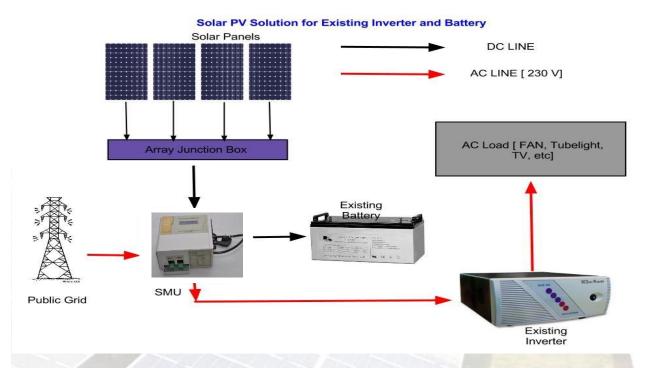


Plot no. 178, Functional Industrial Estate Patparganj, Delhi-110092 www.esharp.in, www.esharpsolar.com

## E-Sharp - Solar Management Unit

## Solar Management Unit Convert normal inverter into solar inverter



## **KEY FEATURES**

- ✓ Advanced microprocessors to design optimize operation processes.
- ✓ Battery charging with inbuilt PWM technology charge controller.
- ✓ No need to change your exiting normal inverter for solar operation.
- ✓ intelligently to decide when to charge your inverter from solar or the grid
- ✓ Four stage charging Deep Discharge, Boost, Absorption, Trickle charge.
- ✓ It protects batteries from overcharging and battery temperature compensated charging.
- ✓ Reserve polarity protection with LED- indication- for battery and Solar Panel both.
- ✓ Disconnects the mains and powers your house via inverter using energy stored in batteries.
- ✓ When batteries are drained Solar management unit first tries to get charged through solar but in absence of solar
- ✓ you can choose the battery reserve based on your needs
- ✓ LCD Display
- ✓ Data logger
- ✓ Wall Mounting, compact, rugged and attractive product design.

SMU Scheme only for one month:					
SUM Rating	Buy	Free			
12V/24V – 20A	50	10			
12V/24V – 40A	50	10			
48V - 40A	50	10			

## **Technical Datasheet:**

Display type	Description	Specification				
E-Sharp   Solida	Model	ESSMU122420	ESSMU122440	ESSMU4840	ESSMU9650	ESSMU12050
Controller type	Manufacturer		E-Sharp So	olar Solution Pvt. Ltd		
Display type	Brand		E	-Sharp		
Application	Controller type		Zero Drop	PWM Control(Pulse	with Modulation)	
Mounting Type	Display type	LCD Display (Liquid Crystal Display)				
Mounting Type   Body Colour   Siemens Grey	Application					
Siemens Grey   Siemens Grey   Siemens Grey   12/24V	Housing Material		M.S Po	wder Coated		
Nominal System Voltage   12/24V	Mounting Type		Wall N	/lounting		
Solar Charging Current         20A         40A         40A         50A         50A           Solar Module         12V : 300Wp         12V : 500Wp         48V : 2000Wp         96V : 5000Wp         120V : 6000Wp           PV Input Voltage (Voc) max. (±2%)         25V/45V         25V/45V         105V         200V         250V           PV Start-up voltage (±2%)         15V/30V         15V/30V         60V         120V         150V           PV Recovery Voltage (±2%)         17V/34V         17V/34V         68V         136V         170V           Maximum PV Input current         20A         40A         40A         50A         50A           Operation PV input voltage (±2%)         22.5V/45V         22.5V/45V         90V         180V         225V           Efficiency         >95%         Protection         Battery reverse polarity, battery reverse current, high voltage cutoff, SPV reverse polarity, short circuit, low voltage cutoff, over temp.         140V	Body Colour		Sieme	ns Grey		
Solar Module	Nominal System Voltage	12/24V	12/24V	48V	96V	120V
24V : 600Wp	Solar Charging Current	20A	40A	40A	50A	50A
PV Start-up voltage (±2%) PV Recovery Voltage (±2%) PV Input current PV Input current PV Input current PV Input voltage (±2%) PV Recovery Voltage (±2	Solar Module			48V : 2000Wp	96V : 5000Wp	120V : 6000Wp
PV Start-up voltage (±2%) PV Recovery Voltage (±2%) PV Input current PV Input current PV Input current PV Input voltage (±2%) PV Recovery Voltage (±2	PV Input Voltage (Voc) max. (±2%)	25V/45V	25V/45V	105V	200V	250V
Maximum PV Input current         20A         40A         40A         50A         50A           Operation PV input voltage (±2%)         22.5V/45V         22.5V/45V         90V         180V         225V           Efficiency         >95%           Protection         Battery reverse polarity, battery reverse current, high voltage cutoff, over temp.           Float Voltage (±2%)         14V/28V         14V/28V         56V         112V         140V           Bulk Voltage (±2%)         14.6V/29.2V         14.6V/29.2V         58.4V         116.8V         146V           Equalize Voltage (±2%)         14.9V/29.8V         14.9V/29.8V         59.6V         119.2V         149V           Absorption Voltage (±2%)         14.2V/28.4V         14.2V/28.4V         56.8V         113.6V         142V           Mains connect when solar not available         At Any Battery Voltage         113.6V         142V           Mains disconnect when battery 100% charged (±2%)         >13.8V/27.6V         >55.2V         >110.4V         >138V           Mains reconnect when insufficient solar power (±2%)         <11.8V/23.6V		15V/30V	15V/30V	60V	120V	150V
Operation PV input voltage (±2%)         22.5V/45V         22.5V/45V         90V         180V         225V           Efficiency         >95%           Protection         Battery reverse polarity, battery reverse current, high voltage cutoff, over temp.           Float Voltage (±2%)         14V/28V         14V/28V         56V         112V         140V           Bulk Voltage (±2%)         14.6V/29.2V         14.6V/29.2V         58.4V         116.8V         146V           Equalize Voltage (±2%)         14.9V/29.8V         14.9V/29.8V         59.6V         119.2V         149V           Absorption Voltage (±2%)         14.2V/28.4V         14.2V/28.4V         56.8V         113.6V         142V           Mains connect when solar not available         At Any Battery Voltage         313.8V/27.6V         >13.8V/27.6V         >55.2V         >110.4V         >138V           Mains disconnect when battery 100% charged (±2%)         >13.8V/27.6V         >13.8V/27.6V         >55.2V         >110.4V         >138V           Mains reconnect when insufficient solar power (±2%)         0°C to 60°C         55.2V         >110.4V         >138V           Operating temperature         0°C to 60°C         0°C         0°C         0°C           Battery charging regulation         4 stage (Bulk/Absorption/float/Equalizer) <td>PV Recovery Voltage (±2%)</td> <td>17V/34V</td> <td>17V/34V</td> <td>68V</td> <td>136V</td> <td>170V</td>	PV Recovery Voltage (±2%)	17V/34V	17V/34V	68V	136V	170V
Efficiency >95%  Protection Battery reverse polarity, battery reverse current, high voltage cutoff, SPV reverse polarity, short circuit, low voltage cutoff, over temp.  Float Voltage (±2%) 14V/28V 14V/28V 56V 112V 140V  Bulk Voltage (±2%) 14.6V/29.2V 14.6V/29.2V 58.4V 116.8V 146V  Equalize Voltage (±2%) 14.9V/29.8V 14.9V/29.8V 59.6V 119.2V 149V  Absorption Voltage (±2%) 14.2V/28.4V 14.2V/28.4V 56.8V 113.6V 142V  Mains connect when solar not available  Mains disconnect when battery 100% charged (±2%) 13.8V/27.6V >13.8V/27.6V >55.2V >110.4V >138V  Mains reconnect when insufficient solar power (±2%)	Maximum PV Input current	20A	40A	40A	50A	50A
Efficiency >95%  Protection Battery reverse polarity, battery reverse current, high voltage cutoff, SPV reverse polarity, short circuit, low voltage cutoff, over temp.  Float Voltage (±2%) 14V/28V 14V/28V 56V 112V 140V  Bulk Voltage (±2%) 14.6V/29.2V 14.6V/29.2V 58.4V 116.8V 146V  Equalize Voltage (±2%) 14.9V/29.8V 14.9V/29.8V 59.6V 119.2V 149V  Absorption Voltage (±2%) 14.2V/28.4V 14.2V/28.4V 56.8V 113.6V 142V  Mains connect when solar not available  Mains disconnect when battery 100% charged (±2%) 13.8V/27.6V >13.8V/27.6V >55.2V >110.4V >138V  Mains reconnect when insufficient solar power (±2%)	Operation PV input voltage (±2%)	22.5V/45V	22.5V/45V	90V	180V	225V
Protection  Battery reverse polarity, battery reverse current, high voltage cutoff, SPV reverse polarity, short circuit, low voltage cutoff, over temp.  Float Voltage (±2%)  14V/28V  14V/28V  56V  112V  140V  Bulk Voltage (±2%)  14.6V/29.2V  14.6V/29.2V  58.4V  116.8V  149V  Absorption Voltage (±2%)  14.9V/29.8V  14.9V/29.8V  59.6V  119.2V  149V  Absorption Voltage (±2%)  Mains connect when solar not available  Mains disconnect when battery 100% charged (±2%)  Mains reconnect when insufficient solar power (±2%)  Operating temperature  10°C to 60°C  Storage temperature  20°C to 60°C  Storage temperature  Battery charging regulation  Ingress Protection  Display Parameter  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  202 X 183 X 90  203 X 183 X 90  204 X 183 X 90  205 X 183 X 90  205 X 183 X 90  205 X 183 X 90  206 X 183 X 90  207 X 183 X 90  207 X 183 X 90  208 X 215 X 118  208 X 215 X 118	Efficiency					
Bulk Voltage (±2%)	Protection					
Equalize Voltage (±2%)  Absorption Voltage (±2%)  Absorption Voltage (±2%)  Al. 2V/28.4V  At Any Battery Voltage  At Any Batte	Float Voltage (±2%)	14V/28V	14V/28V	56V	112V	140V
Absorption Voltage (±2%)  Mains connect when solar not available  Mains disconnect when battery 100% charged (±2%)  Mains reconnect when insufficient solar power (±2%)  Operating temperature  Storage temperature  Battery charging regulation  Ingress Protection  Display Parameter  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  14.2V/28.4V  14.2V/28.4V  156.8V  113.6V  142V  14	Bulk Voltage (±2%)	14.6V/29.2V	14.6V/29.2V	58.4V	116.8V	146V
Mains connect when solar not available  Mains disconnect when battery 100% charged (±2%)  Mains reconnect when insufficient solar power (±2%)  Operating temperature  Storage temperature  Battery charging regulation  Ip-20  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  At Any Battery Voltage  >13.8V/27.6V  >13.8V  294.4V  <118V  <118V  <118V  Solar to 60°C  Storage temperature  20°C to 60°C  Battery charging regulation  IP-20  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  202 X 183 X 90	Equalize Voltage (±2%)	14.9V/29.8V	14.9V/29.8V	59.6V	119.2V	149V
Mains connect when solar not available  Mains disconnect when battery 100% charged (±2%)  Mains reconnect when insufficient solar power (±2%)  Operating temperature  Storage temperature  Storage temperature  4 stage (Bulk/Absorption/float/Equalizer)  Ingress Protection  Display Parameter  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  202 X 183 X 90  203 X 183 X 90  204 X 183 X 90  205 X 183 X 90  206 X 183 X 90  207 X 183 X 90  208 X 215 X 118  288 X 215 X 118	Absorption Voltage (±2%)	14.2V/28.4V	14.2V/28.4V	56.8V	113.6V	142V
Mains reconnect when insufficient solar power (±2%)  Operating temperature  Storage temperature  O°C to 60°C  Storage temperature  20°C to 60°C  Battery charging regulation  IP-20  Display Parameter  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  202 X 183 X 90  203 X 183 X 90  204 X 183 X 90  205 X 183 X 90  206 X 183 X 90  207 X 183 X 90  208 X 215 X 118  288 X 215 X 118			At Any Ba	ttery Voltage		
Mains reconnect when insufficient solar power (±2%)  Operating temperature  O°C to 60°C  Storage temperature  20°C to 60°C  Battery charging regulation  IP-20  Display Parameter  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  202 X 183 X 90  203 X 183 X 90  204 X 183 X 90  205 X 183 X 90  206 X 183 X 90  207 X 183 X 90  208 X 215 X 118  288 X 215 X 118	Mains disconnect when battery 100% charged (±2%)	>13.8V/27.6V	>13.8V/27.6V	>55.2V	>110.4V	>138V
Operating temperature  Storage temperature  20°C to 60°C  Battery charging regulation  IP-20  Display Parameter  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  202 X 183 X 90  288 X 215 X 118		<11.8V/23.6V	<11.8V/23.6V	<47.2V	<94.4V	<118V
Storage temperature  20°C to 60°C  Battery charging regulation  IP-20  Display Parameter  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  202 X 183 X 90  208 X 215 X 118		0°C to 60°C				
Ingress Protection  IP-20  Display Parameter  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  202 X 183 X 90 202 X 183 X 90 202 X 183 X 90 288 X 215 X 118 288 X 215 X 118	Storage temperature	20°C to 60°C				
Display Parameter  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  202 X 183 X 90 288 X 215 X 118						
Display Parameter  Battery voltage, battery current, SPV voltage, SPV current, Mode selection (Auto/Manual), load on solar, load on grid, grid fail, saving -kWh, solar status: high, low, overload, overheat  Size (L X W X H) mm  202 X 183 X 90 288 X 215 X 118	Ingress Protection	IP-20				
3/26 (L X W X H) HIIII	Display Parameter	(Auto/Manual), load on solar, load on grid, grid fail, saving -kWh,				
	Size (L X W X H) mm	202 X 183 X 90	202 X 183 X 90	202 X 183 X 90	288 X 215 X 118	288 X 215 X 118
	weight (Kg)	1.65	1.65	1.65	3.2	3.2

SMU Scheme only for one month:		
SUM Rating	Buy	Free
12V/24V – 20A	50	10
12V/24V – 40A	50	10
48V - 40A	50	10