



## PRODUCTS FROM GROUP SURYA

SOLAR PV MODULE | ON GRID INVERTER | OFF GRID PCU  
SOLAR TUBULAR BATTERY | SOLAR DC PUMP  
SOLAR DC CABLE | BLDC FAN



# IYRO SOLAR

(A Brand of Group Surya)

Group Surya is an ISO 9001 & 14001 certified

We are continuous evolving organization making remarkable growth in the field of manufacturing since 2011 with presence across India with manufacturing plants at Haryana-Manesar & Gaya, Rajasthan-Giloth and Odisha-Bhubaneswar. We are a leading manufacturer of renewable products including Solar PV Module, Solar Tubular Batteries, Grid Tie Inverter, Battery Management System, EV Chargers, Solar Luminaries and Solar Street Light System and Home lighting System. We are in several other businesses Like Water Treatment, Solar Pumping, Solar Micro Irrigation System, Manufacturing of FRP vessels and polymer processing. We are continuously striving for greener world and our business is focused towards clean energy and green world. We are always taking a leap in manufacturing electrolyze for producing green hydrogen, recently we have been working on technology received from Bhabha atomic research center for alkaline electrolyze. Soon hope to add another green energy product from house of Group Surya.

## VISION

At IYRO Solar, Our vision is to lead the transition to a sustainable and a better future for all through renewable energy. We envision a world where solar power is the primary source of clean and affordable energy, contributing to a greener planet and a better quality of life.

## MISSION

To accelerate the global adoption of clean and sustainable energy by designing, manufacturing, and delivering high-quality solar panels which are efficient, reliable, and cost-effective.

## WHY SOLAR ?

### Wallet Friendly one time Investment

All these advantages come without leaving a hole in your pocket. Installation of the solar power system is a one-time Investment.

### Save on electricity bills

Installing solar panels significantly reduces monthly electricity bills and dependence on the power grid. According to long- term forecast solar remains a cost-effective solution and long-term investment in the future.

### Evasion from the greenhouse effect

Solar Power means producing energy through photovoltaic process. The environmental impact of solar power is significantly smaller than other power generation method.

### Better Grid Security

Increasing usage of solar energy would lighten the load on the power grid and therefore ensure better grid security. This implies fewer power cuts and more protection from disasters.

## CERTIFICATIONS & STANDARDS





# SOLAR PV MODULE

## MONO FACIAL SERIES

260Wp - 585Wp Mono Half Cut

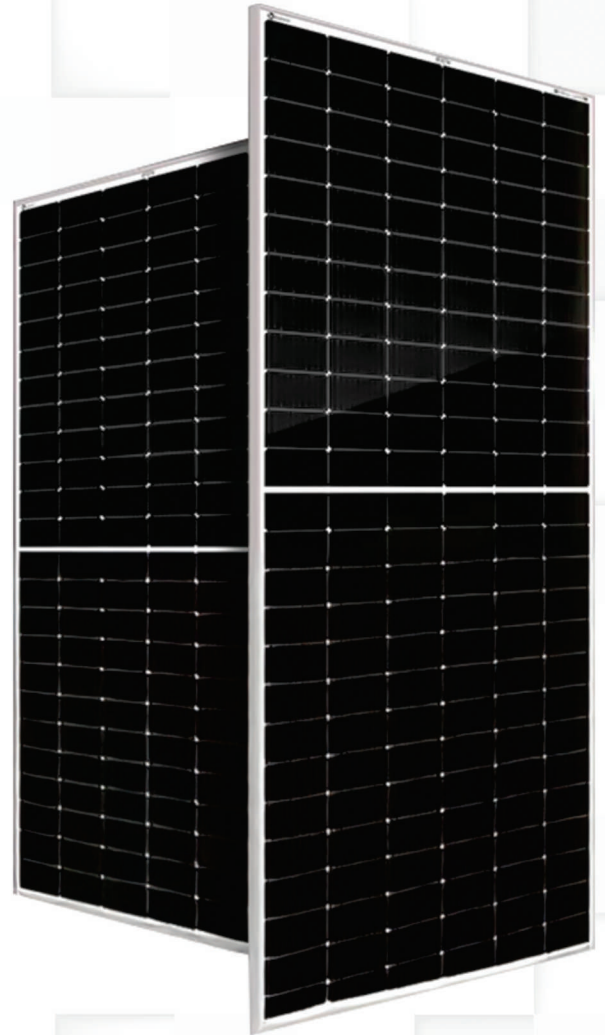
### LINEAR PERFORMANCE WARRANTY



**25 YEARS**  
LINEAR POWER WARRANTY



**10 YEARS**  
PRODUCT WARRANTY



### Certification & Standards



**ALMM**  
Approved List of Models and Manufacturers



IS 14286: 2010/IEC 61215: 2005, IS/IEC 61730 (Part-1): 2004 & IS/IEC 61730 (Part-2): 2004 IEC TS 62804-1: 2015 IEC 61701:2020

## KEY FEATURES

**IP68** IP68 Junction box, Connector

**Reduced Hot Spot Loss.**

**MBB Technology, Better light trapping & Current Collection**

**PID** Excellent Anti-PID Performance Guarantee

**+** Excellent Power Output with +ve Tolerance (upto 4.99Wp)

**Lower Cost of Energy (LCOE).**



# SPECIFICATION:

**ELECTRICAL DATA (STC- IRRADIANCE 1000W/M<sup>2</sup> , CELL TEMPERATURE 25°C, AIR MASS AM 1.5)**

Model Number	System Voltage (V)	Maximum Power Output (Wp)	Open Circuit Current- Voc(V)	Maximum Power Voltage-Vmax(V)	Short Circuit Current-ISC(A)	Maximum Power Current -Imax(A)	Module Efficiency(% )	Fill Factor(%)
SI585M10-156	1500	585	53.78	45.29	13.83	12.92	20.93	80.05
SI550M10-144	1500	550	49.70	42.64	13.83	12.90	21.08	80.03
SI545M10-144	1500	545	49.47	42.19	13.77	12.85	21.08	80.01
SI540M10-144	1500	540	49.23	42.42	13.71	12.80	21.08	80.01
SI535M10-144	1500	535	49.03	41.97	13.65	12.75	20.89	79.87
SI500M10-132	1500	500	45.48	38.76	13.83	12.90	21.05	79.32

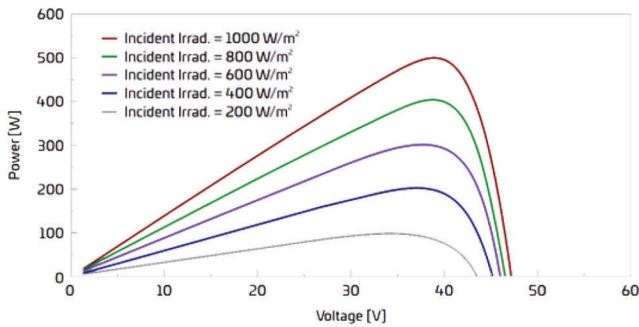
## MECHANICAL DATA

Solar Cells Per Module(units)	144
Cell Configuration(Matrix)	12 x 6    2
Length(L) x Width(W) x Thickness (T) in mm	2278 x 1134 x 40
Weight of module(kg)	Max. 28.3 Kg
No of cells per by pass diode (No.)	48
Area of Module	2.583252

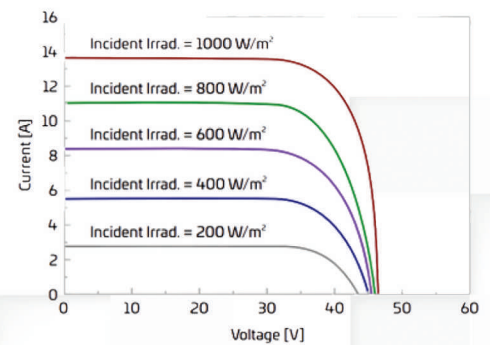
## TEMPERATURE RATINGS

NOCT	45° C ± 2° C
Maximum System Voltage	1500 V DC
Maximum Series Fuse Rating	25A
Temperature Coefficient of Pmax	-0.39% / ° C
Temperature Coefficient of Voc	-0.30% / ° C
Temperature Coefficient of Isc	+0.05% / ° C
Temperature Range	-40° C + 85° C

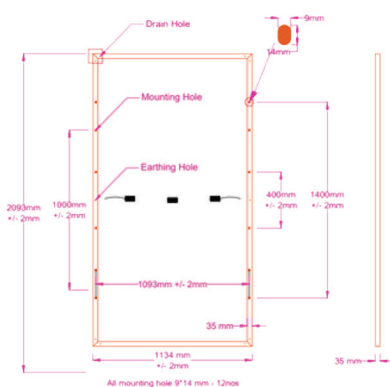
## PV Curve



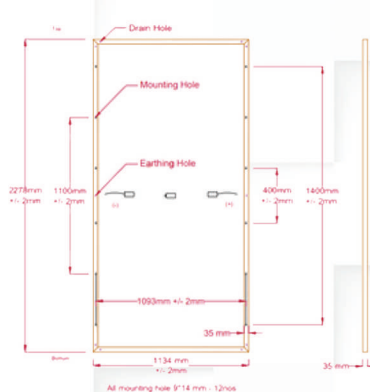
## IV Curve



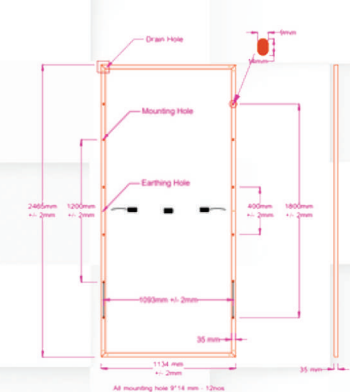
## Frame Dimension (500 WP)



## Frame Dimension (545 WP)



## Frame Dimension (585 WP)





# SPECIFICATION:

## ELECTRICAL DATA (STC- IRRADIANCE 1000W/M<sup>2</sup> , CELL TEMPERATURE 25°C, AIR MASS AM 1.5)

Model Number	System Voltage (V)	Maximum Power Output (Wp)	Open Circuit Current-Voc(V)	Maximum Power Voltage-Vmax(V)	Short Circuit Current-ISC(A)	Maximum Power Current -Imax(A)	Module Efficiency(%)	Fill Factor(%)
SI460M10-120	1500	460	43.88	36.92	13.35	12.46	19.46	78.53
SI450M10-120	1500	450	41.36	34.89	13.83	12.90	20.78	78.68
SI440M10-120	1500	440	40.95	34.41	13.71	12.79	20.13	78.39
SI430M10-120	1500	430	40.55	33.92	13.59	12.68	19.85	78.05
SI400M10-108	1500	400	37.01	31.13	31.77	12.86	20.44	78.49

## MECHANICAL DATA

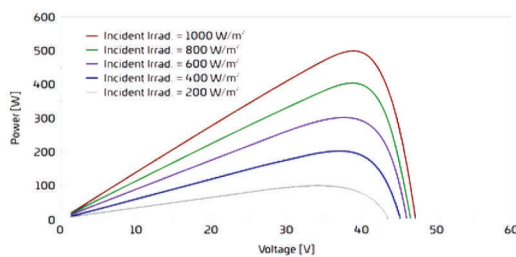
Solar Cells Per Module(units)	132/120
Cell Configuration(Matrix)	11 X 6    2
Length(L) x Width(W) x Thickness (T) in mm	2095 x 1134 x 25
Weight of module(kg)	Max. 28.3 Kg
No of cells per by pass diode (No.)	44
Area of Module	2.583252

Junction Box	IP 68 rated split junction Box with Individual bypass diode
Connector	MC4 Compatible
Front Cover(Glass)	Low iron high transmission AR coated tempered glass
Encapsulant	EVA
Back Cover(Backsheet)	Poly vinyl fluoride (Composite Film)
Frame	Anodized Aluminum Frame hollow profile

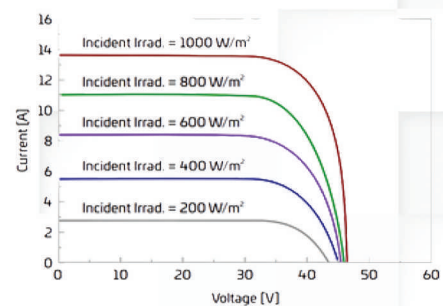
## TEMPERATURE RATINGS

NOCT	45° C ± 2° C
Maximum System Voltage	1500 V DC
Maximum Series Fuse Rating	25A
Temperature Coefficient of Pmax	-0.39% / ° C
Temperature Coefficient of Voc	-0.30% / ° C
Temperature Coefficient of Isc	+0.05% / ° C
Temperature Range	-40° C + 85° C

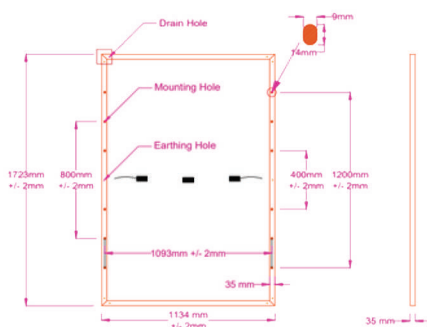
### PV Curve



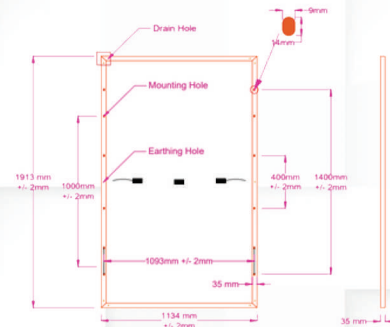
### IV Curve



### Frame Dimension (400 WP)



### Frame Dimension (450 WP)





# SPECIFICATION:

## ELECTRICAL DATA (STC- IRRADIANCE 1000W/M<sup>2</sup> , CELL TEMPERATURE 25°C, AIR MASS AM 1.5)

Model Number	System Voltage (V)	Maximum Power Output (Wp)	Open Circuit Current-Voc(V)	Maximum Power Voltage-Vmax(V)	Short Circuit Current-ISC(A)	Maximum Power Current -Imax(A)	Module Efficiency(%)	Fill Factor(%)
SI360M10-96	1500	360	32.78	28.04	13.77	12.84	20.59	79.76
SI355M10-96	1500	355	32.58	27.78	13.71	12.78	20.30	79.48
SI350M10-96	1500	350	32.38	27.50	13.65	12.73	20.02	79.20
SI340M10-96	1500	340	32.18	26.84	13.59	12.67	19.44	77.76
SI335M10-96	1500	335	31.98	26.57	31.53	12.61	19.16	77.43

## MECHANICAL DATA

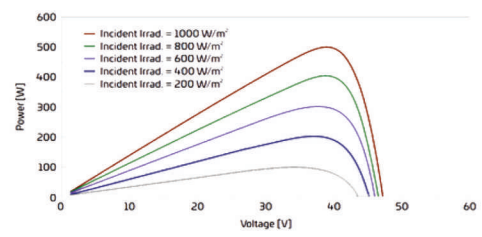
Solar Cells Per Module(units)	96
Cell Configuration(Matrix)	8 X 6    2
Length(L) x Width(W) x Thickness (T) in mm	1538 x 1134 x 35
Weight of module(kg)	Max. 17 Kg
No of cells per by pass diode (No.)	28
Area of Module	2.583252

Junction Box	IP 68 rated split junction Box with Individual bypass diode
Connector	MC4 Compatible
Front Cover(Glass)	Low iron high transmission AR coated tempered glass
Encapsulant	EVA
Back Cover(Backsheet)	Poly vinyl fluoride (Composite Film)
Frame	Anodized Aluminum Frame hollow profile

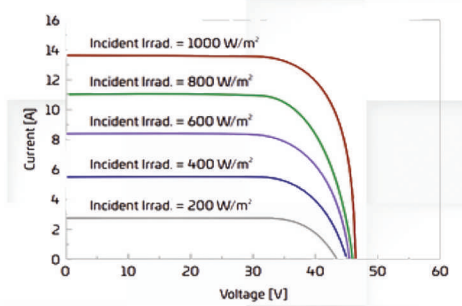
## TEMPERATURE RATINGS

NOCT	45° C ± 2° C
Maximum System Voltage	1500 V DC
Maximum Series Fuse Rating	25A
Temperature Coefficient of Pmax	-0.39% / ° C
Temperature Coefficient of Voc	-0.30% / ° C
Temperature Coefficient of Isc	+0.05% / ° C
Temperature Range	-40° C + 85° C

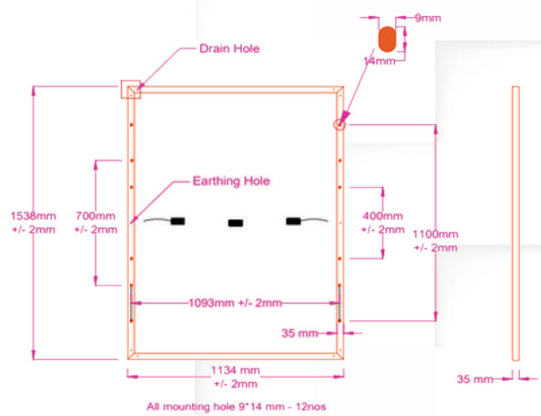
### PV Curve



### IV Curve



### Frame Dimension (350 WP)





# SPECIFICATION:

## ELECTRICAL DATA (STC- IRRADIANCE 1000W/M<sup>2</sup> , CELL TEMPERATURE 25°C, AIR MASS AM 1.5)

Model Number	System Voltage (V)	Maximum Power Output (Wp)	Open Circuit Current-Voc(V)	Maximum Power Voltage-Vmax(V)	Short Circuit Current-ISC(A)	Maximum Power Current -Imax(A)	Module Efficiency(%)	Fill Factor(%)
SI270M10-72	1500	270	24.80	20.95	13.83	12.89	20.38	78.73
SI265M10-72	1500	265	24.60	20.66	13.79	12.83	20.01	78.14
SI260M10-72	1500	260	24.40	20.35	13.76	12.78	19.63	77.46
SI255M10-72	1500	255	24.20	20.05	13.65	12.72	19.25	77.21
SI250M10-72	1500	250	24.00	19.75	13.59	12.66	18.87	76.66

## MECHANICAL DATA

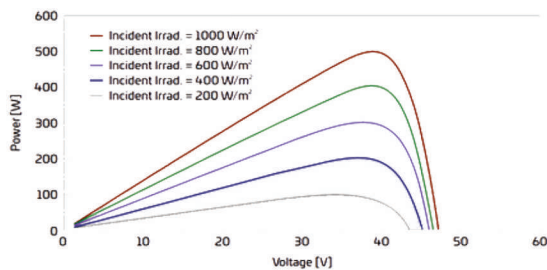
Solar Cells Per Module(units)	72
Cell Configuration(Matrix)	6 X 6 II 2
Length(L) x Width(W) x Thickness (T) in mm	1168 x 1134 x 40
Weight of module(kg)	Max. 15 Kg
No of cells per by pass diode (No.)	24
Area of Module	2.583252

Junction Box	IP 68 rated split junction Box with Individual bypass diode
Connector	MC4 Compatible
Front Cover(Glass)	Low iron high transmission AR coated tempered glass
Encapsulant	EVA
Back Cover(Backsheet)	Poly vinyl fluoride (Composite Film)
Frame	Anodized Aluminum Frame hollow profile

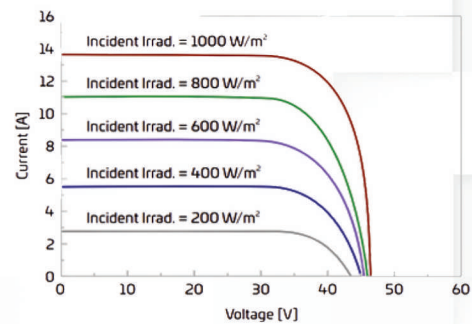
## TEMPERATURE RATINGS

NOCT	45° C ± 2° C
Maximum System Voltage	1500 V DC
Maximum Series Fuse Rating	25A
Temperature Coefficient of Pmax	-0.39% / ° C
Temperature Coefficient of Voc	-0.30% / ° C
Temperature Coefficient of of Isc	+0.05% / ° C
Temperature Range	-40° C + 85° C

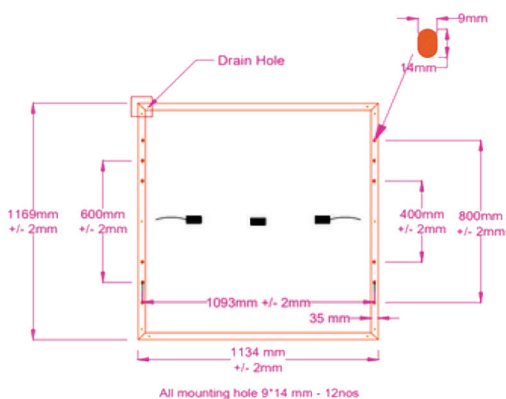
### PV Curve



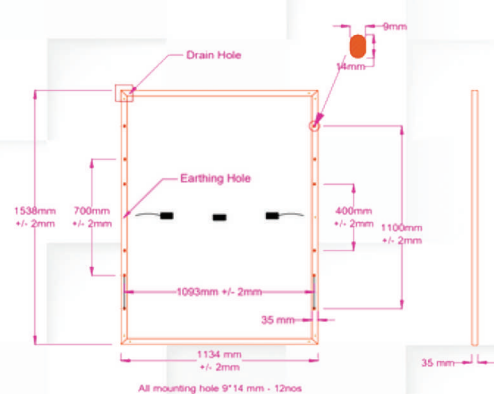
### IV Curve



### Frame Dimension (260 WP)



### Frame Dimension (350 WP)





# Mono PERC Half-cut Bi-facial Module

450Wp - 585Wp Mono Bi-facial

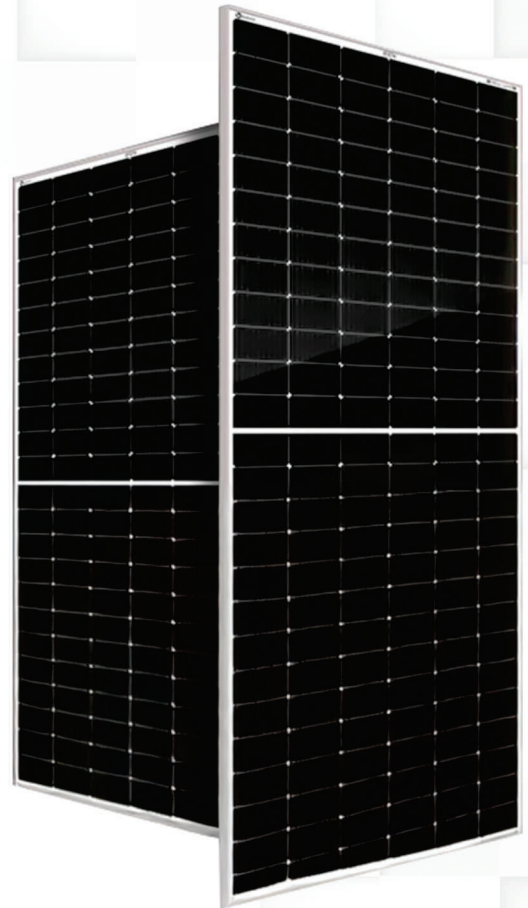
## LINEAR PERFORMANCE WARRANTY



**25 YEARS**  
LINEAR POWER WARRANTY



**10 YEARS**  
PRODUCT WARRANTY



## Certification & Standards



**ALMM**  
Approved List of Models and Manufacturers



IS 14286: 2010/IEC 61215: 2005, IS/IEC 61730  
(Part-1): 2004 & IS/IEC 61730 (Part-2): 2004 IEC TS 62804-1: 2015 IEC 61701:2020

## KEY FEATURES

**IP68** IP68 Junction box, Connector

Reduced Hot Spot Loss.

MBB Technology, Better light trapping & Current Collection

**PID** Excellent Anti-PID Performance Guarantee

Excellent Power Output with +ve Tolerance (upto 4.99Wp)

Lower Cost of Energy (LCOE).



# SPECIFICATION:

## MECHANICAL DATA

### ELECTRICAL DATA- ALL DATA MEASURED TO \*STC

ELECTRICAL SPECIFICATION	ONLY FRONT (STC)				
	530	535	540	545	550
Peak Power, (0~+ Wp Pmax(Wp))	530	535	540	545	550
Maximum Voltage, Vmpp (V)	41.8	41.97	42.19	42.42	42.64
Maximum Current, Imp (A)	12.68	12.75	12.80	12.85	12.9
Open Circuit Voltage, VOC (V)	48.83	49.03	49.23	49.47	49.7
Short Circuit Current, Isc (A)	13.59	13.65	13.71	13.77	13.83
Module Efficiency (%)	20.52	20.71	20.90	21.09	21.27

\*STC: Irradiance 1000 W/m<sup>2</sup>, cell temperature 25°C, air mass AM1.5 according to EN 60904-3. Average efficiency reduction of 4.5% at 200 W/m<sup>2</sup> according to EN 60904-1. Except Pmp, all other parameters have a tolerance of +/-3%, measurement uncertainty <3%

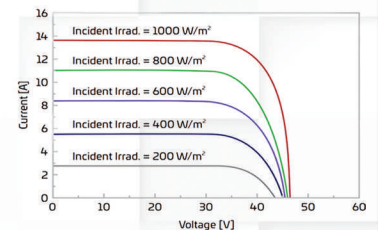
### TEMPERATURE CO-EFFICIENT (TC) AND PERMISSIBLE OPERATING CONDITIONS

Tc of open circuit voltage (β)	-0.29 %/OC
Tc of short circuit current (α)	0.045 %/OC
Tc of Power (γ)	-0.35 %/OC
Maximum system voltage	1500 V (IEC)
Temperature range	-40OC to + 85OC

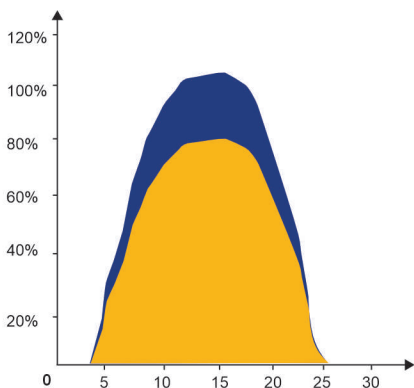
### ELECTRICAL CHARACTERISTICS WITH DIFFERENT REAR SIDE POWER GAIN

ELECTRICAL SPECIFICATION	PMAx GAIN FROM REAR SIDE				
	SI530M10-144	SI535M10-144	SI540M10-144	SI545M10-144	SI550M10-144
10% Power Output (w)	583	588.5	594	599.5	605
Module Efficiency (%)	22.57%	22.78%	22.99%	23.19%	23.39%
15% Power Output (w)	610.5	615.2	621	626.7	632.5
Module Efficiency (%)	23.59%	23.81%	24.03%	24.25%	24.46%
20% Power Output (w)	636	642	648	654	660
Module Efficiency (%)	24.62%	24.85%	25.08%	25.30%	25.52%
25% Power Output (w)	662.5	668.7	675	681.2	687.5
Module Efficiency (%)	25.65%	25.88%	26.12%	26.36%	26.58%

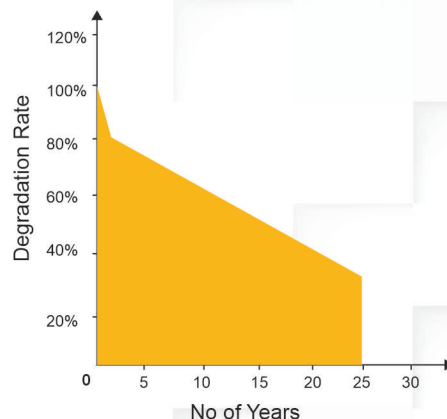
### Linear Graph



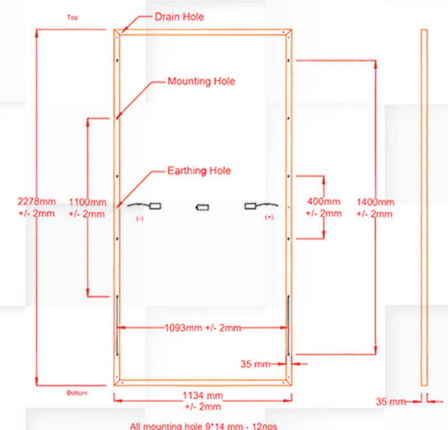
Higher generation due to bifacial technology.



Warranty based on power



Engineering Drawing





# N TOPCON TECHNOLOGY (560Wp - 600Wp Bi-facial)

SI560M16-144 to SI590M16-144  
Framed Dual Glass Bifacial Module

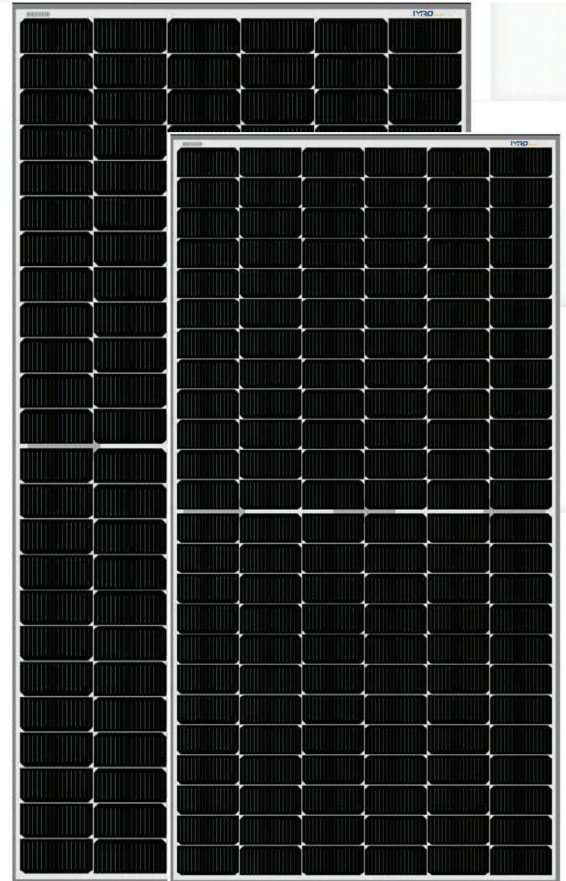
## LINEAR PERFORMANCE WARRANTY



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**10 YEARS**  
PRODUCT WARRANTY



## Certification & Standards



## KEY FEATURES



Highest reliability & enhanced crack tolerance MBB module



Sustain heavy snow & wind loads (5400 Pa & 2400 Pa)



Best in class thermal coefficients



Highest commercial gains, lower LCOE

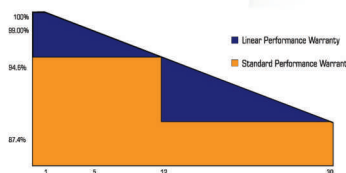
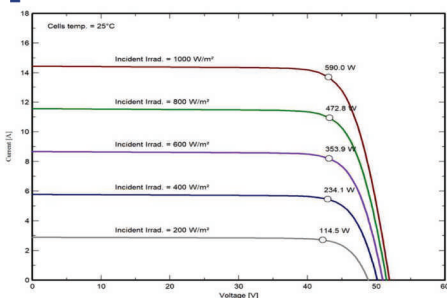


Better weak light performance

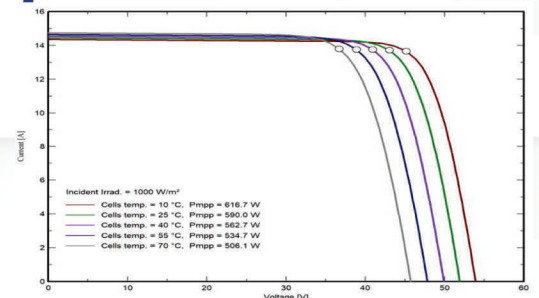


Excellent PID resistance

### I-V VARIATION WITH IRRADIANCE



### I-V VARIATION WITH TEMPERATURE





# SPECIFICATION:

## BI-FACIAL OUTPUT - BACKSIDE POWER GAIN\*

		SI560TCBI-NT144	SI565TCBI-NT144	SI570TCBI-NT144	SI575TCBI-NT144	SI580TCBI-NT144	SI585TCBI-NT144	SI590TCBI-NT144	SI595TCBI-NT144	SI600TCBI-NT144
15%	Power Output (W)	644	649.75	655.5	661.25	667	672	678.5	684.25	690
	Module Effi. (%)	24.96%	25.18%	25.41%	25.63%	25.85%	26.08%	26.30%	26.52%	26.74%
20%	Power Output (W)	672	678	684	690	696	702	708	714	720
	Module Effi. (%)	26.05%	26.28%	26.51%	26.74%	26.98%	27.21%	27.44%	27.67%	27.91%
25%	Power Output (W)	700	706.25	712.5	718.75	725	731.25	737.5	743.75	750
	Module Effi. (%)	27.13%	27.37%	27.62%	27.86%	28.10%	28.34%	28.59%	28.83%	29.07%
30%	Power Output (W)	728	734.5	741	747.5	754	760.5	767	773.5	780
	Module Effi. (%)	28.22%	28.47%	28.71%	28.97%	29.22%	29.48%	29.73%	29.98%	30.23%

\*The bifacial gains are dependent on the power plant design and location.

## ELECTRICAL CHARACTERISTICS

MODELS	Pmax(W)	Vmp(V)	Imp(A)	Isc(A)	Voc(V)	Module Eff.(%)
SI560TCBI-NT144	560	42.44	13.20	13.93	50.50	21.71%
SI565TCBI-NT144	565	42.61	13.26	14.02	50.70	21.90%
SI570TCBI-NT144	570	42.77	13.33	14.10	50.90	22.09%
SI575TCBI-NT144	575	42.94	13.40	14.20	51.10	22.29%
SI580TCBI-NT144	580	43.13	13.45	14.28	51.30	22.48%
SI585TCBI-NT144	585	43.27	13.52	14.36	51.50	22.67%
SI590TCBI-NT144	590	43.45	13.58	14.45	51.70	22.87%
SI595TCBI-NT144	595	43.62	13.65	14.53	51.90	23.06%
SI600TCBI-NT144	600	43.83	13.69	14.61	52.10	23.26%

\*Standard Test Conditions(STC)-1000 W/m2 irradiance, Air Mass 1.5 and 25°C cell temperature.  
 - Nominal Operating Cell Temperature(NOCT)-800 w/m2 irradiance, Air Mass 1.5, Ambient temperature 20°C and wind speed 1m/s.  
 - Average power reduction of 4.5% at 200 W/m2 as per IEC 60904-1 Measuring Uncertainty ± 3%

## MECHANICAL CHARACTERISTICS

Length x Width x Thickness (L x W x T)	2278mm[L] x 1134mm[W]x 35mm[T]
Weight	32.3 Kgs
Solar Cells per Module (Units)/ Arrangement	144 Cells / (12 x 6     12 x 6]
Solar Cell Type & Size	TOPCon N-Type Mono Bifacial, 91 x 182mm
Front / Back Glass (Material / Thickness)	2mm Low Iron semi-temperer glass
Encapsulate	PID Free & UV Resistant
Junction Box [protection degree/ material]	IP68/ Weatherproof PPO
Cable & connector [protection degree/type]	IP68 rated / MC4 Compatible
Cable cross - section & Length	4 mm2 & 500mm
Frame	Anodized Aluminium Alloy

## WARRANTY AND CERTIFICATIONS

### Product Warranty\*\*

10 Years of Product Warranty

### Performance guarantee\*\*

25 Years Linear Power Warranty

### Approvals and Certificates :

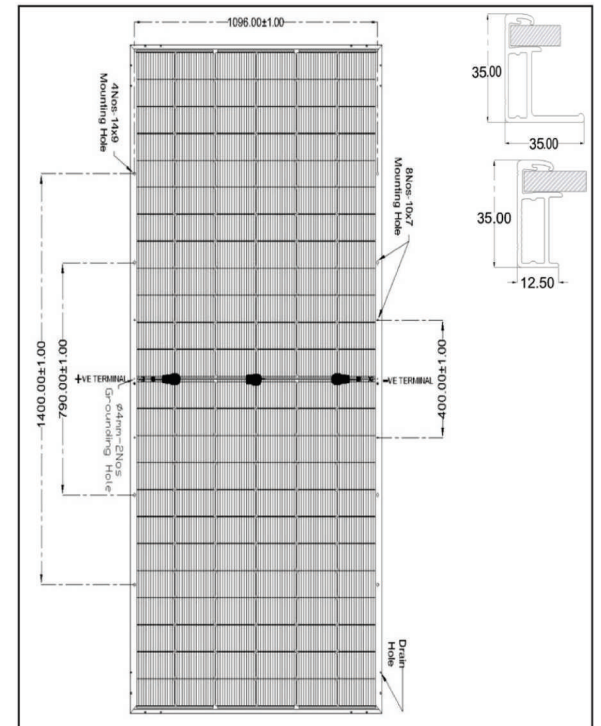
IS 14286 : 2010/ IEC 61215 : 2005, IS/IEC 61730 (PART 1) : 2004 &

IS/IEC 61730 (PART 2) : 2004 IEC TS 62804-1 : 2015 IEC 61701:2020

## THERMAL CHARACTERISTICS

Temperature coefficient of Current (Isc), α [%/o c]	0.046
Temperature coefficient of Current (Isc), α [%/o c]	-0.26
Temperature coefficient of Current (Isc), α [%/o c]	-0.30
NOCT [0C]	43 ± 2
Operating temperature range [0C]	-40 to 85
Bifaciality Factor (%)	80 ± 5

## DESIGN SPECIFICATION



### Note :

- The specifications included in this datasheet are subject to change without prior notice.
- The electrical data given here is for reference only.
- Please confirm your exact requirements with the representative while placing your order

### \*\* Warranty :

- Please read solar warranty documents thoroughly.

# GRID TIE INVERTER



## Power Your Home Efficiently with IYRO Solar On-Grid Inverters

When the sun goes down, don't let your power needs suffer. With IYRO Solar On-Grid Solar Inverter, you can seamlessly switch to grid energy, ensuring a continuous power supply. Designed for efficiency and reliability, our inverter offer the perfect blend of solar and grid energy, giving you the best of both worlds.



## OUR RANGE OF PRODUCTS

Single Phase: 2 Kw - 6 Kw | Three Phase: 5 Kw - 350 Kw

## KEY FEATURES

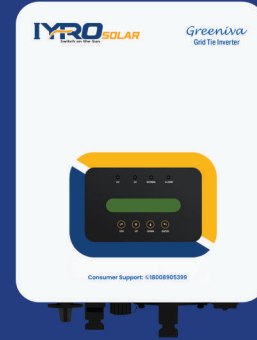
- 10 Years Product Warranty.
- DC reverse polarity protection & DC switch.
- Maximum 98.2% inverter efficiency.
- Grid monitoring & anti-islanding protection.
- Compact & light design for easy installation.
- Wide input range.
- Natural cooling.
- Smart mobile app for monitoring.
- Weather monitoring System(Optional).
- String level monitoring.
- Anti-PID Function(Optional).
- ZED-Zero export device(Optional).



# Grid Tie Inverter

## KEY BENEFITS:

- Compact & Light design for easy installation.
- Wide input range.
- Natural cooling.
- Sole smart mobile app for monitoring.



Single Phase



Three Phase

## GRID TIE INVERTER - SINGLE PHASE: IS (10IS-602S) 1.0KW-6.0KW

- DC Overloading upto 10%
- High DC/AC ratio for more yields.
- Max. DC input current per string; Compatible upto 800WP solar panel.
- H-Bridge & T-Type three level topology & enhanced SPWM (Space Pulse Width Modulation).
- Special external color with Epoxy Novolac coating for better Heat Management.
- Wide input range; Low Voltage start-up of 80V.
- Compact and light weight design for an easy installation.
- Multiple MPPT Design with IDA Technology(Intelligent Disturbance Algorithm).
- Inbuilt surge protections at both AC and DC side.
- Fan-less nature cooling models.
- RS485, remote monitoring (Wi-Fi/GPRS).
- User friendly Web & Mobiles App Monitoring.
- Zero export enabled models (External CT required).





## GRID TIE INVERTER - SINGLE PHASE

CAPACITY (KW)	1	2	3	3.4	3.6	4.0	4.2	4.7	5	5.4	6
<b>MODEL NUMBER</b>	IS-101S	IS-201S	IS-301S	IS-341S	IS-361S	IS-422S	IS-422S	IS-471S	IS-502S	IS-542S	IS-602S
<b>INPUT (DC)</b>											
Max.DC input power (KW)	1.1	2.2	3.3	3.7	3.9	4.4	4.6	5.1	5.5	5.9	6.6
Max. DC I/P (Vdc)	550Vdc										
Max. MPPT I/P Current (A)	13A / 20A										
MPPT Short Circuit Current (A)	20A / 30A										
MPPT Tracking Voltage (Vdc)	70-500V						80-500V				
Min. Start Voltage (V)	80Vdc										
Number of MPPT Tracker	1						1/2		2		
Strings per MPPT Tracker	1										
<b>OUTPUT (AC)</b>											
Rated output power (KW)	1	2	3	3.4	3.6	4.0	4.2	4.7	5	5.4	6
Rated Grid Voltage (V) / Range	230V (140-285V)						230V (170 - 285V)				
Rated Grid freq. (Hz) / Range	50Hz (± 5%)										
Rated output current AC (A)	4.7	9.4	14.1	15.5	18.8	18.8	19.8	20.5	23.5	23.5	28.2
AC Connection	P + N + PE										
THDI (%)	<3%										
Output Power factor	0.8 leading to 0.8 lagging										
<b>EFFICIENCY</b>											
Max. conversion Efficiency (%)	97.3						97.5				
Max. Euro Efficiency (%)	97.1						97.3				
MPPT Efficiency (%)	>99										
<b>PROTECTION</b>											
Anti-Islanding Protection	YES										
DC Reverse Polarity Protection	YES										
Insulation Resistance Protection	YES										
Ground Fault Protection	YES										
Output Over Current Protection	YES										
Output Short circuit Protection	YES										
Output Over Voltage Protection	YES										
DC Isolator Switch	NO										
Surge Protection	DC: Type III / AC: Type III										
<b>GENERAL DATA</b>											
Dimensions (W*H*D) mm	280*272.5*184						330*323*190				
Weight (Kg)	4.8						7.5				
Topology	Transformerless										
Noise Emission (dB)	<25dB										
Display	LED with LCD Display										
Cooling Method	Natural Cooling										
Operating ambient Temperature	(-25°C ~ +65°C)										
Operating Humidity	0% - 100%										
Max. Operating Altitude (m)	2000 (>2000 Derating)										
Ingress Protection	IP65										
Night Consumption (w)	<1										
Standard Warranty	8 Years (extendable upto 10 Year)										
<b>CONNECTION TYPE</b>											
DC connectors	MC-4										
Ingress AC plug	IP65 rated plug										
Monitoring System	WiFi / GPRS / RS 485 / ETHERNET LAN / Local Monitoring										



# GRID TIE INVERTER-THREE PHASE: IS (052T-332T) 5.0KW-330KW

- Max. efficiency up to 98.9%.
- Heavy duty inbuilt Dc isolation switch.
- Special external color with Epoxy Novolac Coating for better heat management.
- Max. DC input current per string; compatible up to 800WP solar panel.
- Type DC/AC SPD, frequency drop control technology.
- Intelligent fan based cooling on higher capacity models.



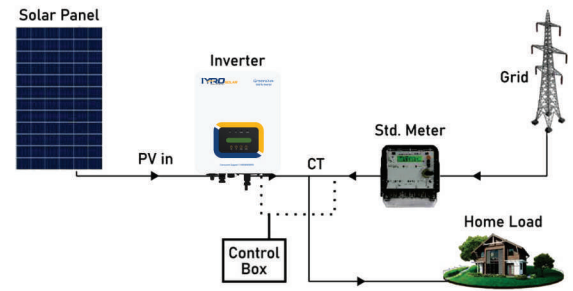
- Compact & light weight design for an easy installation.
- RS485, remote monitoring (Wi-Fi/GPRS).
- Multiple protection functions.
- DC overloading up to 20%.

Grid Tie Inverter - Three Phase	CAPACITY (KW)												
	MODEL NUMBER	5	6	7	8	9	10	12	15	18	20	25	
	<b>INPUT (DC)</b>												
	Max.DC input power (KW)	6.0	7.2	8.4	9.6	10.8	12.0	14.4	18.0	21.6	24.0	30.0	
	Max. DC I/P (Vdc)	1000V											
	Max. MPPT I/P Current (A)	13A / 20A						13A+26A			30A		
	MPPT Short Circuit Current (A)	20A / 30A						20A+40A			46A		
	MPPT Tracking Voltage (Vdc)	120-850V						180-850V					
	Min. Start Voltage(V)	140V						200V					
	Number of MPPT Tracker	2											
	Strings per MPPT Tracker	1						1+2			2		
	<b>OUTPUT (AC)</b>												
	Rated output power (KW)	5	6	7	8	9	10	12	15	18	20	25	
Rated Grid Voltage (V) / Range	415V(280-455V)												
Rated Grid freq. (Hz) / Range	50Hz ( ± 5%)												
Rated output current AC (A)	7.2	8.6	10.1	11.56	13.0	14.55	17.34	21.7	26.01	28.90	36.14		
AC Connection	3P + N + PE												
THDI (%)	<3%												
Output Power factor	0.8 leading to 0.8 lagging												
<b>EFFICIENCY</b>													
Max. conversion Efficiency (%)	98.3												
Max. Euro Efficiency (%)	97.5												
MPPT Efficiency (%)	>99												
<b>PROTECTION</b>													
Anti-Islanding Protection	YES												
DC Reverse Polarity Protection	YES												
Insulation Resistance Protection	YES												
Ground Fault Protection	YES												
Output Over Current Protection	YES												
Output Short circuit Protection	YES												
Output Over Voltage Protection	YES												
DC Isolator Switch	YES												
Surge Protection	DC: Type II / AC: Type II												
<b>GENERAL DATA</b>													
Dimensions (W*H*D) mm	330*457*185						330*508*206						
Weight (Kg)	10.0						20.8						
Topology	Transformerless												
Noise Emission (dB)	<45dB												
Display	LED with LCD Display												
Cooling Method	Natural Cooling						Smart Fan Cooling						
Operating ambient Temperature	(-25°C ~ +65°C)												
Operating Humidity	0% - 100%												
Max. Operating Altitude (m)	2000 (>2000 Derating)												
Ingress Protection	IP65												
Night Consumption (w)	<1												
Standard Warranty	8 Years ( extendable upto 10 Year)												
<b>CONNECTION TYPE</b>													
DC connectors	MC-4												
Ingress AC plug	IP65 rated plug												
Monitoring System	WiFi / GPRS / RS 485/ ETHERNET LAN / Local Monitoring												



## OPTIONAL FEATURES FOR GRID TIE INVERTER

- Weather monitoring system(Optional).
- DC isolation switch for three phase inverter.
- Offline data storage facility up to 6 months on demand.
- String level monitoring.
- Anti-PID function(Optional).
- ZED-Zero export device(Optional).



ZERO EXPORT FEATURE

Grid Tie Inverter - Three Phase

CAPACITY (KW)	30	35	40	45	50	60	70	75	80	90	100	110	
MODEL NUMBER	IS-302T	IS-352T	IS-403T	IS-453T	IS-503T	IS-604T	IS-704T	IS-754T	IS-804T	IS-904T	IS-1004T	IS-1106T	
<b>INPUT (DC)</b>													
Max.DC input power (KW)	36.0	42.0	48.0	54.0	60.0	72.0	84.0	90.0	96.0	108.0	120.0	132.0	
Max. DC I/P (Vdc)	1000V												
Max. MPPT I/P Current (A)	40A												
MPPT Short Circuit Current (A)	60A												
MPPT Tracking Voltage (Vdc)	200-850V												
Min. Start Voltage (V)	200V												
Number of MPPT Tracker	2		3			4				4/6		6	
Strings per MPPT Tracker	2+3/3					3				4			
<b>OUTPUT (AC)</b>													
Rated output power (KW)	30	35	40	45	50	60	70	75	80	90	100	110	
Rated Grid Voltage (V) / Range	415V(280-455V)												
Rated Grid freq. (Hz) / Range	50Hz ( ± 5%)												
Rated output current AC (A)	43.35	50.57	57.80	65.02	72.25	86.70	101.15	108.38	115.60	130.05	144.57	158.95	
AC Connection	3P + N + PE												
THDI (%)	<3%												
Output Power factor	0.8 leading to 0.8 lagging												
<b>EFFICIENCY</b>													
Max. conversion Efficiency (%)	98.6							98.7					
Max. Euro Efficiency (%)	97.8		98							98.3			
MPPT Efficiency (%)	>99												
<b>PROTECTION</b>													
Anti-Islanding Protection	YES												
DC Reverse Polarity Protection	YES												
Insulation Resistance Protection	YES												
Ground Fault Protection	YES												
Output Over Current Protection	YES												
Output Short circuit Protection	YES												
Output Over Voltage Protection	YES												
DC Isolator Switch	YES												
Surge Protection	DC: Type II / AC: Type II												
<b>GENERAL DATA</b>													
Dimensions (W*H*D) mm	362*577*215			647.5*537*303.5			700*575*297			838*568*323			
Weight (Kg)	25.5		44.5			60.0			73.7				
Topology	Transformerless												
Noise Emission (dB)	<45dB												
Display	LED with LCD Display												
Cooling Method	Smart Fan Cooling												
Operating ambient Temperature	(-25°C ~ +65°C)												
Operating Humidity	0% - 100%												
Max. Operating Altitude (m)	2000 (>2000 Derating)												
Ingress Protection	IP65												
Night Consumption (w)	<1												
Standard Warranty	8 Years ( extendable upto 10 Year)												
<b>CONNECTION TYPE</b>													
DC connectors	MC-4												
Ingress AC plug	IP65 rated plug												
Monitoring System	WiFi/ GPRS/ RS 485/ ETHERNET LAN / Local Monitoring												

# OFF-GRID SOLAR PCU

Performance  
Oriented Inverter with  
**Sine Wave Technology**



## OUR RANGE OF PRODUCTS

**PWM** - 925VA, 1050VA, 1200VA(12V) 2250VA & 2750VA(24V)

**MPPT** - 2250VA(24V), 3500VA & 5250VA(48V), 7.5KVA(96V), 10KVA (120V), 15KVA(192V)

### Solar PCU-PWM(Renewva)

- Pure sine wave output.
- Advanced LCD display with multifunctional.
- DSP controlled display.
- Maximum preference for solar.
- Max PV capacity Utilization.
- Intelligent charge sharing.
- Battery charging from 90VAC.
- Built-in heavy duty solar charge controller.
- ATBM technology selectable Tub/LA/VRLA & li-ion.
- Instant changeover / best suited for IT load.
- Generator compatible.

### Solar PCU-MPPT(Suniva)

- Pure sine wave output.
- Advanced LCD display with multifunctional.
- DSP controlled display.
- 80\* Amp inbuilt MPPT Solar charge controller.
- Maximum preference for solar.
- Max PV capacity Utilization.
- Intelligent sharing of solar and grid charging current.
- Solar battery charger current setting.
- High efficiency saves energy.
- 99% MPPT tracking accuracy.



# SPECIFICATION:

## CONTROLLED TECHNICAL SPECIFICATIONS(SOLAR PWM PCU)

CATEGORY		SOLAR PV PCU				
MODEL		RENEWVA 1250/ 12V	RENEWVA 1450/ 12V	RENEWVA 1650/ 12V	RENEWVA 2500/ 24V	RENEWVA 3000/ 24V
MAX. APPARENT POWER		925VA	1050VA	1200VA	2250VA	2750VA
MAX. ACTIVE POWER*		740W±40W	840W±40W	960W±40W	2000W±80W	2240W±100W
<b>MAINS MODE</b>						
<b>SOLAR PWM PCU</b>						
Low Voltage Cutoff		180±10V				
Low Voltage Recovery		190±10V				
Low Voltage Cut off		260±10V				
Low Voltage Recovery		250±10V				
<b>WUPSN MODE</b>						
Low Voltage Cutoff		90±10V				
Low Voltage Recovery		100±10V				
Low Voltage Cutoff		290±10V				
Low Voltage Recovery		280±10V				
<b>MAIN CHARGER</b>						
Grid Charging Current Settable		15 (DEFAULT) /10/5/20/0 A ± 2A				
<b>CHARGEING VOLTAGE</b>						
Absorption/ Boost Charging Voltage		Tub Batt-14.40±.4V, LA Batt- 14.0 ± .4V & Li-on ***Batt- 14.0V ± .4V			Tub Batt-28.8+.3V, LA Batt- 18V + 4.V & Li-on ***Batt- 28V + .4V	
		Tub Batt-13.80±.4V(DEFAULT)/LA Batt- 13.40 ± .4V/Li-on***Batt- NA			Tub Batt- 27.6+.4V(DEFAULT)/LA Batt- 26.80+ .4V/Li-on***Batt- NA	
<b>BACKUP MODE</b>						
<b>BATTERY</b>						
Voltage & Recommended Capacity		12V, 80Ah-250Ah			12V, 80Ah-250Ah	
Battery Type Selection		LA/TUB(DEFAULT)/LI-ON***				
Location		External				
<b>BACKUP PARAMETERS</b>						
No load Battery Current		<2A				
Full load Battery Current		52A±2A	60A±2A	70A±2A	80A±2A	55A±2A 65A±2A 80A±2A 87A±2A 80A±2A 87A±2A
Full load Output Voltage		220±10%				
Full load Output Current		2.3A±5%	2.8A±5%	3.1A±5%	3.6A±5%	4.9A±5% 6.1A±5% 7.2A±5% 8.1A±5% 7.2A±5% 8.1A±5%
Output Voltage at low Battery warning		180V±5%				
Over load Battery Current		>52Amp DC	>60Amp DC	>70Amp DC	>80Amp DC	>55Amp DC >65Amp DC >80Amp DC >87Amp DC >80Amp DC >87Amp DC
Overload shutdown		>102% 90SEC, >110%25 SEC, >125% 8 SEC				
Overload retry		5 times retry in WUPS/ No retry in UPS mode				
Overload Output Voltage Regulation		Not applicable			YES	
Low Battery Alarm Voltage		11.2/11.0/10.7(DEFAULT)± 0.4 Vds (depends on shutdown settable voltage)			22.4/22.0/21.4(DEFAULT)± 0.4 Vds (depends on shutdown settable voltage)	
Low Battery shutdown Voltage		SETTABLE- 11.0/10.8(DEFAULT)±0.4 Vdc			SETTABLE- 22.6/21.0(DEFAULT)±0.4 Vdc	
Battery High Voltage Protection		16V±5%			32V±5%	
Transfer time WUPS Mode		Typical <15 msec				
Transfer Time UPS Mode		Typical <10 msec				
<b>PV CHARGER</b>						
<b>RATING</b>						
Solar Range(Voc)		17.5-25V			38-50 V Voc	
Solar Charge controller Type		PWM based				
Solar Battery Charging Current (Max)		50A ± 5%			70A ± 5%	
Solar Battery Charging Current (Regulation)		45A ± 5%			60A ± 5%	
Solar Battery Charging Current (Settable)		Not applicable			20/30/40(Def)/50/60A±5%	
<b>PRIORITY</b>						
Main Disconnect Voltage		After achiving CV/Boost Voltage/ Absorption mode for 15 minutes				
Main Reconnect Voltage		GRID PRI -12.4,Sol PRI-11.2 V, USER1 PRI-11.5 V & USER2 PRI-11.8V ± .4V				
Normal Mode		No mains disconnect. System will works as a normal inverter with Solar Charging				
<b>CHARGING VOLTAGE</b>						
Absorption/Boost Charging Voltage		Tub Batt- 14.40 ± .4V,LA Batt- 14.0 ± .4V & Li-ion Batt- 14.0V ± .4V			Tub Batt- 24.80 ± .4V,LA Batt- 28.0 ± .4V & Li-ion Batt- 28.0V ± .4V	
Float Charging Voltage		Tub Batt- 13.80 ± .4V(DEFAULT)/ LA Batt-13.40 ± 4V & Li-on Batt-NA			Tub Batt- 27.60 ± .4V(DEFAULT)/ LA Batt-26.80 ± 4V & Li-ion Batt-NA	
Solar Charging Current sharing with Grid Charging Current		If solar Current>_ MAINS SET CURR, then mains Current is 0A. If Solar Current < MAINS SET CURRENT, then mains Current is MAINS SET CURRENT - SOLAR CURRENT.				
Float Charging Voltage		62A ± 5%			95V ± 5%	
Solar Charging Current sharing with Grid Charging Current		35A ± 5%			70V ± 5%	



# SPECIFICATION:

MODEL	RENEWVA 1250/ 12V	RENEWVA 1450/ 12V	RENEWVA 1650/ 12V	RENEWVA 2500/ 24V	RENEWVA 3000/ 24V					
MAX. APPARENT POWER	925VA	1050VA	1200VA	2250VA	2750VA					
MAX. ACTIVE POWER*	740W±40W	840W±40W	960W±40W	2000W±80W	2240W±100W					
<b>SETTABLE OPTIONS</b>										
Mains charging current amps (on off switch any position)	20/15 (DEFAULT)/10/5/0 AMPS									
UPS/WUPS mode selection (on off switch any position)	WUPS (DEFAULT) 90V TO AMPS									
Priority selection(on off switch any position)	GRID/SOLAR/USER1/USER2/NORMAL									
Battery type setting (on off switch on position only)	TUB (DEFAULT)/ LA/LI-ION***									
Battery low setting (on off switch off position only)	11/10.8/10.5 V			22/21.6/21.0 V						
<b>COOLING</b>										
DC Fan	Inverter Heat sink Temp and load sense based									
<b>OTHERS</b>										
Battery MCB	Not available									
PV MCB	Not available									
Input MCB/Resettable fuse	Resettable fuse			MCB						
Manual bypass switch	Not available									
<b>PROTECTIONS</b>										
MAINS MODE/BACKUP MODE	Low Battery, Reverse Battery, Overload, Output Short Circuit, Inverter Over Temperature, Resettable CB/MC/Bat Mains Input. Batter High Voltage, PV High Voltage, PV reverse, Pv High Current. PV Over Temperature.									
<b>LCD DISPLAY AND INDICATIONS</b>										
MAINS MODE	MAINS MODE Show on LCD When system is running on mains. Display shows-BATT VOLT, MAINS VOLT, O/P VOLT, GRID CHR, PV CRNT, PV VOLT, SOLAR POWER, Main units saved									
BACKUP MODE	UPS MODE Show on LCD when system is running on Battery. Display shows- BATT VOLT, O/P VOLT, PV VOLT, PV CRNT, SOLAR POWER, LOAD%AGE & MAINS UNITS SAVED.									
Protection	Low Battery, Reverse Battery, Overload, Output short circuit, over temperature, resettable overload thermal circuit breakers at mains input. Battery High Voltages, PV High Volatage, PV High Current.									
<b>AUDIABLE INSICATION AND ALARMS</b>										
Change over, Hybrid mains connect disconnect	Single beep, 1 Sec									
Fault indication ( Overload, Low Battery)	Intermittent beep with a duration of 1 sec									
Fault shutdown ( Overload, shutdown, low Battery shutdown thermal shutdown, reseyyable fuse/ MCB fails, Short circuit, Battery High Voltage, PV High Voltage, PV High Current )	Continuous beep 30 sec									
<b>PHYSICAL</b>										
Net waight (Kg)	8.0	8.4	9.4	11.2	14.6	15.1	17.9	19.7	17.9	19.7
Gross waight (Kg)	8.8	9.2	10.2	12	15.9	16.4	19.3	21.1	19.3	21.1
Dimensions (LxWxH) mm	295 x 288.3 x 134.5			295 x 309.8 x 182.5			295 x 315 x 280			
<b>ENVIRONMENT</b>										
Operating Temperature	0-45 C (32-113°C)									
Storage Temperature	0-45 C (32-113°C)									
Humidity	0- 95% RH non condensing									



# SPECIFICATION:

## CONTROLLED TECHNICAL SPECIFICATIONS (SOLAR MPPT PCU)

CATEGORY		SOLAR PV PCU		
MODEL	SUNIVA 2500/24 VDC	SUNIVA 4000/48 VDC	SUNIVA 6000/ 48 VDC	
MAX. APPARENT POWER	2250 VA	3500 VA	5250 VA	
MAX. ACTIVE POWER*	1800W±90W	2800W±140W	4200W±210W	
MAINS MODE				
SOLAR PWM PCU				
Low Voltage Cut off	90±10V			
Low Voltage Recovery	100±10V			
Low Voltage Cut off	290±10V			
Low Voltage Recovery	280±10V			
WUPSN MODE				
Low Voltage Cutoff	90 VAC to 180 VAC ± 10 V @ 10 V Step.			
Low Voltage Recovery	Above 10 VAC of set Low Cut Value			
Low Voltage Cutoff	250 VAC to 300 VAC ± 10 V @ 10 V Step.			
Low Voltage Recovery	Below 180 VAC of Set High Cut Value			
MAIN CHARGER				
Grid Charging current settable	15 (DEFAULT) /10/5/20/0 A ± 2A			
CHARGEING VOLTAGE				
Absorption/ Boost Charging Voltage	FLA/ Local = 56.0v ; SMF = 56.8V TUB = 57.6V (DEFAULT) ; Life PO4*=56.0V. Tolerance ± 0.8V			
Absorption Time	Through Mains : Max 4hours or immediate when charging curent falls below 3A. Through Solar : 2 hours			
Float charging voltage	54.8 VDC ± 0.8V, For Li-ion battery float voltage will be as per battery manufacture's recommendation			
Charging with deep discharge battery	Battery voltage > 35 VDC			
BATTERY				
Voltage & Recommended Capacity	40 to 60 ± 1Hz			
Types	LA/TUB(DEFAULT)/LI-ION***			
Location	External			
BACKUP PARAMETERS				
No load battery current	<2A			
Full load battery current	60Amp ± 2A		85Amp ± 2A	
Full load output voltage	220±10%			
Full load output current	11.2Amp ± 5%		15.7Amp ± 5%	
Output voltage at low battery warning	180V±5%			
Over load battery current	>60Amp DC		>85Amp DC	
Overload shutdown	>100% = ~ 5 minutes, >110%= ~60sec, >125%=~15sec, > 150%= ~5sec, 200% for ~2sec.			
Overload retry	5 times retry up to 150% load. And no retry if load % is >150%			
Efficiency (At STC)	>80% Typical	>85% Typical	>86% Typical	
Low battery Alarm Voltage	Up to 50% load = 43.6VDC/ Above 50% Load = 42.4VDC ± 0.8V			
Low battery shutdown voltage	Up to 50% load = 43.2VDC/ Above 50% Load = 42.4VDC ± 0.8V			
Low battery recovery (by solar)	54V ± 1V			
Battery high voltage protection	65V ± 5%			
Transfer time WUPS Mode	Typical <15 msec			
Transfer Time UPS Mode	Typical <10 msec			
Frequency	50Hz ± 0.5Hz			
Voltage THD(At no load to full R/AL Linear load)	<3%			
PV CHARGER				
RATING				
Solar Range(Voc)	70 to 170V±5V			
Rated power(wp)	3500WP	3500WP	5000WP	
Solar input current(Amp)	31A±2A	38A±2A	43A ± 2A	
Solar Output current(Amp)	70A	60A	80A	
Solar charging controller Type	MPPT based			
Power conversion efficiency	>96%			
MPPT tracking efficiency	>99.7%			
Solar Module configuration (Single array)	320WP, 72cell PV module = Series 3 & Parallel string 4, (3840WP)		320WP, 72cell PV module = Series 3 & Parallel string 5, (4800WP)	
	400WP, 72cell PV module = Series 3 & Parallel string 3, (3600WP)		320WP, 72cell PV module = Series 3 & Parallel string 4, (4800WP)	
	545WP, 36cell PV module = Series 3 & Parallel string 2, (3270WP)		320WP, 72cell PV module = Series 3 & Parallel string 3, (4905WP)	
PRIORITY				
S.B.G Mode : Solar > Battery > Grid (mains) : D.O.D can be set through keypad 10.5V to 12.8Vdc as per required system configuration and mains availability. Default set voltage is 46Vd.c ± 0.8Vd.c	Power usage priority is set first solar then battery and thereafter main as per depth of discharge (DOD)voltage set through keypad, auto back-up mode to mains mode transfer will happen when battery voltage fall down to set DOD level of battery bank voltage (default set voltage is 46Vd.c + 0.8Vd.c) and mains to back-up mode transfer will occur post 20minutes attaining boost charge level alongwith PV voltage and power must be in working range. ( First time mains will connect/ disconnect immediately)			
S.B.G Mode : Solar > Grid (mains)>Battery. (Default priority set mode.)	Power usage priority is set first solar then mains and thereafter battery, auto back-up mode to mains mode transfer will happen when battery voltage fall down to normal battery vbank voltage (48Vd.c+ 0.8V.c) and mains to back-up mode transfer will occur post 20minutes attaining boost charge level along with PV voltage and power must be in working range. (first time mains will connect/ disconnect immediately).			
Solar only	In this mode the unit will never go to mains for bypass and mains charging. PCU will remain in back-up mode over solar/battery only.			
Normal mode	In this mode product will work like an OFF LINE UPS along with solar charging.			



# SPECIFICATION:

MODEL	SUNIVA 2500/24 VDC	SUNIVA 4000/48 VDC	SUNIVA 6000/ 48 VDC
MAX. APPARENT POWER	2250VA	3500VA	5250VA
MAX. ACTIVE POWER	1800±90W	2800±140W	4200±210W
<b>CHARGING VPLTAGE</b>			
Absorption/Boost charging voltage	FLA/Local = 56.0V SMF = 56.8V TUB = 57.6V (Default) Life PO4* = 56.0V. Tolerance ± 0.8v.		
Absorption time	Through Mains : Max 4hrs or immediate when charging current falls below 3A Through Solar : 2 hours		
Float charging voltage	54.8Vd.c ± 0.8V, For Li-ion Battery bank float voltage will be as per Battery manufacturer's recommendation		
Solar charging current sharing with grid charging current.	If Solar current > MAINS SET CURRENT, then Mains current is 0 Amp. If Solar current < MAINS SET CURRENT, then Mains current is MAINS SET CURRENT - SOLAR CURRENT		
PV High Current Protection(I/P-O/P)****	>38 - 65A ± 5%		>43 - 85A ± 5%
PV High Voltage Protection	175V ± 5%		
<b>WUPS MODE</b>			
Mains charging current	Refer Mains mode		
Mains high cut low cut	Refer Mains mode		
Solar priority	For UPS mode select Low cut = 180 and High cut = 260		
MPPT charging current	SBG-SGB (Default)- SOLAR ONLY- NORMAL		
Boost voltage	0-60A @ 5A step . Default = 30A		
Float voltage	55.6Vd.c to 59.6Vd.c ± 0.8V, @0.1V Step		
Battery type selection	SMF / TUB / LI-ION / LOCAL		
<b>COOLING</b>			
DC Fan	Inverter Heat sink Temp, Charging, Load sense and Solar power based.		
<b>OTHERS</b>			
Battery MCB	DC MCB 40A, 220Vdc, DP		
Input MCB/Resettable fuse	AC MCB C25A, 240Vac		
PV MCB	DC MCB 63A, 220Vdc, SP		
Manual bypass switch	2P, 4way, center, off, 16A		2P, 4way, center off, 32A
<b>PROTECTIONS</b>			
MAINS MODE/BACKUP MODE	Low Battery, Reverse Battery, Overload, Output short circuit, MCB at mains input PV input and Battery, Battery high voltage, Over temperature for inverter and MPPT, PV Over voltage, PV Over current, PV Reverse.		
Thermal cut and recovery(Inverter/PPT)	95 & 85/ 105 & 95 ± 10°C		
Thermal cut auto retry	5 times auto retry available. After that system will shutdown permanently and need to reset the battery to resume.		
<b>LCD DISPLAY AND INDICATIONS</b>			
MAINS MODE	MAINS MODE Shows on LCD when system is running on mains. Display shows- BATT VOLT, MAINS CHARGING, MAINS VOLT, O/P VOLT, PV CURRENT, PV VOLT, SOLAR POWER, UNIT SAVED.		
BACKUP MODE	UPS MODE Shows on LCD when system is running on battery. Display shows- BATT VOLT, O/P VOLT, LOAD% AGE, PV CURRENT, PV VOLT, SOLAR POWER, UNIT SAVED.		
Protection	Low Battery, Overload, Output Short Circuit, Over temperature for Inverter and MPPT, Mains Input MCB Fails, Battery High, Battery High voltage, PV Over current, PV Reverse.		
<b>AUDIABLE INDICATIONS AND ALARMS</b>			
Change over	Single beep, 1 Sec		
Fault indication(Overload, Low battery)	Intermittent beep with a duration of 1 sec		
Fault shutdown (Overload shutdown, low battery shutdown, Thermal shutdown, Resettable fuse/MCB fail, Short circuit, Battery high voltage, PV Over voltage, PV Reverse)	Continuous beep 30sec		
PV Over current	Continuous beep 30sec		
<b>KEYPAD</b>			
For ON/OFF and Setting	ESC/BACK, MENU/SET, ON/OFF, DOWN and UP arrow .		
<b>PHYSICAL</b>			
Net weight (Kg)	32.4		37.9
Gross weight (Kg)	34.7		39.5
Dimensions (WxDxH) mm	295 x 375 x 445 mm		
<b>ENVIRONMENTAL</b>			
Operating Temperature	0-45°C (32-113°F)		
Storage Temperature	0-45°C (32-113°F)		
Humidity	0-95% RH non condensing		

- > Wattage based on lamp load.
- > Under standard operating condition of battery fully charged.
- > Li-ion battery can be added as per customer battery specification.
- > PV Over current retry will be after 3 mins Approx.

NOTE: This document is indented for internal circulation and R&D reference only and may change without prior notification



# SPECIFICATION:

## CONTROLLED TECHNICAL SPECIFICATIONS (SOLAR MPPT PCU)

### TECHNICAL DATA SHEET OF 7.5 KVA/ 96 VDC /1 PHASE OFF-GRID PCU

#### A. SOLAR CHARGE CONTROLLER

1	Charge Controller Type	MPPT	
2	No of PV Inputs	1	
4	PV Voltage Range (Vmp)	250-600V DC	Volts
5	PV minimum voltage	120	Volts

#### B. IGBT based SOLAR INVERTER

1	Output voltage /Frequency	230/50	Volts/hz
2	No of phases	Single phase	
3	Output capacity(@0.8pf)	7.5	KVA
4	Output current	22.5	Amp
5	Voltage Regulation(#)	±2	%
6	Frequency Regulation	±0.5	Hz
7	THD	<3	%
8	Power Factor	0.8	
9	Dc rated voltage	96	Volts
10	Over load : 60 Sec/5 sec (*)	110	%
11	Changeover Time	<20m Sec	M Sec
12	Auto Load Bypass	Provided	

#### C. GRID CHARGER

1	I/P voltage range	170-270	VAC
2	Grid Charger Start voltage (Settable)	11.2V / Par Batt	Volts
3	Grid Charger Current (Settable as per Battery)	Max. 10	Amps

Note: (\*) Overload Protection are not applicable for charger mode. MCB in Grid / load path are the only protection.

(#) In Charger mode, the output available on load terminals is just the mains present and not a regulated output

#### D. PROTECTIONS

PV Side : Reverse Polarity, Surge protection, over voltage

Battery Side: , over/ under voltage, current limit

Grid Side: Over / under voltage

Load Side: Over/ under voltage, overloads, short circuit

System protection: over Temperature

#### E. USER INTERFACE

##### 1. DISPLAY PARAMETERS

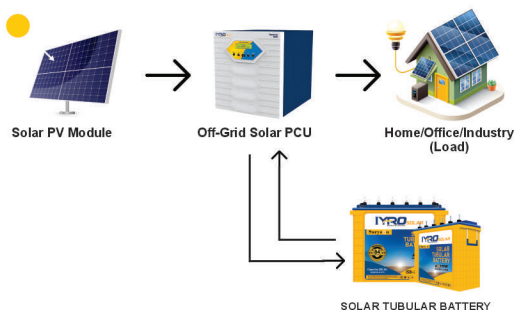
Battery side: voltage, current, battery charging

PV Side: voltage current power energy

Grid Side: voltage, current

Load Side: voltage, power

System Level: Heat sink Temperature, Battery Charging Mode





# SPECIFICATION:

## CONTROLLED TECHNICAL SPECIFICATIONS (SOLAR MPPT PCU)

### TECHNICAL DATA SHEET OF 10 KVA/ 120 VDC /1 PHASE OFF-GRID PCU

#### A. SOLAR CHARGE CONTROLLER

1	Charge Controller Type	MPPT	
2	No of PV Inputs	1	
4	PV Voltage Range (V mp)	150-400	Volts
5	PV minimum voltage	150	volts

#### B. IGBT Based SOLAR INVERTER

1	Output voltage /Frequency	230/50	Volts/Hz
2	No of phases	Single phase	
3	Output capacity(@0.8pf)	10	KVA
4	Output current	30	Amp
5	Voltage Regulation(#)	±2	%
6	Frequency Regulation	±0.5	Hz
7	THD	<3	%
8	Power Factor	0.8	
9	Dc rated voltage	120	Volts
10	Over load : 60 Sec/5 sec (*)	110	%
11	Changeover Time	<20m Sec	M Sec
12	Auto Load Bypass	Provided	

#### C. GRID CHARGER

1	I/P voltage range	170-270	VAC
2	Grid Charger Start voltage (Settable)	110	Volts
3	Grid Charger Current (Settable as per Battery)	Max.60	Amps

Note: (\*) Overload Protection are not applicable for charger mode. MCB in Grid / load path are the only protection.

(#) In Charger mode. the output available on load terminals is just the mains present and not a regulated output

#### D. PROTECTIONS

PV Side : Reverse Polarity , Surge protection , over voltage

Battery Side: , over/ under voltage , current limit

Grid Side: Over / under voltage

Load Side: Over/ under voltage, overloads, short circuit

System protection: over Temperature

#### E. USER INTERFACE

##### 1. DISPLAY PARAMETERS

Battery side: voltage , current , battery charging

PV Side: voltage current power Energy

Grid Side: voltage, current

Load Side: voltage , power

System Level: Heat sink Temperature, Battery Charging Mode



For better performance please install with our solar tubular battery.

# HOME UPS (LUMIVA)

## KEY FEATURES

- ❖ Pure sine wave output.
- ❖ DSP controlled display.
- ❖ Intelligent charge sharing.
- ❖ Battery charging from 90VAC.
- ❖ ATBM technology selectable Tub/LA/VRLA & li-ion.
- ❖ Instant change over / best suited for IT load.
- ❖ Advanced LCD display with multifeatured.
- ❖ Built-in-heavy duty grid charge.
- ❖ Generator compatible.



## OUR PRODUCT SPECIFICATION

SINE WAVE UPS	LCD MODELS		LUMIVA 1450	LUMIVA 1650	LUMIVA 1850	LUMIVA 3000	LUMIVA 3250	LUMIVA 6300
	LED MODELS	LUMIVA 1250	LUMIVA 1450	LUMIVA 1650		LUMIVA 3000		
	Capacity	(12V/950VA)	(12V/1050VA)	(12V/1200VA)	(12V/1500VA)	(24V/2750VA)	(24V/3000VA)	(48V/5500VA)
INPUT	Main Wide UPS mode Voltage range	90 ~ 290 ± 10 VAC						
	Mains UPS mode Voltage range	180 ~ 265 ± 10 VAC						
OUTPUT	Voltage (Mains mode)	Same as Input						
	Frequency (Mains mode)	Same as Input (41-65 Hz)						
	Wave Form (Mains mode)	Same as Input						
	Rated Voltage (Backup mode)	230 VAC ±10%						
	Rated Frequency (Backup mode)	50Hz ± 0.5 Hz						
BATTERY	Wave Form (Backup mode)	Pure Sine Wave						
	Capacity	100Ah - 250Ah						
	Type settable	Tubular, Flat Plate, SMF/VRLA or Any Local Battery Compatible						
	DC Voltage	12 V				24 V		V
SETTABLE OPTIONS	Battery Low Warning/Shutdown	Warning : 10.7V, Shutdown : 10.5V (± 2% VDC) per battery						
	Normal Charging Current	10 ± 2 Amp				15 ± 2 Amp		20 ± 2 Amp
	Fast Charging Current	15 ± 2 Amp				20 ± 2 Amp		25 ± 2 Amp
	Battery Type selection	Tubular/ SMF or FLA (Flat Plate Lead Acid)						
LED DISPLAY AND ALARMS	UPS/ WUPS Mode selection	180 ~ 265 ± 10 VAC or 90 ~ 295 ± 10 VAC						
	Mains Bypass Mode	Mains LED glows continuously, Mains LED blinks continuously with buzzer beeps for few seconds in case the Mains Input Circuit Breaker Trips due to overload/short circuit during Mains bypass mode.						
	Charging On (CHG)	Charging LED blinks in Boost/Absorption modes, Glows continuously in float mode when battery is charged						
	Backup mode	Backup mode LED glows continuously when UPS is running on battery						
	Low Battery Warning	Low Battery LED blinks with Buzzer beeps						
	Low Battery Shutdown	Low Battery LED blinks continuously with Buzzer beeps						
LCD DISPLAY AND ALARMS (For LCD Models)	Overload (O/L)	Overload LED blinks with Buzzer beeps, in case of Overload/Shortcircuit/ Over Temperature warnings. Over Load LED glows continuously in case of Overload/Shortcircuit/Over temperature Shutdown						
	Display Messages	Circuit Breaker Trip, Battery Low Warning and Shutdown, Over Load Warning and Protection, Over Temperature Warning and Shutdown, Short Warning and Shutdown, Back feed Protection, Battery Type and Charging Current Setting, Battery Voltage and Load Percentage						
PROTECTIONS	Parameters	Low battery, Reverse battery, Battery high voltage, Overload, Output short circuit, Over temperature, Resettable Circuit Breaker/MCB Input mains.						
ENVIRONMENTAL	Operating Temperature	L0-45 C (32-113 F)						
	Storage Temperature	0-45 C (32-113 F)						
	Humidity	0-95% RH non condensing						

# SOLAR TUBULAR BATTERY



Services that  
Speak of Excellency.

Indian's No.1 Choice



## OUR RANGE OF PRODUCTS

@C10-100AH, 150AH, 200AH & 250AH

@C20- 165AH, 200AH,220AH, 260AH, 300AH & 350AH

## KEY FEATURES

- Excellent ampere hour & watt hour efficiency.
- Superior cyclic life.
- Ultra low maintenance.
- Designed to operate in partial state of charge condition.
- Prolonged backup & long self life.
- DARAMIC separator with high porosity.
- Micro porous aqua trap vent plug.
- Excellent performance under deep cyclic application & extreme temperature conditions.





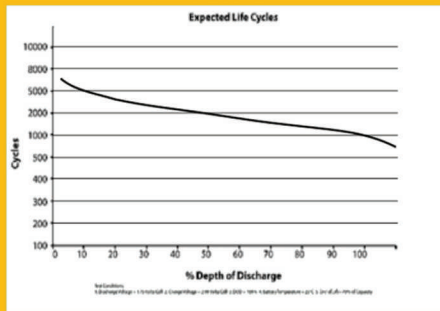
# SPECIFICATION:

## SOLAR TUBULAR BATTERY - (C-20)

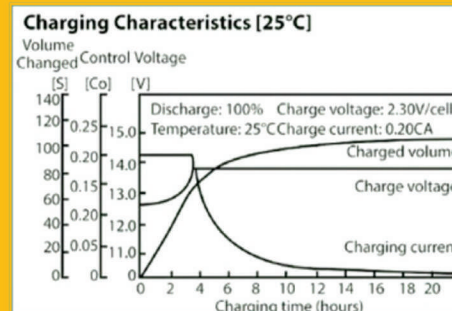
Model	ISTT-1200	ISTT-1850	ISTT- 2350	ISTT-2550	ISTT-3050	ISTT-3550	ISTT - 4000
Capacity (Ah/V)	100Ah/12V	165Ah/12V	200Ah/12V	220Ah/12V	260Ah/12V	300Ah/12V	350 Ah/12V
Container	PPCP	PPCP	PPCP	PPCP	PPCP	PPCP	PPCP
Separator	PVC German						
Design Life	8 Years	8 Years	8 Years	8 Years	8 Years	8 Years	8 Years
Nominal Capacity(27°C)							
20 Hr Rate	100Ah	165Ah	200Ah	220Ah	260Ah	300Ah	350 Ah
10 Hr Rate	88Ah	143Ah	176Ah	193.6Ah	230Ah	265Ah	300 Ah
3 Hr Rate	64.5Ah	105Ah	129Ah	141.9Ah	167.7Ah	193.5Ah	225.75 Ah
Self Discharge (pm)	<3%						
Operating Temperature Range	0-55°C						
Discharge / Charge / Storage							
Max. Discharge Current 77°F(25°C)	600A(3s)	600A(3s)	600A(3s)	600A(3s)	600A(3s)	600A(3s)	600A(3s)
Short Circuit Current	100A	165A	200A	220A	260A	300A	350A
Charge Methods:	CCCW 77°F(25°C)						
Cycle Use	14.4-14.7V						
Maximum Charging Current	10A	16.5A	20A	22A	26A	30A	35 A
Temperature Compensation	75mV/300moh						
Standby Use	13.8-14.2V	13.8-14.2V	13.8-14.2V	13.8-14.2V	13.8-14.2V	13.8-14.2V	13.8-14.2V
Dimension	503x190x408						
Weight+ -3% Kgs	52	59	65	67	73	76	85/87

IS 13369, IEC 60896-11 Stationary Lead Acid Battery, ISO 9001:2015, CE Complied.

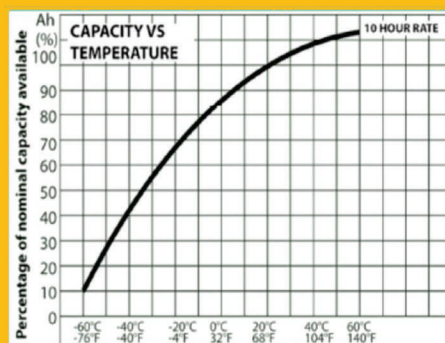
## Electrical Performance



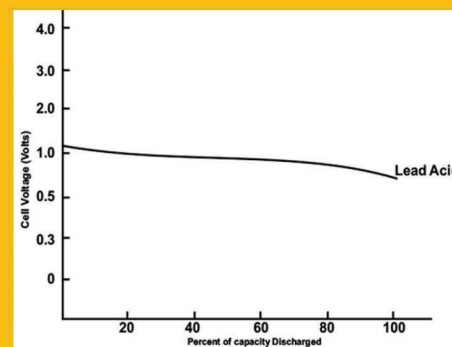
Expected Life Cycle



Charging Characteristics



Capacity vs Temperature



Discharging Characteristics



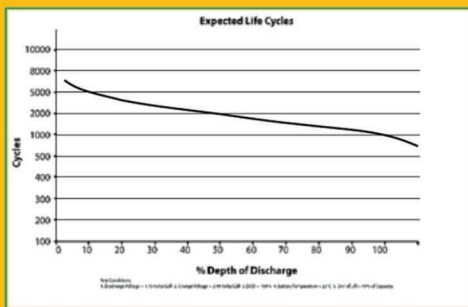
# SPECIFICATION:

## SOLAR TUBULAR BATTERY - (C-10)

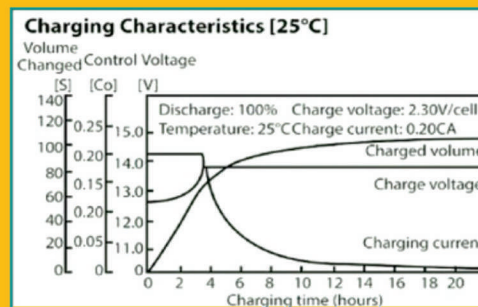
MODEL	ISB-1200	ISB-1800/18060	ISB-2300/23060	ISB-3000/30060
Capacity (Ah/V)	100Ah/12V	150Ah/12V	200Ah/12V	250Ah/12V
Container	PPCP	PPCP	PPCP	PPCP
Separator	PVC German			
Design Life	8 Years	8 Years	8 Years	8 Years
Nominal Capacity(27°C)	<3%			
10 Hr Rate	100Ah	150Ah	200Ah	250Ah
5 Hr Rate	83Ah	124.5Ah	157.7Ah	207.5Ah
3 Hr Rate	71.7Ah	107.6Ah	136.2Ah	179.3Ah
Self Discharge (pm)	0~55°C			
Operating Temperature Range				
Discharge / Charge / Storage	14.4-14.7V		0~	
Max. Discharge Current 77°F(25°C)	300A(3s)	450A(3s)	570A(3s)	740A(3s)
Short Circuit Current	100A	150A	200A	250A
Charge Methods:	CCCV 7			
Cycle Use	75mV/300moh			
Maximum Charging Current	10A	15A	20A	25A
Temperature Compensation	503x190x408			
Standby Use	13.8-14.2V	13.8-14.2V	13.8-14.2V	13.8-14.2V
Dimension				
Weight+-3% Kgs	55	62	71	76

IS 13369, IEC 60896-11 Stationary Lead Acid Battery, ISO 9001:2015, CE Complied.

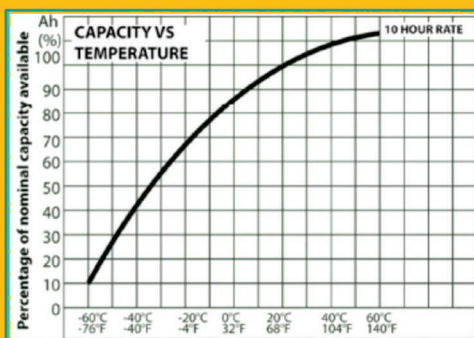
## Electrical Performance



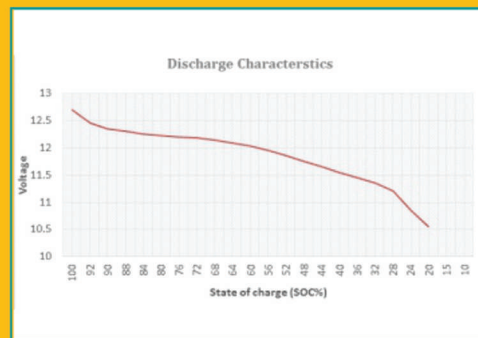
Expected Life Cycle



Charging Characteristics



Capacity vs Temperature



Discharging Characteristics

# SOLAR DC PUMP

(Surface Pump & Submersible Pump)

Easy installation, maintenance-free, safe and reliable.



## KEY FEATURES

- Outlet: Brass/stainless Steel 304
- Pump wet end: Stainless Steel 304 Casing and plastic impeller
- Motor casing: Stainless Steel 304
- Shaft: Stainless Steel 304
- Bearing: NSK
- Easy Installation, Maintenance-free, safe and reliable
- Non-corrosive water; the volume ratio of sand content no more than 0.1%, particle size less than 0.2mm.

## OUR PRODUCT SPECIFICATION

### SUBMERSIBLE PUMP

Mode No.	Pump Voltage (v)	Pump Power (w)	Solar Array Voltage (VMP)	Solar Array Power (w)	Max. Flow (M <sup>3</sup> /h)	Max. Head (M)	Outlet (Inch)	Diameter (MM)
IC3-3.8-55	48	400(0.6HP)	60-80	≥1.3'Pump Power	3.8	35	1.25"	75
ICS3-4.0-50	48	400(0.6HP)	60-80	≥1.3'Pump Power	4.0	50	1.25"	75
IC3-3.8-95	48	750(1HP)	60-80	≥1.3'Pump Power	3.8	95	1.25"	75
ICS3-4.5-95	48	750(1HP)	60-80	≥1.3'Pump Power	4.5	95	1.25"	75
IC3-6.0-125	96	1500(2HP)	120-160	≥1.3'Pump Power	6.0	125	1.25"	75
IC4-9.0-85	96	1500(2HP)	120-160	≥1.3'Pump Power	9.0	85	2"	100
IC4-9.5-125	216	2200(3HP)	240-324	≥1.3'Pump Power	9.5	125	2"	100
IC4-13.0-110	216	2200(3HP)	240-324	≥1.3'Pump Power	13.0	110	2"	100
IC4-17.0-150	380	4000(5.5HP)	240-324	≥1.3'Pump Power	17.0	150	2"	100
IC4-17.0-180	380	5500(7.5HP)	460-610	≥1.3'Pump Power	17.0	180	2"	100
IC4-22.0-135	380	5500(7.5HP)	480-610	≥1.3'Pump Power	22.0	135	2"	100

### SURFACE PUMP

Mode No.	Pump Voltage (v)	Pump Power (w)	Solar Array Voltage (VMP)	Solar Array Power (w)	Max. Flow (M <sup>3</sup> /h)	Max. Head (M)	Inlet/Outlet (Inch)
IQB-2.0-25	24	120	30-40	≥1.3'Pump Power	2.0	25	1" * 1"
IQBE-2.2-26	24	300	30-40	≥1.3'Pump Power	2.2	26	1" * 1"
IQBE-2.5-40	48	600	60-80	≥1.3'Pump Power	2.5	40	1" * 1"
IETE-3.0-36	24	400	30-40	≥1.3'Pump Power	3	36	1" * 1"
ICM-5.0-80	48	750	60-80	≥1.3'Pump Power	5.0	80	1" * 1"

# IYRO SOLAR WIRE AND CABLE

Safe Guarding Connections Simplifying Life



Fire Resistant



Flexible



IS Certified

## AC Wire

0.5 sqmm to 10 sqmm

## DC Wire

4 sqmm, 6 sqmm & 10 sqmm

## KEY FEATURES

- Electron beam cross linked compound
- UV, ozone, temperature & hydrolysis resistant
- Flame retardant, low smoke
- Excellent encapsulation
- Very long/service life > 25 Years



## OUR PRODUCT SPECIFICATION

Single Core Size in sq.mm	Max. Conductor Diameter	XL-LOSH Insulation Thickness-Nominal in mm	XL-LOSH Sheathing Thickness-Nominal in mm	Overall Dia. Nominal in mm
4	0.31	0.5	0.5	5.1 +/- 0.5
6	0.31	0.5	0.5	6.1 +/- 0.5
10	0.41	0.5	0.5	6.6 +/- 0.5

# IYRO SOLAR TROLLEY

**LARGE HOLDING CAPACITY**

Single Battery & Inverter.

**KEY FEATURES**



Stylish Dual Tone Design



5-Wheels Toughness



Universal Compatibility



Easy to Assemble



Easy Front Door Access



# CEILING FAN

with **BLDC Technology**

**PREMIUM QUALITY**



Noise Less Operation



Conical & Wide Air Throw



Excellent 213 cmm Air Delivery

**2 YEARS WARRANTY**



EASY AND SMART  
REMOTE CONTROLLER

# IYRO SOLAR EMERGENCY LED LAMP

**PREMIUM QUALITY**



Up to 4 Hrs



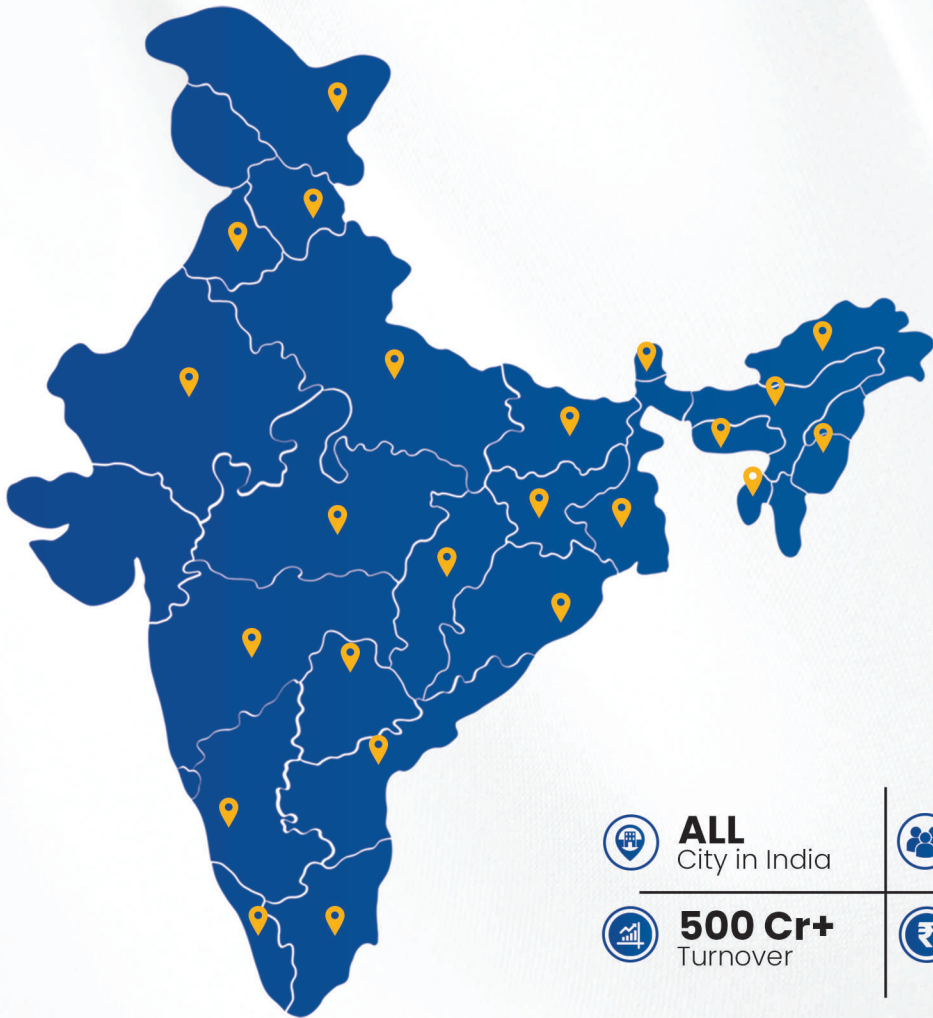
Only 8-10 Hours for a full battery charge



Highly durable built in Li-ion Battery



# OUR CLIENTS



 <b>ALL</b> City in India	 <b>800+</b> Employees
 <b>500 Cr+</b> Turnover	 <b>200 Cr+</b> Net Worth



## ADDRESS INFORMATION

### REGISTERED OFFICE :

A/24, Anant Vihar Phase 2, Pokhariput,  
Bhubaneswar, Khordha,  
Odisha 751020

### FACTORY OFFICE :

Plot no. S4-E1-21, at EMC Park,  
Info Valley-II, Bhubaneswar, Khordha,  
Odisha, 751019

### E-MAIL ID :

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[marketing@groupsurya.co.in](mailto:marketing@groupsurya.co.in)

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[www.iyrosolar.com](http://www.iyrosolar.com)

Trade Enquiry: +91 74400 12250



Toll Free: 1800 890 5399