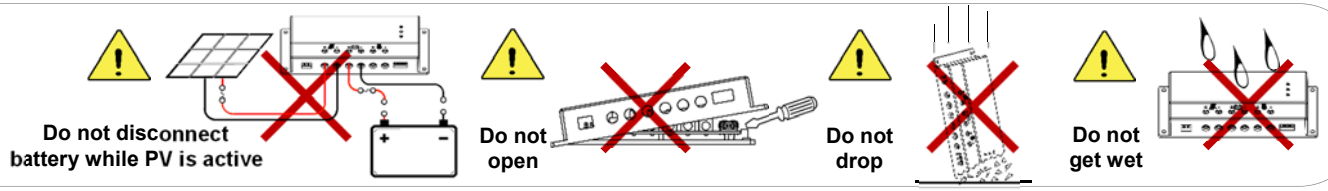
SCCP05-050

PWM Charge Controller/Load Manager

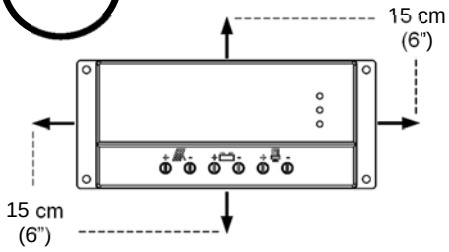
Owner's Manual

NOTE:

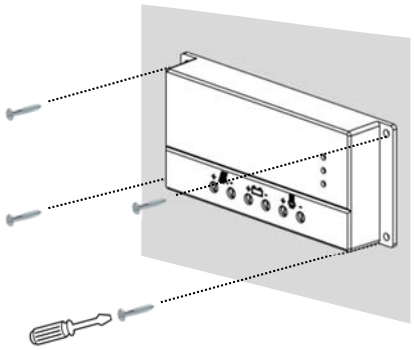
- Follow instructions in order.
- Charge batteries at least once a week.
- Use reducers to connect larger wires to terminals.



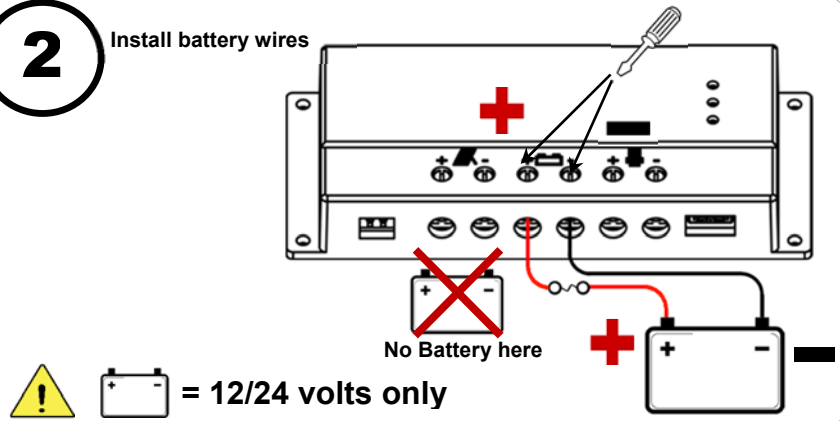
1 Clearance and orientation



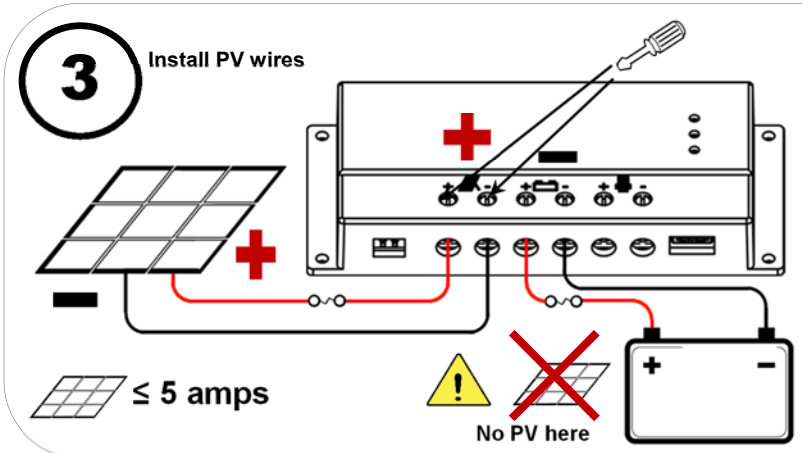
Mount on wall with 4 screws



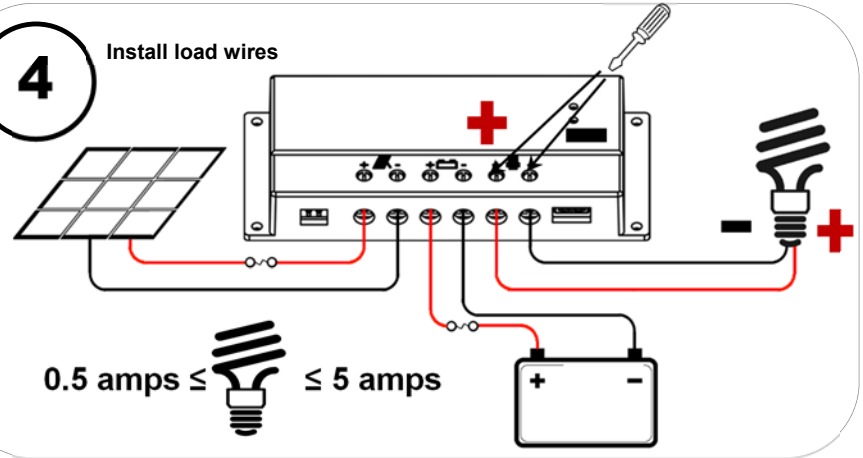
2 Install battery wires



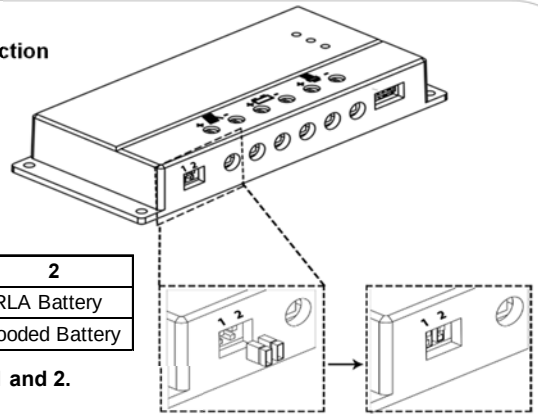
3 Install PV wires



4 Install load wires



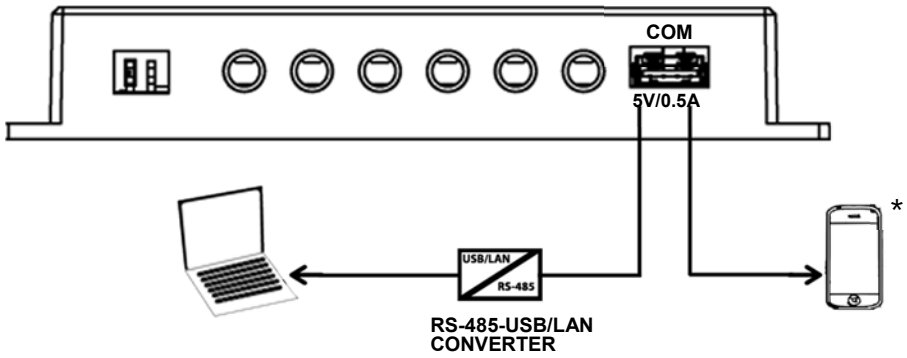
5 Load & Battery Type Selection



Jumper	1	2
Present	Normal	VRLA Battery
Removed	Night Light/Dusk to Dawn	Flooded Battery

Jumper inserted at factory at both 1 and 2.

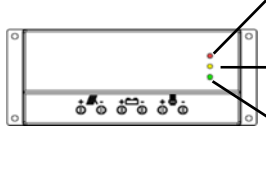
6 Data Communication / Smart Charger



RS-485-USB/LAN CONVERTER

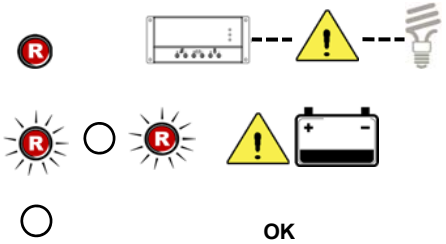
*Refer manufacturer recommendations.

LED Indicators



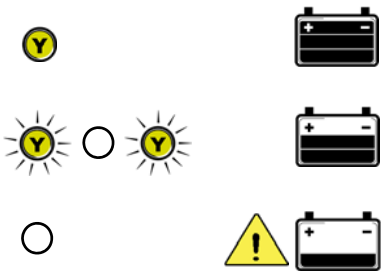
OFF	○	
RED (Warning)	R	(on) R (blink or flash)
YELLOW (Battery)	Y	(on) Y (blink or flash)
GREEN (PV)	G	(on)

RED



R	Disconnect
R ○ R	Battery Critical
○	OK — No Error

YELLOW



Y	Battery > 90% SOC
Y ○ Y	Battery >50%
○	Battery<50% Battery Critical

GREEN

G	PV Present/ Charging (Brightness of LED may alter when other LEDs are on)
○	No PV

NOTE: Percentages are approximate and are based on battery voltages.

Symbols

Caution: Equipment Damage

Caution: Shock Hazard

Caution: Hot Surface

When disposing, keep this product separate from household waste; recycle this product

Double or Reinforced Insulation

Refer to Operating Instructions

Features

1 LED Indicators (R Y G)

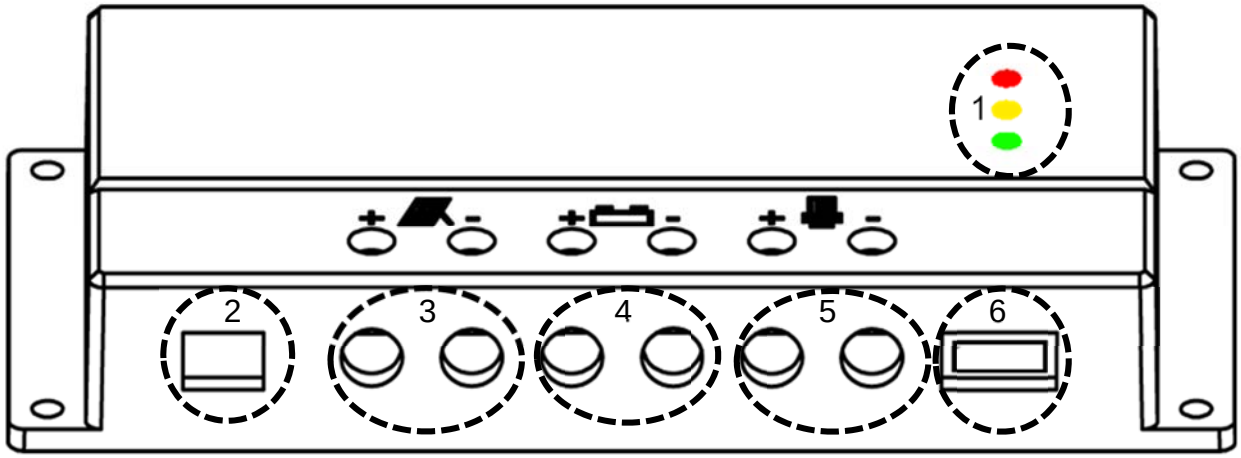
2 Users Selection Jumpers

3 PV Input

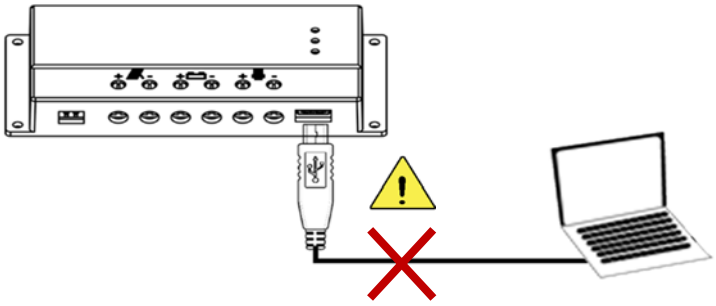
4 Battery Input

5 Load Output

6 Data Communications/USB Charger



CAUTION: Hazard to Equipment
Proprietary adapter is required.
Do not connect directly to USB Port.



NOTES:
3, **4**, and **5**: Use flat screwdriver with tip width <4 mm and blade length >50 mm

Specifications

Section	Name		12 Vdc		24 Vdc	
PV	Controller Type		PWM			
	Wattage (maximum)		60W		120 W	
	V_{oc}		Max 50 Vdc			
	Short Circuit Current (maximum)		5 Adc			
Battery	Battery Type (jumper-selectable)		Flooded or VRLA			
	Nominal Voltage		12 or 24 Vdc; automatically detected			
	Battery Input (range)		9 to 16 Vdc		18 to 32 Vdc	
	Standby Loss		6.8 mAdc			
	Conversion Efficiency (maximum)		99%			
Charger	Bulk and Absorption Voltages (maximum) for Battery Types		Flooded	VRLA	Flooded	VRLA
		Bulk	14.8 Vdc*	14.6 Vdc*	29.6 Vdc*	29.2 Vdc*
		Absorb	14.8 Vdc*	14.4 Vdc*	29.6 Vdc*	28.8 Vdc*
	Absorb Time		2 hours*			
	Float Voltage		13.2 Vdc*	13.5 Vdc*	26.4 Vdc*	27.0 Vdc*
	Charging Current (maximum)		5 Adc*			
	Temperature Compensation (range)		-5 mV / °C / battery cell*			
Equalize	**NOTE:** Enabled by removing battery jumper; loads turned off while equalizing **NOTE*:** Occurs every 60 days, or following a low battery load disconnect					
	Equalization Voltage (maximum)		15.5 Vdc*	--	31.0 Vdc*	--
	Equalization Time		1 hour*			

Section	Name	12 Vdc	24 Vdc
Loads	Minimum Load Size	0.5 Adc	
	Maximum Output Current	5 Adc	
	Overload Time (Loads > 5Adc)	5 min for Load > 100%, 0.1 sec for Load > 125%	
Internal Protections	Internal Protection	Battery Reversal, PV Reversal	
	Load Disconnect (Automatic Reset)	Low Battery, High Battery, Overload	
	Load Disconnect (Manual Reset)	Overload (after 3 automatic resets)	
	Low Battery Load Disconnect	11.4 Vdc*	22.8 Vdc*
	Low Battery Load Reconnect	12.4 Vdc*	24.8 Vdc*
	High Battery Load Disconnect	15.0 Vdc	30.0 Vdc

Dimensions	Size	159 mm (6.3") x 68 mm (2.6") x 25 mm (1.0")	
	Weight	~0.18 kg	
Cabling	Terminal Size(PV and battery)	6 mm^2(#10 AWG)	
	Cable Size (minimum)	Battery	4 mm^2(#12 AWG)
		PV	4 mm^2(#12 AWG)
	NOTE: Larger cables should be used if battery cables exceed 3 m length **NOTE:** Battery cables must be twisted together during installation		
Environment	Operating Temperature	-40 °C to 60 °C	
	Humidity	0 to 95% RH non-condensing	
	Ingress Protection	IP20	
Battery Bank		Minimum 25Ah at C/5 discharge rate	
Certifications		CE, EN 61000-6-1,EN 61000-6-3, IEC/EN 62109-1	
Warranty		2 years	

*Number shown is factory default setting.

Troubleshooting

Problem	Possible Remedies (perform in order shown)
Battery not charging	1) Check battery connections 2) Check PV voltage and connections 3) Allow charger to cool
No LED indicators with PV power available	1) Check battery voltage at ***controller terminals*** 2) Check panel voltage at ***controller terminals***
Red LED on	1) Disconnect PV 2) Disconnect battery 3) Disconnect load 4) Reconnect battery 5) Reconnect PV 6) Reconnect load
Red LED flashing	1) Disconnect loads 2) Charge battery
Yellow LED not on	Charge battery
Charging to wrong voltage	1) Check position of battery selection jumper