LIVFAST SOLAR

BETTER HAI TOH HAI

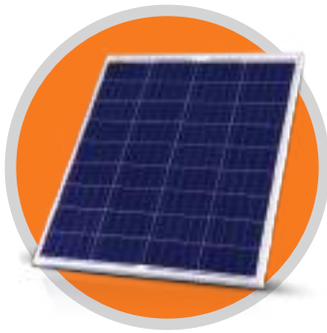
Trained Technicians

Advanced Tool Kit

ABOUT LIVFAST

Livfast is the leading power specialist in India with a widespread portfolio of Power back up solutions such as Automotive Batteries, Inverters, Inverter Batteries, Solar Applications. We listen and understand the needs of the consumers and answer these needs in form of our products. We, at Livfast strive to be constantly innovating to make lives across the country easier for our consumers.

LIVFAST SOLAR
PRODUCT RANGE



SOLAR PANEL
40 WATT – 325 WATT

SOLAR MANAGEMENT UNIT
30A - 50A

SOLAR CHARGE CONTROLLER
10A – 50A

SOLAR UPS
900 VA – 2000 VA

POWER CONDITIONING UNIT
3.5 KVA - 10 KVA

SOLAR BATTERY
40 AH – 200 AH

SOLAR STREET LIGHT
9 WATT – 12 WATT

SOLAR POWER GENERATING SOLUTIONS

- Light duty home solutions.
- Heavy duty home solutions.
- Existing inverter solarization solution.
- DC solution.

SOLAR PANEL

Livfast Solar Panels are polycrystalline PV panels, IEC compliant having range from 36 cells (40 W – 160 W) to 60/72 cells (270 W – 325 W). Our Panels are ideally suited for rooftop and agricultural applications.

5 **Years Product Warranty**

25 **Years Performance Warranty**

Positive Power Tolerance
- Ensures full energy harvesting
- Ensures better return on investment

Excellent Performance in low light
- High quality transparent glass Glossy EVA to capture maximum solar energy

Suitable for Extreme Weather
- Tempered glass withstands dynamic wind load of 2400 Pa & snow load of 5400 Pa
- Multi EVA capsulation

Potential-Induced Degradation (PID) Resistance Technology
- For longer life and lower degradation

PID FREE

MODULE

Model Name	LFV12V40	LFV12V50	LFV12V75	LFV12V100	LFV12V160	LFV24V270	LFV24V325
Power (pm) in Watts (Nominal)	40	50	75	100	160	270	325
No. of Cells	36	36	36	36	36	60	72
Rated Module Voltage	12	12	12	12	12	24	24
Voltage at Maximum Power (Vmp) in Volts	18	18	18	18	18.2	31.4	37.8
Current at Maximum Power (Imp) in Amps	2.23	2.78	4.17	5.56	8.79	8.61	8.6
Open Circuit Voltage (Voc) in Volts	22	22	22	22	22.2	38.2	46.2
Short Circuit Current (Isc) in Amps	2.46	3.06	4.33	6.12	9.34	9.08	9.13
Maximum System Voltage (V_{DC})	1000	1000	1000	1000	1000	1000	1000
Module Efficiency ŋ (%)	>12%	>12%	>14%	>14%	>16%	>16%	>16%
STC: Irradiance 1000W/M^2, Ambient Temperature 25°C, Air Mass 1.5, Measuring Tolerance ± 3%							

MECHANICAL DATA

Junction Box		2T1D	2T1D	2T1D	2T1D	3T2D with 2.5 sq.mm cable	4T3D with 4 sq. mm IP68 cable	
Application Class		Class A (Safety class II)						
Glass		3.2 mm High transmission low iron tempered solar glass						
Cells		Poly Crystalline solar cells						
Cell Encapsulate		Ethylene Vinyl Acetate (EVA)						
Back sheet		Composite film –White						
Frame		Silver Anodized aluminium frame with twin wall profile						
Mechanical Load Test		Sustain Heavy wind & snow loads (2400 Pa & 5400 Pa or 550 Kg/m2)						
Max Series Fuse rating		6A	6A	6A	10A	12A	20A	
Module Weight (kg)		4	4.1	5.4	7.6	10.6	18.5	20.5
Dimension in (mm)	L	425	506	866	1010	1490	1645	1963
	W	665	661	661	665	665	985	985
	H	34	34	34	34	35	35	40

OPERATING CONDITIONS

Operating temperature	-40°C to + 85°C
TC of Short Circuit Current (α)	-0.31%/°c ± 0.02
TC of Open Circuit Voltage (β)	0.057%/°c ± 0.01
TC of Power (γ)	-0.41%/°c ± 0.02

WARRANTY & CERTIFICATION

Performance Warranty*	25 Years (90% module efficiency after 10years, 80% module efficiency after 20 years)
Certificates	Complied to IEC 61215, 61791 & 61730

***Refer solar module warranty card document**

Technical Parameters are subject to change without any prior notice

SOLAR MANAGEMENT UNIT

Livfast Solar Management Unit (SMU) converts any existing inverter into solar system. It has in-built intelligence to maximize use of solar energy and is ideal for inverter upto 48 V batteries.

1 **Years Product Warranty**

Auto bypass during fault

LCD Display
- Easy to operate, in-built interactive LCD Display
- Indicates alarm & system status

Maximize Solar Yield
- Engineered to extract maximum power from solar, to reduce the electricity bill.

3 Stage Intelligent Battery Charge Profile
- Designed to track the battery charging profile (Bulk, Absorption, and Float)
- Enhances battery life.

Protections
- In-built short circuit, reverse current & polarity protection
- No risks of electric shocks

SOLAR MANAGEMENT UNIT

Model Name	LFSMU 122430		LFSMU 24-4850		
Solar Management Unit Rating	12/24V @ 30A		24V @ 50A	36V @ 50A	48V@ 50A
Technology	Micro Controller Unit based PWM				
Type	Series regulator common positive				
System Voltage	12V	24V	24V	36V	48V
Setting	Auto Sensing		Settable (Default 48V)		
Maximum Solar Panel (Wp)	500W	1000W	1800W	3600W	
Maximum Solar Panel Voltage	50V		90V		

BATTERY SETTINGS

Bulk Voltage	Range	13.9 - 15.9V	27.9 - 31.8V	41.7 - 47.7V	55.6 - 63.6V
	Default	14.2V	28.4V	42.6V	56.8V
Float Voltage	Range	13.3 - 14.1V	26.6 - 28.2V	39.9 - 42.3V	53.2 - 56.4V
	Default	13.5V	27V	40.5V	54V
Low Battery		10.3 ± 0.2V	21 ± 0.2V	31.5 ± 0.2V	42 ± 0.2V

LOAD CONTROLLER

Grid Disconnect from Inverter		After Battery goes to Float Charge mode & PV Energy available				
Grid re-connect to Inverter	Range	11.4 - 13.3V	22.8 - 26.6V	22.8 - 26.6V	34.2 - 39.9V	45.6 - 53.2V
	Default	12.7V	25.4V	25.4V	38.1V	50.8V

PROTECTIONS & USER INTERFACE

Protection		• Reverse polarity for PV/Battery, short circuit, battery overcharge & deep discharge
User Interface	**LED Indications**	• Faults: Battery low & high, reverse current, panel charging over current
		• Battery charging status
	LCD Display	• PV current/voltage
		• Battery current/voltage
		• Faults: Battery low & high, reverse current, charging over current
		• KWH generated from solar

GENERAL

Operating Temperature	0°C to 50°C	
Dimensions (LxWxH) MM	205 x 113 x70	264 x 183 x 90
Weight (Kg)	0.8	1.57

Technical Parameters are subject to change without any prior notice

SOLAR CHARGE CONTROLLER

Livfast Solar Charge Controller is an advanced micro controller unit based on PWM technology. The charging process has been optimized for longer battery life and improved system efficiency.

1 **Years Product Warranty**

Dusk to Dawn

Increase Battery Life /Gravity Builder
- Designed to remove sulphate build up
- A high equalizing charged battery

Automatic Voltage Selection
- Auto battery selection upto 20A Settable battery selection for 50A

USB Port
- For 20A plug in your DC devices such as fans, lights, mobile phones etc

Protections
- In-built short circuit, reverse current & polarity protection
- No risk of electric shocks

SOLAR CHARGE CONTROLLER

Model Name	LFSCC 122410	LFSCC 122420	LFSCC 24-4850		
Charge Controller Rating (Amp.)	12/24V @ 10A	12/24V @ 20A	24V @ 50A	36V@ 50A	48V@ 50A
Technology	Micro Controller Unit based PWM				
Type	Series regulator common positive				
System Voltage	12 / 24 V		24 / 36 / 48V		
Setting	Auto Sensing		Settable (Default 48 V)		
Maximum Solar Panel (Wp)	12V @ 160W I 24V @ 335W	12V @ 335W I 24V @ 600W	1800W	3600 W	
Maximum Solar Panel Voltage	60V		90V		

BATTERY SETTINGS

Voltage	12V	24V	24V	36V	48V
Bulk Voltage (V)	14.2V	28.4	27.8V - 31.8V	41.7V - 47.7V	55.6V - 63.6V
Default Voltage (Bulk)		28.4V		42.6V	56.8V
Float Voltage (V)	13.5	27V	26.6V - 28.2V	39.9V - 42.3V	53.2V - 56.4V
Default Voltage (Float)		27V		40.5V	54V
Low Battery (V)	10.5V ± 0.2V	21.0V ± 0.2V		31.5V ± 0.2V	42.0V ± 0.2V

PROTECTIONS & USER INTERFACE

Protection		• Reverse polarity (Panel/battery), short circuit, battery overcharge & deep discharge	
User Interface	**Display & Indications**	LED	LED & LCD
	LED Indications	• Faults: Battery low & high, reverse current, panel charging over current	
		• Battery charging status	
	LCD Display	NA	• Solar PV power
			• Battery voltage
			• Charging mode
			• Load On/Off
			• Faults: Battery low & high, reverse current, charging over current
			• Charging status

GENERAL

Operating Temperature	0°C to 50°C		
Dimensions (LxWxH) MM	112 x 125 x 25	125 x 100 x 45	264 x 183 x 90
Net Weight (Kg)	0.32	0.45	1.48

Technical Parameters are subject to change without any prior notice

SOLAR UPS

Livfast Solar Hybrid UPS provides power from solar battery and grid as per the load profile. It has the highest rated solar charge controller which extracts maximum power from solar modules and reduces electricity bills.

2 **Years Product Warranty**

Auto bypass during fault

Highest Rated Solar Charge Controller

Real Time Clock (RTC) Technology
- In-built intelligence RTC to maximize solar energy utilization.
- Optimized solar energy utilization based• on localized power situation

Fast Battery Charging
- In-built 50A solar charge controller Charges the battery in short time

Safety & Protection
- In-built human, panel, & battery protections
- Over voltage/current protection in bypass mode

User Friendly LCD Display
- Easy to operate, in-built interactive LCD display indicates alarm & system status including solar generation

UPS Mode
- Suitable for computer load as well as areas with low voltage

Pure Sine Wave
- Noiseless operations & long life of electrical appliances

SOLAR UPS

Model Name	LFS SO1150	LFS SO1850	LFS SO2250
System Rating	900VA	1500VA	2000VA
Nominal Battery Voltage (Vdc)	12V	24V	
Ouput Waveform	Pure Sine Wave		
Switching Element	MOSFET		

SOLAR PV INPUT

Technology	PWM	
Charge Controller Rating (Amps.)	50A	
Maximum Solar Panel (Wp)	900 Wp	1600 Wp
Input voltage range (Vmp)	18V	36V
Maximum input voltage (Voc)	22V	44V

Grid Input

Input Supply	Single Phase- 230V, 50Hz
Nominal input range	90 - 290V
Operating Voltage Range (UPS Mode)	180V - 270V
Operating Voltage Range (INV Mode)	90V - 290V

Output

No Load Output	225 ± 7V	
Output frequency battery mode	50 ± 1Hz	
No Load Current (UPS Switch Off)	≤ 180mA	≤ 200mA

Battery

Battery Charging through Mains + Solar	Mains - 17A	Mains - 20A
	Solar - 20A	Solar - 50A
Battery Charging through Solar (default)	40A	
Low battery indication	10.8 ± 0.2V	
Solar optimation after battery fully charged	If solar power full - Load handling by solar, battery charging by solar	
	If solar power full - Load handling by solar + battery	

Overload, Protection, LCD Display & User Interface

Overload shutdown indication	Display overload & alarm
Overload pre-alarm indication	Display overload with load% & alarm
Overload Capacity	120% load running at 30 sec
Protection	Thermal Trip, Over load with %, Short circuit, Battery Low, PV Reverse, Fuse Trip
LCD Display	Mains voltage/Output Voltage, Battery voltage, Load (%), Battery Low, Solar KWh Solar current on load, Solar charging current, Overload with (%), PV reverse, Short Circuit
User Interface	Battery Boost voltage, Battery low cut voltage, Max. Grid charging current, Max. Solar charging current

General

Operating Temperature	0°C to 50°C		
Dimensions (LxWxH) MM	295 x 330 x 170	363 x 398 x 251	365 x 400 x 250
Net Weight (Kg)	10	15	16.5

Technical Parameters are subject to change without any prior notice

POWER CONDITIONING UNIT

Livfast Solar Hybrid PCUs are high efficiency solar UPS that runs both on solar & utility (grid) power supply. It has an in-build solar charge controller which extracts maximum power from solar modules to power your appliances & battery charging.

2 **Years Product Warranty**

LCD **& LED Display**

Optimum Utilization of Solar Power
- In-built intelligence maximizes utilization of solar power
- Reduces the electricity bill

Fast Battery Charging
- In-built 50/70 Amp solar charge controller that charges the battery in short time

Safety & Protection
- In-built human, panel, & battery protections
- No risk of electric shocks

User Friendly LCD Display
- Easy to operate, in-built interactive LCD display indicates alarm & system status including solar generation

UPS Mode
- Suitable for computer load as well as areas with low voltage

Pure Sine Wave
- Noiseless operations & long life of electrical appliances

POWER CONDITIONING UNIT

Model Name	LFS SO3500	LFS SO5000	LFS SO7500	LFS SO10000
System Rating	3.5 KVA	5 KVA	7.5 KVA	10 KVA
Nominal Battery Voltage (Vdc)	48V	96V	120V	120V
Ouput Waveform	Pure Sine Wave			
Switching Element	MOSFET			

SOLAR PV INPUT

Technology	PWM			
Charge Controller Rating (Amps.)	50 A			70 A
Maximum Solar Panel (Wp)	3200W	6400W	8000W	12000W
Maximum input voltage (Voc)	87 V	173 V	216 V	216 V

GRID INPUT

Input Supply	Single Phase; 230 V; 50 Hz
Nominal Voltage Range	100 - 280V
Nominal Frequency Range	45 - 55Hz

OUTPUT

Nominal output (Vac)	220V ± 7V			
Nominal Frequency	50Hz ± 1Hz			
Nominal output Current (A)	12.5Amp.	17.5Amp.	27Amp.	35Amp.
UPS Efficiency	≥ 80%	≥ 85%		

BATTERY

Battery Recharge Current Range from Grid Side (A)	5 - 18A	5 - 16A	5 - 20A
Default value battery recharge current range from Grid Side (A)	18A	16A	20A
Battery Recharge Current Range from PV Side (A)	5 - 50A		

PROTECTION, USER INTERFACE & SETTING

Protection	Thermal Trip, Over load with %, Short circuit, Battery Low, PV Reverse, MCB Trip
LCD Display	Mains on/off/cut, Mains voltage, Battery voltage, Battery Charging/Charged, Mode: UPS/Normal Load (%), Solar on/off, Solar to Load (A), Solar to Battery (A)
Indications	Inverter: on/off, Charging: high/low, Mode: UPS/Normal, Mode: Hybrid
User Setting	Battery Boost voltage, Battery low cut voltage, Max. Grid charging current, Max. Solar charging current

ENVIRONMENT

IP Protection Level	IP-20
Operating Temperature (°C)	0 to + 55°C
Max Relative Humidity @ 25°C	0-95%
Max. Altitude above Sea Level without De-rating (M)	≤1000 m

PHYSICAL

Dimension (W x D x H) (mm)	370 x 400 x 320	370 x 510 x 550	370 x 530 x 620	370 x 530 x 620
Net Weight (Kg)	28.97	43.79	64.57	67.28
Gross Weight (Kg)	31.3	46.5	69.6	70.8

Technical Parameters are subject to change without any prior notice

SOLAR BATTERY

Livfast Solar Batteries are C10 rated deep cycle batteries. Innovative Super Tuff 3D design and extra thick tubular plates gives longer backup & battery life.

Upto 5 Years Product Warranty

Super Tuff 3D Design Plates

Super Tuff 3D Grid

- Industry's 1st 3D design with double side pasting
- Ensures longer battery life

Superior Life Cycle

- Ensures longer battery service life Life Cycle- 2000 at 80% depth of
- discharge at Room Temperature

Tuff Futuristic Design

- Advanced premium design Robust high quality durable material

Ultra Low Maintaince

- Topping up frequency – Initially 8 to 10 Months

SOLAR BATTERY

Model Name	Nominal Voltage (V)	Capacity @ C10 (Ah)	Battery Weight with Acid ± 3% (Kg)	Overall Dimension			Free Replacement (Months)	Pro Rata Warranty (Months)
				Length ± 3 mm	width ± 3 mm	Height ± 3 mm		
LFS 340L	12	40	22.6	410	176	253	0 - 36	-
LFS 375L	12	75	36.4	510	180	255	0 - 36	-
LFS 5100H	12	100	52.6	505	190	430	0 - 60	-
LFS 5135H	12	135	54.8	505	190	430	0 - 60	-
LFS 5165H	12	165	58.1	505	190	430	0 - 60	-
LFS 5180HP	12	180	58.1	505	190	430	0 - 36	37 - 60
LFS 5200H	12	200	69.5	505	189	412	0 - 60	-

Note: Battery capacity are C10 upto 1.80 v.p.c at 27°C

Applications

- **Solar rooftop projects**
- **Solar home lights**
- **Solar street lights**
- **Solar UPS**
- **Solar management unit**
- **Solar charge controller**
- **Telecom towers**

SOLAR STREET LIGHT

Livfast manufactures Solar street Light, integrated with high efficiency LED solar street lights as per MNRE specifications.

2 **Years Product Warranty**

In-built Dusk to Dawn Feature

Dusk to Dawn
- Automatic dusk to dawn technology
- Optimized utilization of battery energy

Dimming Features
- 50% dimming after 5 hrs
- Efficient & reliable product

Fully Compliant to MNRE Specification

Safety & Protection
- Reverse polarity protection for both solar panel & battery
- Intelligent 3 stage battery charging profile

SOLAR STREET LIGHT

Model Name	LFVSSL9N	LFVSSL12
System rating	9 Watt	12 Watt
Panel Specification		
Maximum Solar Panel (Wp)	Upto 100W	

BATTERY

Battery Type	Lead Acid	
Nominal Battery Voltage	12V	
Battery Capacity (Ah)	Upto 100Ah	

CHARGE CONTROLLER

Maximum input Voltage(Voc)	22W	
Nominal Input Voltage (V)	12V	
Nominal Input Current (A)	0.74A @ 12V	0.97A @ 12V
Output Voltage (V)	22.8V ± 2%	16.82V ± 2%
Output Current (A)	0.36A ± 2%	0.625A ± 2%
Efficiency (%)	> 90%	
Dusk To Dawn	Dusk < 2.8V	
	Dawn > 8V	

LED

Number of LED	16	20
LED Type	1W	
CRI	Min 70	
CCT	5500K - 6500K	
Luminous Efficacy	> 90 lm/w	> 110 lm/w

CHARGING & WIRE SPECIFICATION

Charging Type	PWM
Charging Algorithm / Charging Current	3 Stage of charging (Bulk, Constant, Voltage, Floating)
	6.8A ± 5%
Wire Specification	4 core 1.5 sq. mm
	1 m length
	Panel: Yellow(-ve), Blue (+ve)
	Battery: Black(-ve), Red(+ve)

PROTECTIONS & INDICATORS

Open Circuit Protection	Provided
Short Circuit Protection	Both LED will blink on error. If error is removed, system will restart after around 30 secs
Reverse Polarity	Provided for both Battery & Solar Panel
Charging	Green LED Blinking
Low Battery	11.2 V ± 2% (Red, LED on), Battery Reconnect @ 12.3 V ± 2%
Error	Both LED will blink (Red & Green)
Dimming	50% Dimming after 5 Hours

GENERAL

Operating Temperature	0°C to 50°C	
Dimensions (LxWxH) MM	330 x 76 x 139	330 x 76 x 139
Net Weight (Kg)	1.5	1.5

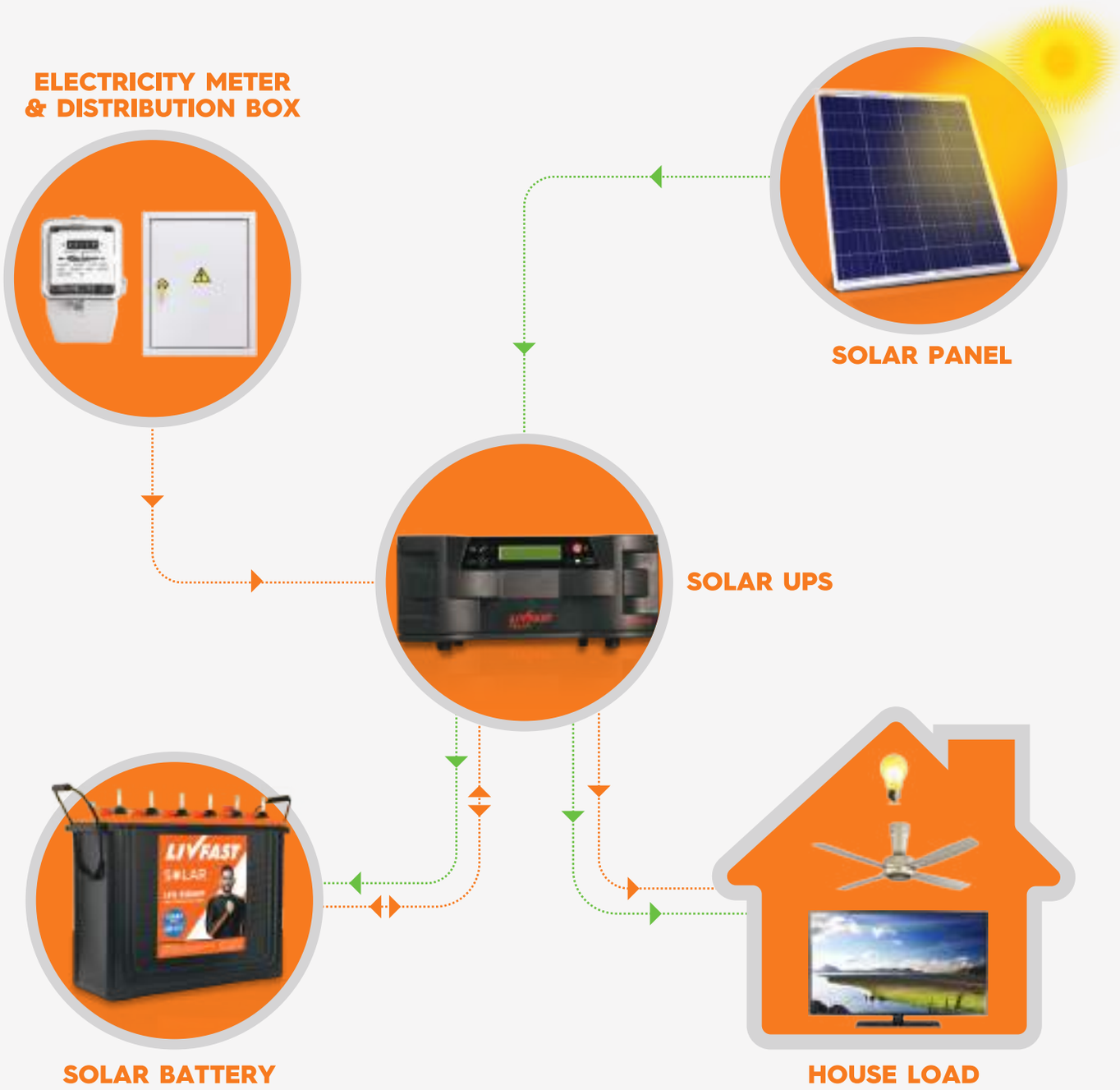
Technical Parameters are subject to change without any prior notice

SOLAR POWER GENERATING SYSTEMS

LIGHT DUTY HOME SOLUTION

FOLLOWING SOLAR COMPONENTS MAKES THE SYSTEM

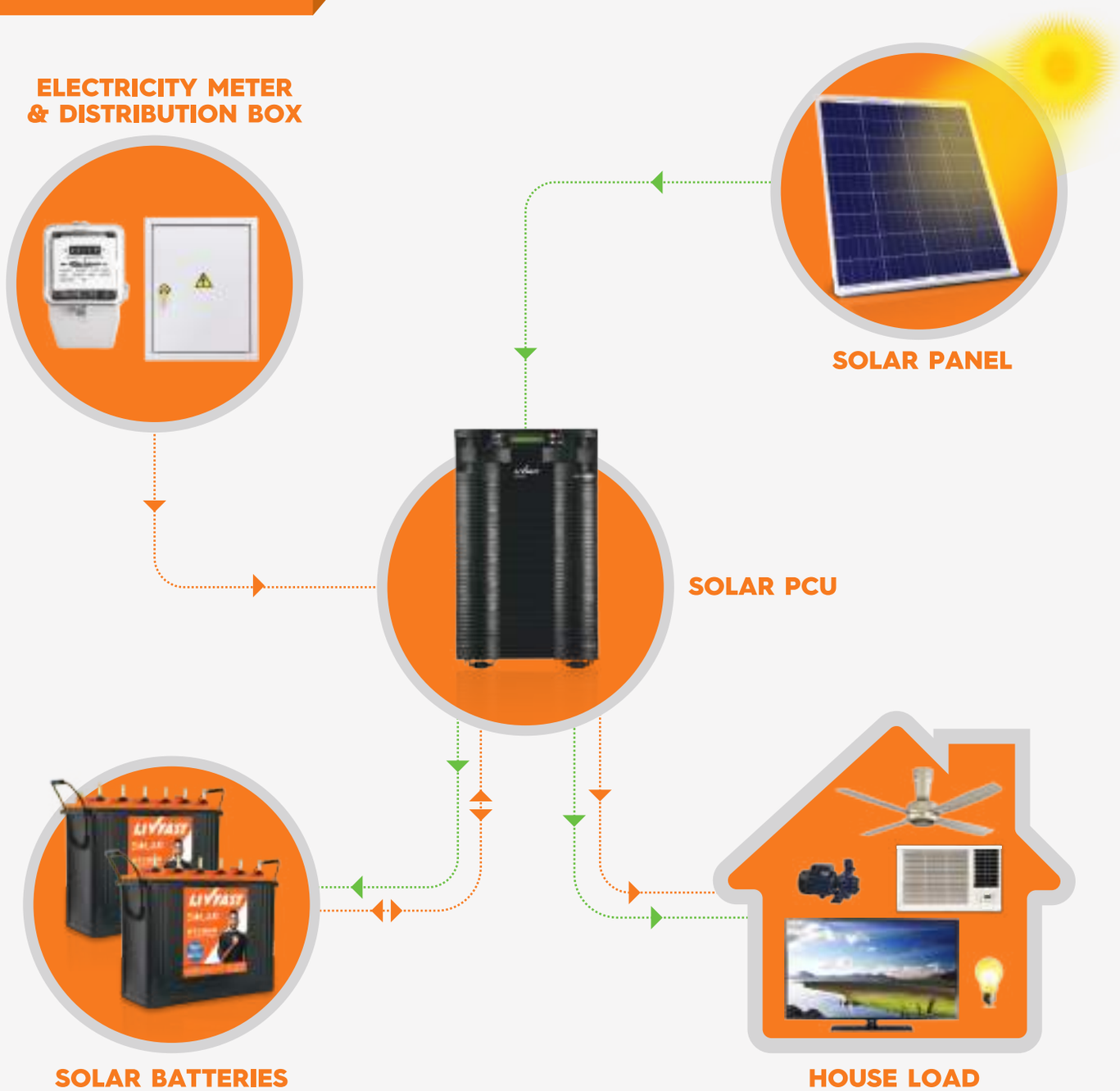
SOLAR PV PANEL	12V: 100W, 160W, I 24V: 270W, 325W
SOLAR UPS	12V: 900VA I 24V: 1500-2000VA
SOLAR BATTERY	100AH, 135AH, 165AH, 180AH, 200AH



HEAVY DUTY HOME SOLUTION

FOLLOWING SOLAR COMPONENTS MAKES THE SYSTEM

SOLAR PV PANEL	24V: 270W, 325W
SOLAR PCU	48V: 3.5KVA I 96V: 5KVA I 120V: 7.5–10KVA
SOLAR BATTERY	100AH, 135AH, 165AH, 180AH, 200AH

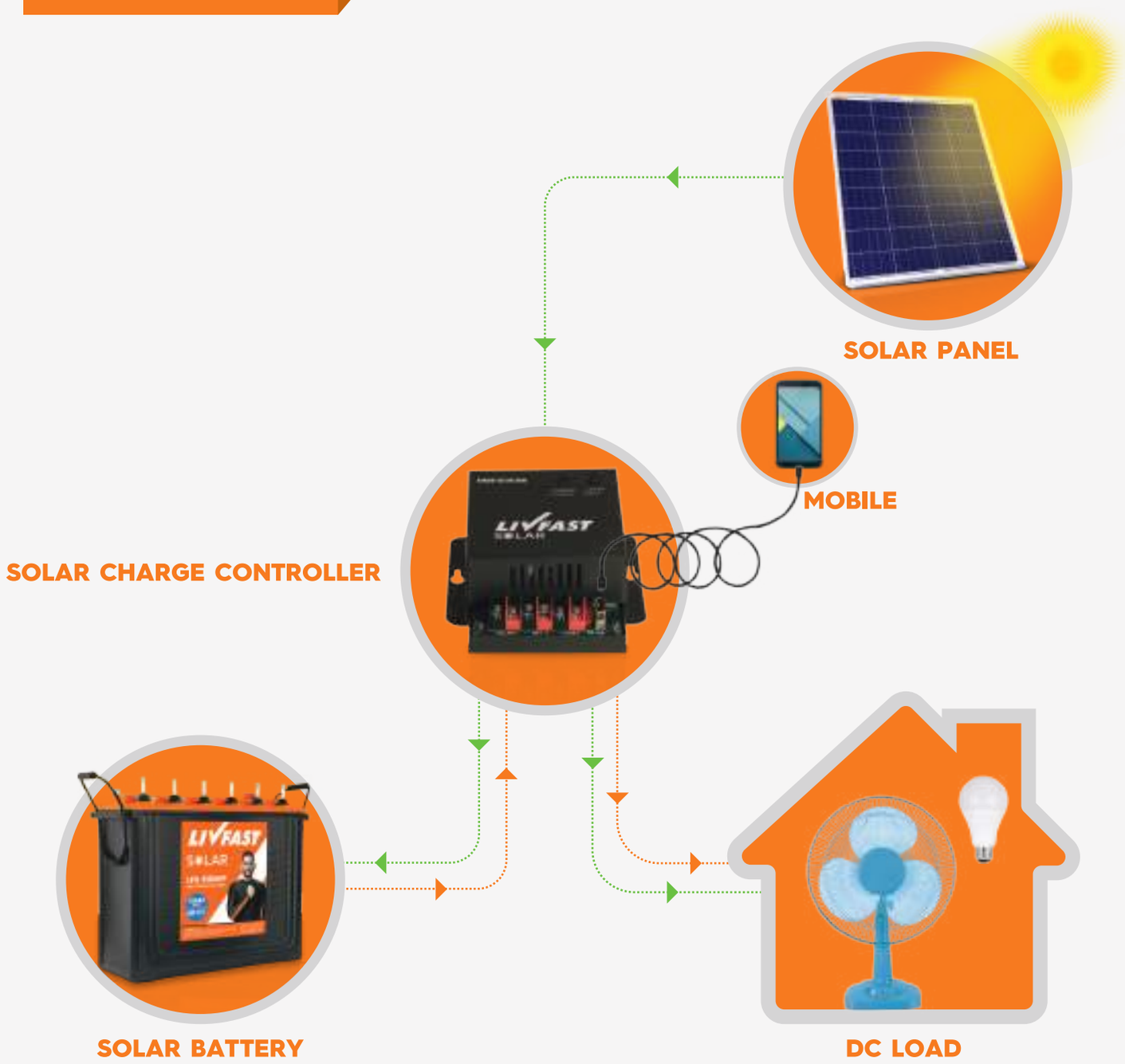


Note: For the above solution, extra BOS will be required for final installation & commissioning
BOS: Cable, connector, ACDB, structure etc.

DC SOLUTION

FOLLOWING SOLAR COMPONENTS MAKES THE SYSTEM

SOLAR PV PANEL	12V: 40W, 50W, 75W, 100W, 160W, 24V: 270W, 325W
SOLAR CHARGE CONTROLLER	12/24V: 10-20AMPS. | 24/36/48V: 50AMPS.
SOLAR BATTERY	40AH, 75AH, 100AH, 135AH, 165AH, 180AH, 200AH

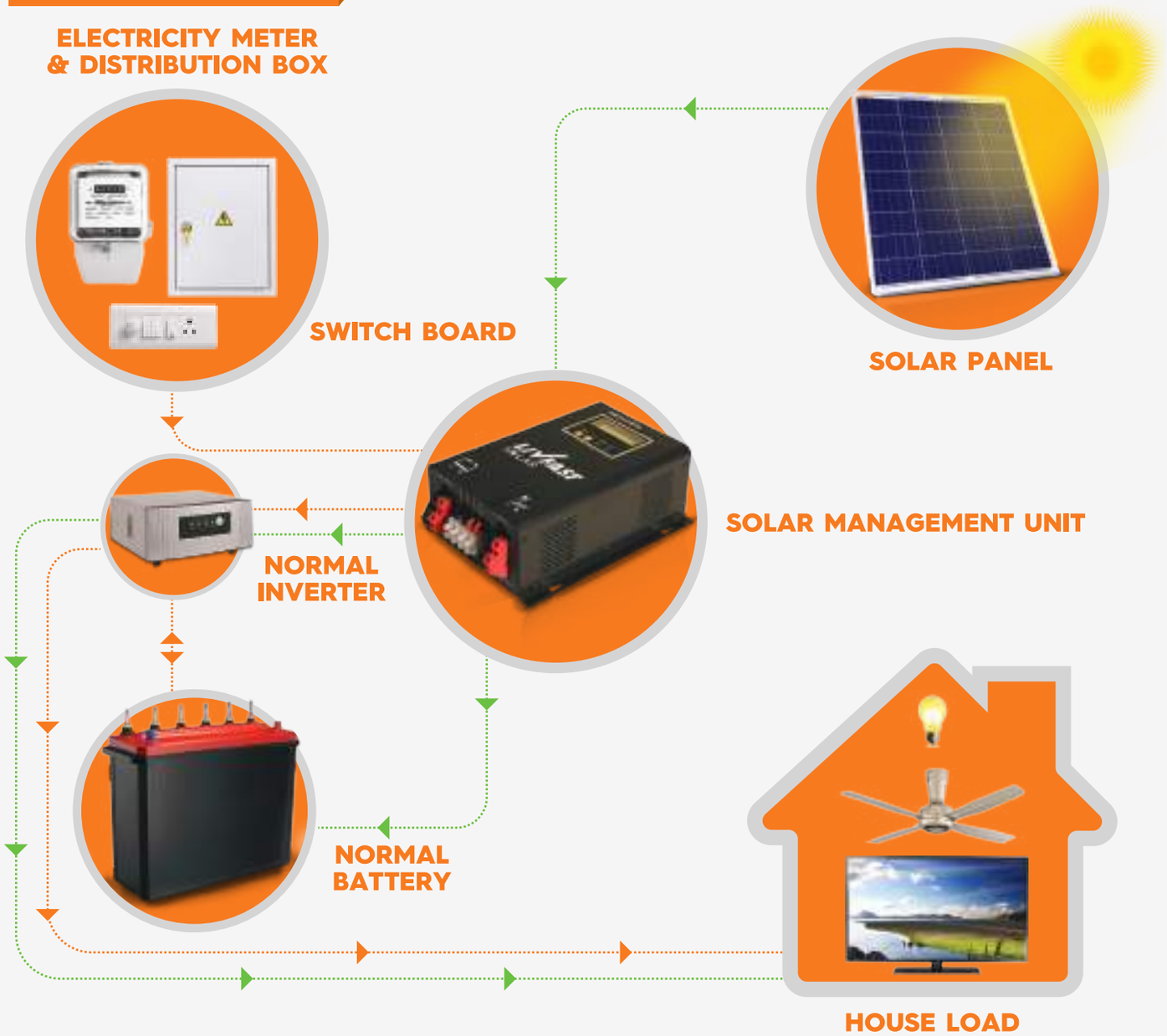


Note: For the above solution, extra BOS will be required for final installation & commissioning BOS: Cable, connector, ACDB, structure etc.

EXISTING INVERTER SOLARISATION SOLUTION

FOLLOWING SOLAR COMPONENTS MAKES THE SYSTEM

SOLAR PV PANEL	12V: 100W, 160W, I 24V: 270W, 325W
SOLAR MANAGEMENT UNIT	12/24V: 30AMPS. I 24/36/48V: 50AMPS.
SOLAR BATTERY	100AH, 135AH, 165AH, 180AH, 200AH



Note: For the above solution, extra BOS will be required for final installation & commissioning BOS: Cable, connector, ACDB, structure etc.

SOLAR STREET LIGHT SOLUTIONS

FOLLOWING SOLAR COMPONENTS MAKES THE SYSTEM

SOLAR PV PANEL	12V: 40W, 50W, 75W, 100W
SOLAR STREET LIGHT	9W & 12W
SOLAR BATTERY	40AH, 75AH, 100AH

Note: For the above solution, extra BOS will be required for final installation & commissioning BOS: Cable, connector, ACDB, structure etc.

LIVSERV SERVICE NETWORK

NOW SERVING COUNTLESS STATES ACROSS THE COUNTRY

380+
Trained
Service Engineers

ON-SITE*
SERVICE FACILITY

- Solar Panel, UPS, PCU, SCC & SMU: Customer End
- Battery: CSC location

50+
SERVICE CENTRE
locations Pan India

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Notes

Notes

LIVFAST

SOLAR

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