
	<b>SU-KAM</b> <b>POWER SYSTEMS LTD.</b> <b>Technical Specifications</b> <b>(MPPT 180V -55A)</b>	<b>Doc. No.</b> : RD/TP/861 <b>Product Code</b> : F-A-D-SCC-SP-OT-01800-00055-01 <b>Rev. No.</b> : 01 <b>Issue Date.</b> : 25-01-2016 <b>Page No.</b> : of 2
	<b>MODEL : 10KW-180V MPPT Solar Charge Controller</b>	
<b>Features and Parameters</b>		
Model	MPPT 10KW-180V	
<b>Electrical</b>		
Nominal Battery Voltage	180V	
Maximum Battery Charging Current	55A	
Battery Voltage Range	120V-216V	
Maximum PV Panel Rating	10KW	
Input PV Voltage Range ,Voc	415V	
Maximum Input PV Current	44A	
Power Conversion Efficiency	≥94%	
MPPT Efficiency	>99%	
<b>Battery</b>		
Charging regulation	Four stage charging algorithm: Bulk, Absorption, Float and Equalization	
Bulk Charge	Adjustable(219V-210V)*Please Refer table 1	
Absorption period	Held battery voltage at bulk setting for a cumulative period of 2 hour	
Float voltage	205.5V	
Supported Battery types	Flooded,GEL,AGM ,Custom	
Equalization Voltage	Equalization is with three mode option-Auto, Manual and OFF mode. In Auto Mode equalization takes place once in every 30 Days. In manual Mode equalization would take place when enabled by user, in off mode equalization is disabled Equalization Voltage will be :Bulk Voltage +15V	
Automatic Temperature compensation	Yes -18mV/°C/Battery (25°C Ref) for Battery bulk/boost, Equalisation & absorption. - 9mV/°C/Battery (25°C Ref) for Battery Float. Maximum limit for temp. Compensation is (0 to +50) °C	
PV Array Connect/Reconnect Points	PV Connects when PV V>Battery V and Disconnects when PV V< Battery V	
<b>Protection</b>		
PV High Voltage Charging Disconnect and Its Recovery	Protection at PV Voltage 420V and Its Recovery at 400V	
PV High Current Protection and Its Recovery	Charger Will be OFF when PV Current≥45A and it will restart after 3.5 minutes if the fault is Cleared	
PV High Current Regulation	If Battery Current ≥55A,it should regulate at 55A	
Battery High Voltage Charging Disconnect and its Recovery	Charger Will be OFF at Battery Voltage 240V and It Will Reconnect at Battery Voltage 217V	
Reverse Polarity PV Voltage Protection	Yes,LCD will Display Reverse Voltage Protection	
Reverse Current flow protection from Battery to PV	Yes	
Battery Open Protection	Yes; System is not ON if battery is not connected	
Reverse Polarity Battery Protection	Yes: Through Fuse	
Thermal Protection	If Heat sink temperature is equal to 90 °C±5 °C charging PWM OFF; when Heat Sink temperature is equal to 70±5 °C charging current flows.	
Standby Power Consumption	<7W	
Switch Setting	Four Switch at front panel a)Mode:-Selection of Mode 1)Boost Configuration 2)Equalization Configuration 3)Charger ON-OFF b)Up down Key For Selection of Boost Voltage and Equalization Voltage	

Prepared By: Chandnee Srivastava

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	c)Enter Key for Entering the selected value in Microcontroller
<b>Battery Low Voltage Indication</b>	@Battery Voltage 156V
Parameters to be Displayed in LCD(LCD Backlight ON/OFF with Switch)	<u>Electrical Parameters Displayed</u> PV Voltage ,PV Current, Battery Voltage ,Battery Current,MPPT Status, Heatsink Temp OK,Amb Sensor OK,Solar Generation KWh,SCC Switch ON-OFF <u>Alerts/Protection</u> Solar Voltage Low, Heat Sink Temperature High, Solar Voltage High,PV High Current, PV Reverse Error, Battery High
<b>General Parameters</b>	
Operating Temperature Range	0°C to +55°C
Humidity	Up to 95% (NC)
Recommended Storage Temp.	0°C to +40°C
Cooling	Forced through Fan
Wire Terminals	25mm <sup>2</sup>
Cooling	Through Fan Cooling (Temperature Dependent and current Dependent)
Transient Surge Protection	Through 840Vrms MOV
Weight(Kg.)±100grams	6.8 Kg
Dimensions(W*D*H)in mm.	597(L)x322(W)x200(H)
Enclosure	IP21
<b>Communication</b>	
Communication Port Available	RS232 (Provided)and RS485(optional)
<b>Accuracy</b>	
Voltage	±2V
Current	±1A
Temperature	±2 °C

**Table 1:Boost Voltage Setting Through Front Switch**

	<b>i</b>	<b>ii</b>	<b>iii</b>	<b>1V</b>
<b>Rated Voltage (V)</b>	210V	213V	216V	219V

**Table 2: Equalization Voltages According to Boost Voltage**

Manual/Auto /OFF

	<b>i</b>	<b>ii</b>	<b>iii</b>	<b>1V</b>
<b>Rated Voltage (V) in Equalization</b>	225V	228V	231V	234V

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