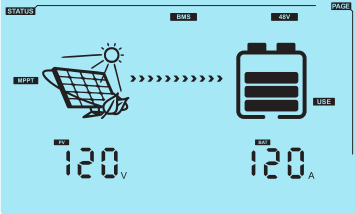
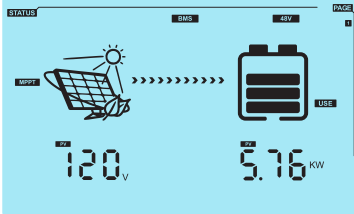
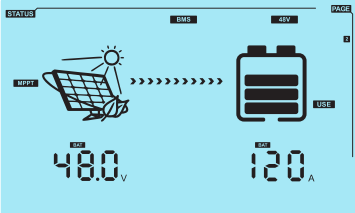
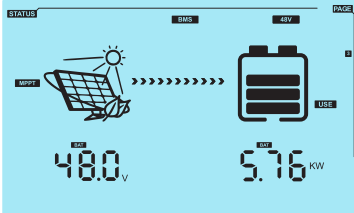
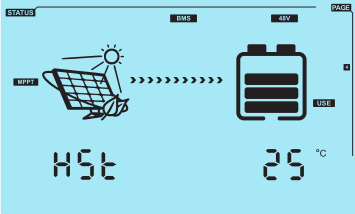
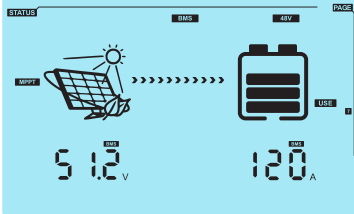
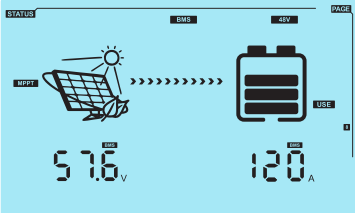
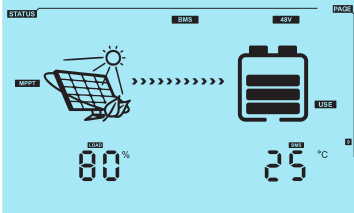
01	Maximum charging current	30A(Default) CHG 01* 30 _A	Setting range is from 30A, 45A, 60A, 80A, 100A or 120A. Increment of each short press is 1A. The value will be back to 10A once the value is a 30A, 45A, 60A, 80A, 100A or 120A.
		45A(Default) CHG 01* 45 _A	
		60A(Default) CHG 01* 60 _A	
		80A(Default) CHG 01* 80 _A	
		100A(Default) CHG 01* 100 _A	
		120A(Default) CHG 01* 120 _A	
02	Battery type	bAt 02* USE	If "Use-Defined" is selected, battery charge voltage can be set up in program 3 and 4. If "Lib" is selected, battery charge voltage can be set up in program 3. Note: "Lib" mode can only be displayed after parameter 05 is set as one of 12V / 24V / 48V. If you want to set "Lib", first set the 05 battery rated voltage (MPPT 45A(12/24V) can't set the Absorption voltage to 48v, Lib mode can't set the AUO), then set 02 to "Lib"
		AGM bAt 02* AG _n	
		Flooded bAt 02* FL _d	
		LIB bAt 02* L _{ib}	
03	Absorption voltage	14.40V (Default) C ^u 03* 14.4	If "Use-Defined" is selected in program 02, this program can be set up. The setting range is from 12.0V to 15.0V. If "Lib" is selected in program 02, the setting range is from 12.0V to 15.0V/24.0V to 30.0V/48.0V to 60.0V
		If this program is selected to modify, the changeable figure will be shown as below. C ^u 03* 14.4	

04	Float voltage	13.6V (Default) FLV 04* 136	If "Use-Defined" is selected in program 02, this program can be set up. The setting range is from 12.0V to 15.0V. If "Lib" is selected in program 02, this parameter is consistent with Absorption voltage
		If this program is selected to modify, the changeable figure will be shown as below. FLV 04* 136	Increment of each short press is 0.1V. The value will jump back to 12.0V after 15.0V is achieved.
05	Battery rated voltage	Auto (Default) bTV 05* 800	If "AUO" is selected, connected battery voltage system will be automatically detected. Note: Lib mode can't set the AUO
		12V bTV 05* 12V	If "12V" is selected, the unit is considered as 12V battery system.
		24V bTV 05* 24V	If "24V" is selected, the unit is considered as 24V battery system.
		48V bTV 05* 48V	If "48V" is selected, the unit is considered as 48V battery system. Note: MPPT 30A, 45A (12/24V) can't set the Absorption voltage to 48V.
06	Battery C.V. charging duration	150 minutes(Default) CVT 06* 150	The setting range is from 5 minutes to 900 minutes. Increment of each short press is 5 minutes. It will jump back to 5 minutes after 900 is achieved.
07	BTS temperature compensation ratio	0mV (Default) bTS 07* 00	The setting range is from 0mV to 60.0mV. Increment of each short press is 0.2 mV. The value will jump back to 0mV after 60.0mV is achieved. For each 12V battery, the derated battery charging voltage is followed the below formula: (Battery temperature – 25 °C) * BTS ratio.
08	Battery equalization enable/disable	Disable (Default) bEQ 08* EQD	In lithium battery mode, it is disabled by default and cannot be set
		Enable bEQ 08* EQE	
09	Battery equalization voltage	14.60V(Default) EQV 09* 146	The setting range is from 12.0V to 15.5V.
		If this program is selected to modify, the changeable figure will be shown as below. EQV 09* 146	Increment of each short press is 0.1V. The value will jump back to 12.0V after 15.5V is achieved.

10	The maximum current of battery equalization	15A (Default) EQC 10* 30A	The setting range is from 30A, 45A, 60A, 80A, 100A or 120A. Increment of each short press is 1A. The value will jump back to 30A, 45A, 60A, 80A, 100A or 120A is achieved.
11	Battery equalized time	60 minutes(Default) EQT 11* 60	The setting range is from 5 minutes to 900 minutes. Increment of each short press is 5 minutes. The value will jump back to 5 minutes after 900 minutes are achieved.
12	Battery equalized timeout	120 minutes(Default) EQO 12* 120	The setting range is from 5 minutes to 900 minutes. Increment of each short press is 5 minutes. The value will jump back to 5 minutes after 900 minutes are achieved.
13	Equalization interval	30 days (Default) EQP 13* 30d	The setting range is from 0 day to 90 days.
14	Equalization activated immediately	Disable (Default) EQA 14* ADS	If equalization function is enabled in program 08, this program can be set up. If "Enable" is selected in this program, it's to activate battery equalization immediately and LCD main page will shows "EQ ". If "Disable" is selected, it will cancel equalization function until next activated equalization time arrives based on program 13 setting. At this time, "EQ " will not be shown in LCD main page.
		Enable EQA 14* AEN	
15	Battery voltage compensation line resistance setting	VCV 15* 0	Battery voltage compensation line resistance setting, unit milliohm, setting range 0~50; The default is 0 milliohm

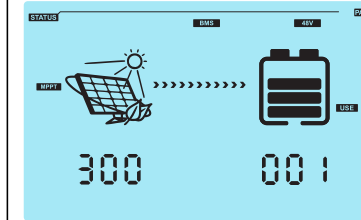
4.5 Base information Page

The base information will be switched by pressing "UP" or "DOWN" key. The selectable information is switched as below order:

PV voltage / Charging current PV voltage is 120V , Charging current is 120A 	PV voltage / PV power PV voltage is 120V , PV power is 5.76kw 
Battery voltage/ Charging current Battery voltage is 48.0V , Charging Current is 120A 	Battery voltage/ Battery power Battery voltage is 48.0V , Battery power is 5.76kw 
Heat sink temperature Heat sink temperature is 25 °C 	BMS voltage/ BMS current BMS voltage is 51.2V, BMS current is 120A 
BMS charge voltage limit/ BMS charge current limit BMS charge voltage limit is 57.6V, BMS charge current limit is 120A 	BMS SOC / BMS average cell temperature BMS SOC is 80%, BMS average cell temperature is 25°C 

Firmware Version /Iap Version

Firmware Version is 300, Iap Version is 001



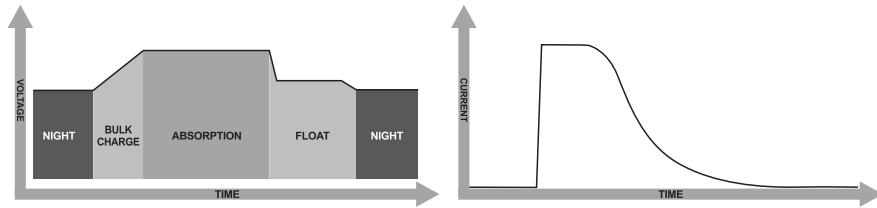
4.6 Reference Code

Type	Code	Event
Fault	01	Over charge current
	02	Over temperature
	03	Battery voltage is too low
	04	Battery voltage is high
	05	PV is high loss
	06	Battery temperature is too low
	07	Battery temperature is too high
	08	Battery voltage is different
	11	MOS tube damaged
	12	Relay is short
	16	Parallel is fault
	17	Eeprom is fault
Warning	20	PV is low loss
	21	Output derating caused from high PV voltage
	22	Output derating caused from high temperature
	23	Low alarm for battery temperature

5. CHARGING LOGIC

5.1 3-stage Charging

In general, this solar charge controller is designed with 3-stage battery charging algorithm for fast, efficient, and safe battery charging. The following picture shows the sequence of charging stages.

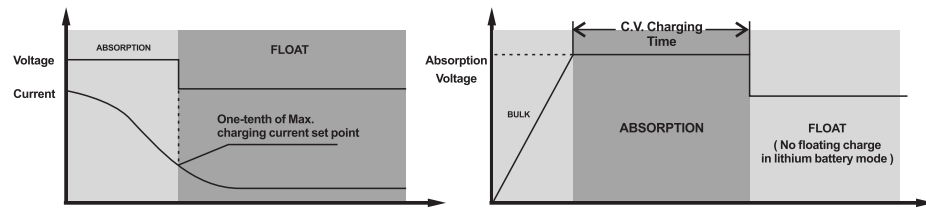


1) Bulk charge stage

In bulk charge stage, charge current begins to flow, typically at the maximum rate of the charge source. The controller will supply solar power to charge battery as much as possible.

2) Absorption stage

When battery charging voltage is reached to Absorption voltage point, the charging stage changes from bulk charge to Absorption. Constant-voltage regulation is used to maintain battery voltage at the Absorption stage. If the charging current drops to one-tenth of the maximum charging current setting point, the charging status will change to Float stage.



If the elapsed time of absorption stage is over setting value for C-V charging time, it will also transfer to Float stage.

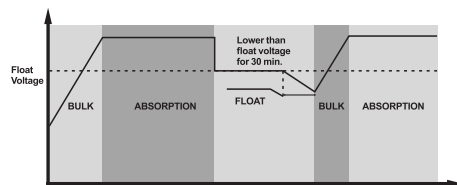
3) Float stage

After the battery is fully charged in the Absorption stage, the controller will reduce the battery voltage to the setting point of Float voltage. Once in Float stage, constant-voltage regulation is used to maintain battery voltage at setting point of float voltage.

In lithium battery mode: the charging logic has no floating charge stage

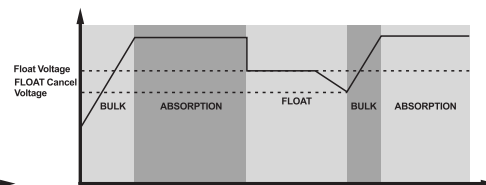
• Float timeout

If the battery voltage remains lower than the Float voltage for 30 minutes, the controller will return to Bulk charging stage.



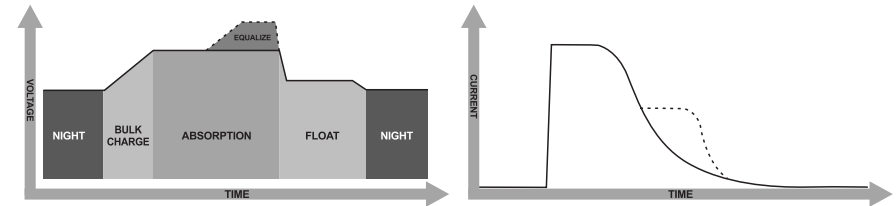
• Float cancel voltage

Once the battery voltage drops to setting point of Float cancel voltage, the controller also returns to Bulk charging stage. Float cancel voltage = Floating charging voltage – (1V x battery numbers in series)



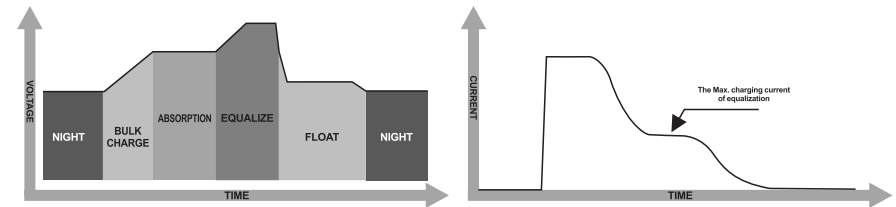
5.2 Equalize Stage

Equalization function is added into solar charge controller. It reverses the buildup of negative chemical effects like stratification, a condition where acid concentration is greater at the bottom of the battery than at the top. Equalization also helps to remove sulfate crystals that might have built up on the plates. If left unchecked, this condition, called sulfation, will reduce the overall capacity of the battery. Therefore, it's recommended to equalize battery periodically.

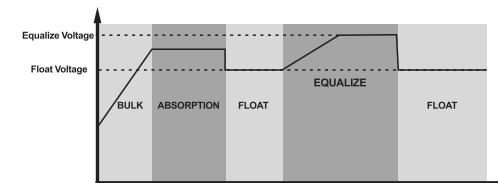


• When to Equalize

In Absorption stage, if the charging current drops lower than the maximum charging current of battery equalization, the controller will start to enter Equalize stage.

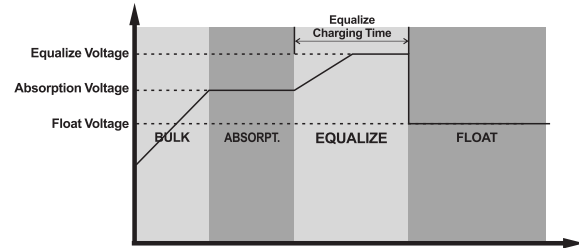


If solar charge controller is working in float stage, but at this time, the setting equalization interval (battery equalization cycle) is arrived, it will transfer to equalize stage.

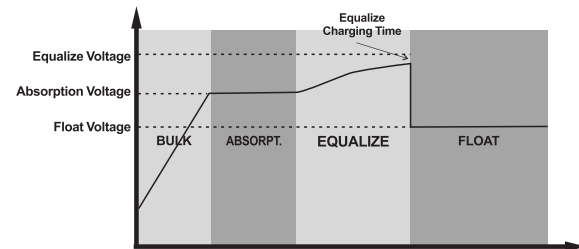


• Equalize charging time and timeout

In Equalize stage, based on maximum charging current of battery equalization, the controller will supply solar power to charge battery as much as possible until battery voltage raises to battery equalization voltage. Then, constant-voltage regulation is applied to maintain battery voltage at the battery equalization voltage. The battery will remain in the Equalize stage until setting battery equalized time is arrived.



However, in Equalize stage, when battery equalized time is expired and battery voltage doesn't rise to battery equalization voltage point, the solar charge controller will extend the battery equalized time until battery voltage achieves battery equalization voltage. If battery voltage is still lower than battery equalization voltage when battery equalized timeout setting is over, the solar charge control will stop equalization and transfer to float stage.



5.3 Setting Parameter and Default Value

Recommended and default parameter settings are listed below.

Parameter	Battery type	Absorp. Stage	Float Stage	Equalize Stage	Equalize Activation	Absorp. Time	Equalize Time	Equalize Timeout	Equalize Interval
Unit	-	Volt	Volt	Volt	En/Disable	Minutes	Minutes	Minutes	Days
Option	AGM	14.4	13.6	14.6	Disable	150	60	120	30
Option	Flooded	14.6	13.8	14.6	Disable	150	60	120	30
Default	Customized	-	-	-	Disable	150	60	120	30
Option	Llb	-	-	-	Disable	-	-	-	-

6. TROUBLE SHOOTING

Situation		Situation
Fault Code	Fault Event	
01	Over charge current	1. Restart the charger. 2. If the problem remains, please contact your installer.
02	Over temperature	1. Keep the charger in the cool environment. 2. If the problem remains, please contact your installer.
03	Battery voltage is too low	1. Check the battery wire connection. 2. If the wire connection is ok, please contact your installer.
04	Battery voltage is high	1. Reconnect the battery to the charger. 2. If the problem remains, please contact your installer.
05	PV is high loss	1. Please check the voltage of the solar panel, it should be less than 140V or 190V. 2. If the voltage is ok, please contact your installer.
06	Battery temperature is too low	1. Check your remote temperature sensor and your battery ambient temperature. 2. If the problem remains, please contact your installer.
07	Battery temperature is too high	1. Check your remote temperature sensor and your battery ambient temperature. 2. If the problem remains, please contact your installer.
08	Battery voltage is different	1. Check that the battery is properly connected or check battery rated voltage is set correctly. 2. If the problem remains, please contact your installer.
11	MOS tube damaged	1. Restart the charger. 2. If the problem remains, please contact your installer.
12	Relay is short	1. Restart the charger. 2. If the problem remains, please contact your installer.
16	Parallel is fault	1. Restart the charger. 2. If the problem remains, please contact your installer.
17	Eeprom is fault	1. Restart the charger. 2. If the problem remains, please contact your installer.
No display in LCD screen.		1. Check battery wire connection. 2. Push the button, if the problem remains, please contact your installer.

7. SPECIFICATIONS

Table 1 Electrical Specifications

MODEL	SCCM3024-III	SCCM4524-III	SCCM4548-III	SCCM6048-III	SCCM8048-III	SCCM10048-III	SCCM12048-III
Maximum Charge Current	30Amps	45Amps	45Amps	60Amps	80Amps	100Amps	120Amps
Nominal System Voltage	12V,24V(Auto detection)		12V, 24V, 48V(Auto detection)				
Maximum Solar Input Voltage	95V		145V			165V	
PV Start-up Voltage	20V						
MPPT Voltage Range	12Vdc/24Vdc		12 Vdc / 24 Vdc / 48 Vdc				
	18-80Vdc/35-80Vdc		18-125Vdc / 35-125Vdc 65-125Vdc			18-145Vdc / 35-145Vdc 65-145Vdc	
Maximum Input Power	12V - 420W	12V - 625W	12V - 625W	12V - 825W	12V - 1100W	12V - 1375W	12V - 1650W
	24V - 830W	24V - 1250W	24V - 1250W	24V - 1650W	24V - 2200W	24V - 2750W	24V - 3300W
	/	/	48V - 2500W	48V - 3300W	48V - 4400W	48V - 5500W	48V - 6600W
PV Voltage & Charge Current	Maximum Battery Current Array Voltage(Volts) For SCCM3024/SCCM4524 Maximum Battery Current Array Voltage(Volts) For SCCM4548 / SCCM6048 / SCCM8048 Maximum Battery Current Array Voltage(Volts) For SCCM10048 / SCCM12048						
Heatsink Temperature & Charge Current	Maximum Battery Current Heatsink Temperature (Degrees C)						
Transient Surge Protection	4500 Watts / port						
Protections	Solar high voltage disconnect Solar high voltage reconnect Battery high voltage disconnect Battery high voltage reconnect High temperature disconnect High temperature reconnect						

Table 2 Battery Charging

MODEL	SCCM3024-III	SCCM4524-III	SCCM4548-III	SCCM6048-III	SCCM8048-III	SCCM10048-III	SCCM12048-III
Charging Algorithm	3-Step						
Charging Stages	Bulk, Absorption, Float						
Temperature Compensation Coefficient	-5 mV / °C / cell (25 °C ref.)						
Temperature Compensation range	0 °C to 50 °C						
Charging Curve							

Table 3 Mechanical and Environment

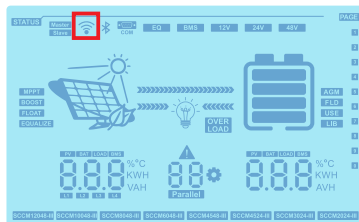
Model	SCCM3024-III	SCCM4524-III	SCCM4548-III	SCCM6048-III	SCCM8048-III	SCCM10048-III	SCCM12048-III
Product Size (W x H x D,mm)	200.2x137.2x65	221x151.4x80.5	276.4x184.4x100	276.4x184.4x100	289.4x198.4x103.6	329x219.x118.5	329x219x118.5
Product Weight (Kg)	1	1.5	3.3	3.3	3.5	5.2	5.2
Inner Box Size (W x H x D,mm)	240x170x102	265x188x116	308x212x125	308x212x125	322x238x140	370x250x156	370x250x156
Inner Box Weight (Kg)	1.3	1.9	3.7	3.7	4	5.9	5.9
Outer Carton Size (W x H x D,mm)	495x355x222	546x392x250	635x440x268	635x440x268	663x492x298	758x518x172	758x518x172
Outer Carton Weight(Kg)	11.3(8PCS)	16.4(8PCS)	31(8PCS)	31(8PCS)	33.3(8PCS)	25.3 (4PCS)	25.3(4PCS)
Ambient Temperature Range	0°C to 55°C						
Storage Temperature	- 25°C to 75°C						
Humidity	0%-90%RH(No condensing)						
Enclosure	IP20(indoor&vented)						

8. WIFI OPERATION GUIDE IN APP

8.1 Introduction

Wireless communication between SCCM-III the APP can be realized through the Wi-Fi module. The APP supports Android and iOS devices.

Delivers device status during normal operation.
Allows device Settings to be configured on the APP.
Notifies users when a warning or alarm occurs.



The status of the Wi-Fi sign on the LCD display
After the APP is successfully connected, Wi-Fi indicator light remains constantly on

8.2 Download and install APP

Operating system requirement for your smart phone:

- 🍏 iOS system supports iOS 11.0 and above
- 🤖 Android system supports Android 5.0 above

APP Download

Please scan the following QR code with your smartphone to download the App.



The QR code supports Android system and iOS system

Operation Manual

Please scan the following QR code with your smartphone to view the App Operation Manual



The QR code supports Android system and iOS system