

**Livguard**  
Solar™



SUPER SAVINGS



# GRID INTERACTIVE INVERTERS

**EXPERT KO BULAO,  
APNI BIJLI BANAO.**



# **ABOUT LIVGUARD**

Livguard Energy Technologies Pvt. Ltd. (LETPL), one of India's leading providers for power energy solutions is poised to transform the world with its cutting edge technology in solar solutions, power back-up, automotive solutions & e-rickshaw batteries. Livguard was founded in the year 2013 and is a part of the SAR Group which has been serving the nation for the past three decades. With our technologically advanced toolkit and trained technicians, we have achieved the customer's trust and faith in our products and services. This has helped us reach the 2,000 crore company milestone in a short period of time.



# **GRID INTERACTIVE INVERTER (GI)**

## **Product Description**

Livguard Grid Interactive Inverter is a state of the art technology that converts DC power from solar to AC power with the inherent ability to synchronize with the utility grid. Its interface with net metering allows it to sell excess solar power back to the grid.

## **Application**

Homes and establishments that need to reduce their electricity bills.



Wide operating voltage range from 180-276 VAC suitable for Indian grids



8-year warranty to ensure peace of mind and increased ROI



Lowest self-consumption at night (< 1W) leading to greater energy yield



Wide MPPT voltage range and with efficiency > 99.9 % to yield greater solar energy

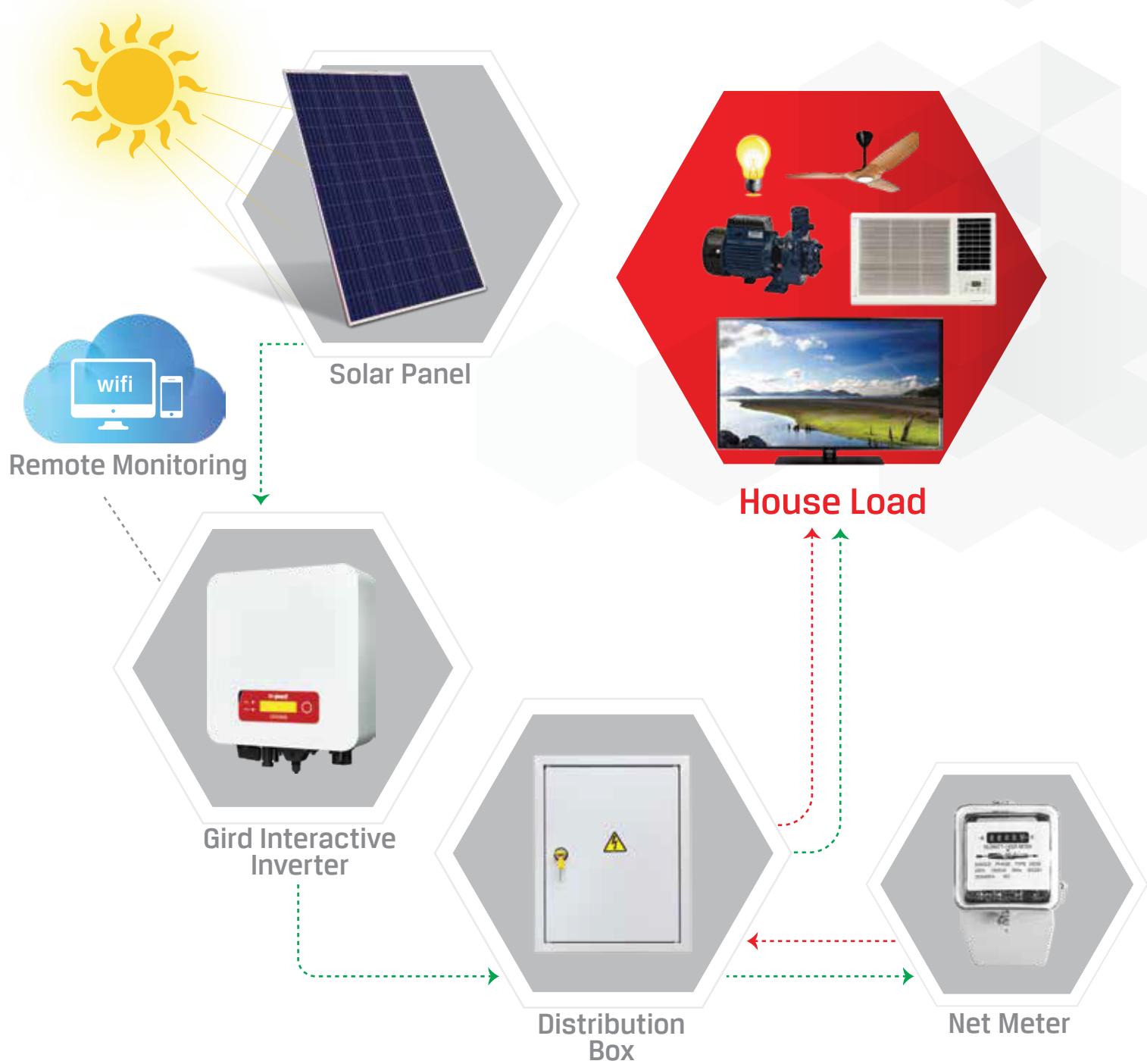


Best in class intelligent grid interface and management

**8** YEAR  
PRODUCT  
WARRANTY



# **GRID INTERACTIVE INVERTER (GI)**



# SPECIFICATION

LG Nomenclature	LS103QIS	LS105QIS
<b>Input (DC)</b>		
Recommended Max. PV Input Power	4100Wp	6650Wp
Max. Input Voltage	550V	600V
Number of MPPT/String per MPPT	1/1	2/1
Start-up Input Voltage	70V	120V
Rated Input Voltage	360V	
MPPT Operating Voltage Range	50-550V	90-580V
Full Power MPPT Voltage Range	275-500V	250-520V
Max. Input MPPT current	12Ax1	11Ax2
Max. DC Input Short-circuit Current per MPPT	15Ax1	13.2Ax2
<b>Output(AC)</b>		
Rated Power	3000W	5000W
Max. AC Power	3000VA	5000VA
Max. Output Current	14.5A	22.8A
Nominal Grid Voltage	L/N/PE, 220VAC 230VAC 240VAC	
Grid Voltage Range	180-276VAC	
Nominal Frequency	50/60 Hz	
Grid Frequency Range	45-55Hz/54-66Hz	
THDi	<3%	
Power Factor	1 Default (+/- 0.8 Adjustable)	
<b>Efficiency</b>		
MPPT Efficiency	>99.9%	
Self-consumption at Night	< 1W	
Max. Efficiency	97.7%	98.0%
<b>Protection</b>		
DC Reverse Polarity Protection	Yes	
Safety Protection	Anti-islanding, RCMU, Ground Fault Monitoring	
SPD	MOV: Type III Standard	
<b>Communication</b>		
Standard Communication Mode	WiFi	
<b>General Data</b>		
Topology	Transformerless	
Ambient Temperature Range	-30°C to 60°C	-25°C to 60°C
Permissible Relative Humidity Range	0-100%	
Noise	<25dB	
DC Switch	Optional	
Cooling	Natural Convection	
Max. Operating Altitude	2000m	
Dimension	321x260.5x131.5mm	405x315x135mm
Support bracket	Wall-mounted	
Weight	6.3Kg	11.5Kg
Display	LCD+LED	LCD
Degree of Protection	IP65	
Warranty	8 Years	
<b>Standards Data</b>		
EMC	EN 61000-6-1, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3	EN 61000-6-2, EN 61000-6-3, EN 61000-3-2, EN 61000-3-3, EN 61000-3-11, EN 61000-3-12
Safety standards	IEC 616221(Part-2), IEC 616221, IEC 61727, IEC 61683, IEC 60068(1,2,14,30)	IEC 616221(Part-2), IEC 616221, IEC 61727, IEC 61683, IEC 60068(1,2,14,30)
Grid standards	EN 50549, UTE_C_15_712-1, VDE V 0126-1-1, UNE 206007-1	VDE V 0126-1-1, V 0124-100, EN 50438, EN 50549, UNE 206007-1 IN

NOTE: Specifications included in this datasheet are subject to change without notice.

# **GRID INTERACTIVE HYBRID INVERTER (GIH)**

## **Product Description**

Livguard Grid Interactive Hybrid Inverter encompasses the features of Grid Interactive Inverter, including battery backup for essential loads during power failure.

## **Application**

Homes and establishments that need power backup for emergency loads apart from reduced electricity bills.



Highest Efficiency: 85% with battery system, 95% with solar system



Capable of handling different battery types:  
Flooded/Gel/Sealed/Li-ion



Best in class overload capacity available: 150% - 30 Sec, 110% - 3 Min



Fan-less design for effective natural cooling

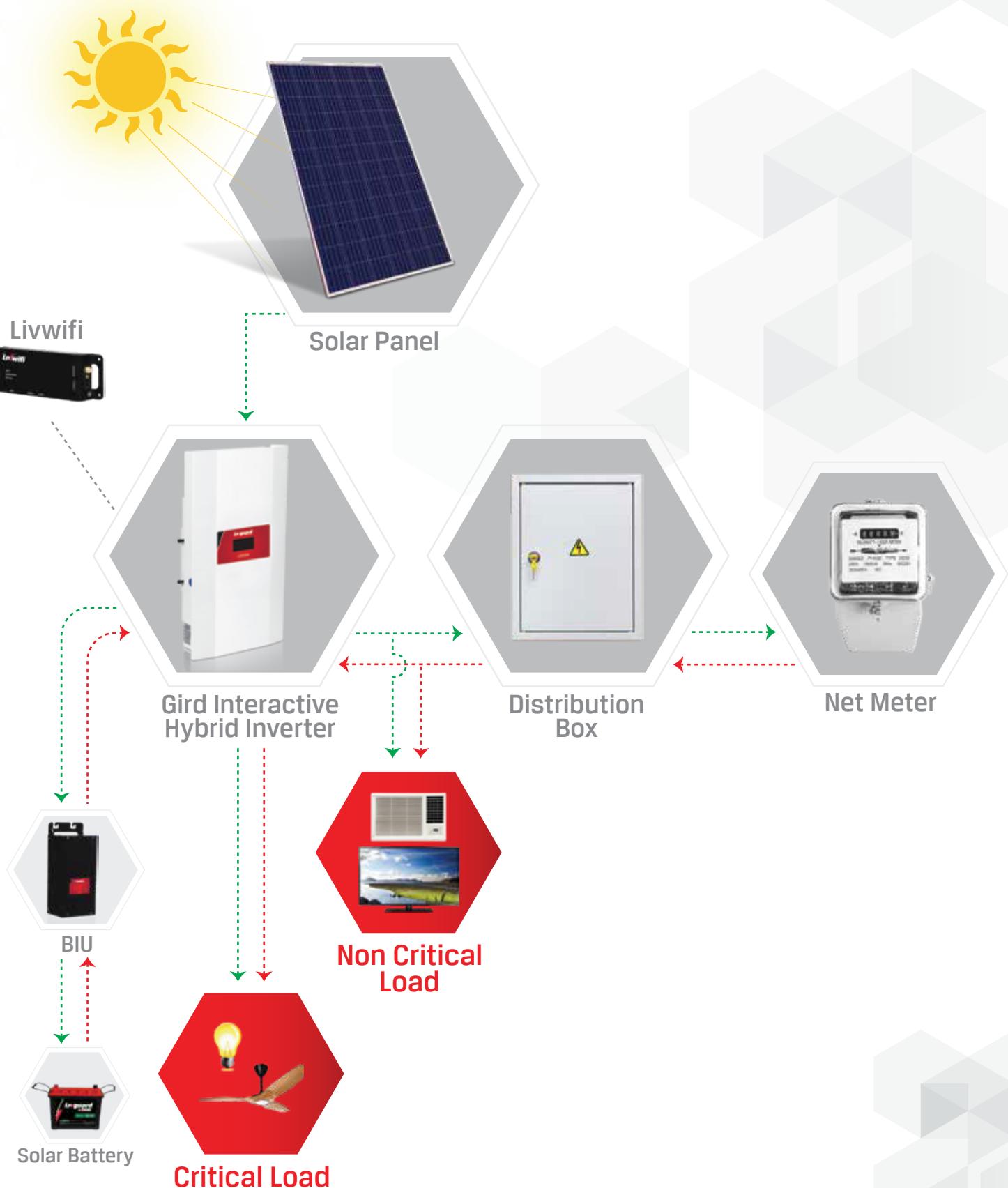


ECO/UPS mode available for maximizing battery backup

**60** MONTHS  
PRODUCT WARRANTY



# **GRID INTERACTIVE HYBRID INVERTER (GIH)**



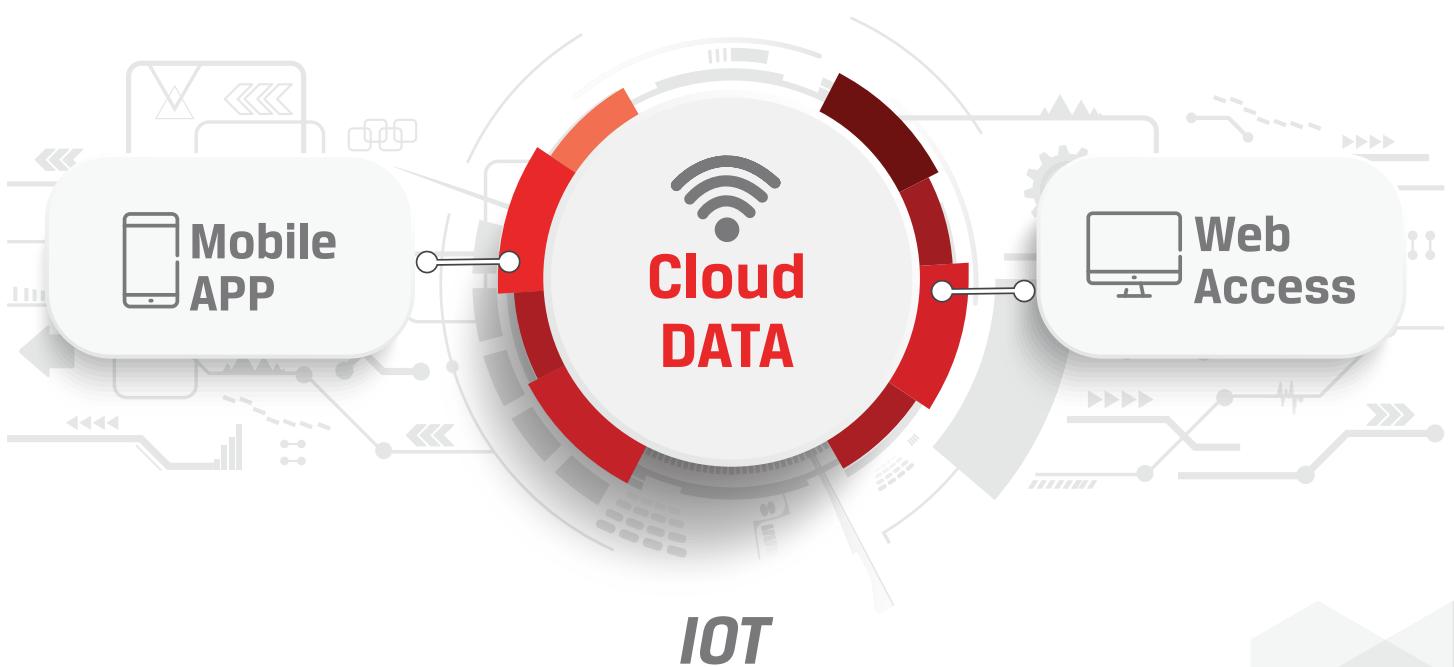
Grid Interactive Hybrid		
Model No.	LS103GIH	LS105GIH
<b>Input (DC)</b>		
Max. Recommended PV Power	3600 W	6000 W
Max. DC Voltage		450 V
Start Voltage		150 V
Nominal Voltage		260 V
MPPT Operating Voltage Range	70-380 V	
Max. Input Current	10A	20A
Max. Short Circuit Current	10A	20A
Number of Independent MPPT Trackers/String per MPPT Tracker	1	2
Max. Number of Panels @335Wp per String	10	9
<b>Output (AC)</b>		
Rated AC Output Power	3000 W	5000 W
Max. AC Apparent Power @ Unity PF	3000 VA	5000 VA
Max. Output Current	16 A	25 A
AC Nominal Voltage	180-265 VAC (1 Ph AC Connection)	
AC Grid Frequency	45-55 Hz	
Adjustable Power Factor	+/- 0.8	
Surge Handling Capacity	150% - 30 Seconds; 110 % - 3 Minutes	
THD/THDi	< 3%	
(a) Anti-islanding Time (b) Reconnection Time	(a) < 0.2 Sec (b) < 20 Sec	
AC Grid Connection Type	L+N+PE	
UPS Mode	Regulated/Unregulated	
<b>Efficiency</b>		
Max. Efficiency (%)	>95	
Euro Weighted Efficiency (%)	>94	
MPPT Efficiency (%)	99.5	

Grid Interactive Hybrid		
Model No.	LS103GIH	LS105GIH
<b>Battery</b>		
Nominal Battery Voltage	24/48 V	48 V
Battery Types	Sealed/Flooded/Gel/Li-ion	
Charging Modes	4-Stage Charging Algorithm	
Maximum Charging Current	20 A	
<b>General Data</b>		
Dimensions (W/H/D)	634x350x164 mm   BIU (458x203x150 mm)	
Weight (Kg)	25	28
Operating Temperature Range	up to +60°C	
Protection	Under Voltage, Over Voltage, Short Circuit, Overload	
Noise Emission	<35 dB	
Altitude (Above Sea Level)	3000 m	
Self-consumption at Night (W)	<15	
Topology	Transformerless	
Cooling Concept	Passive Cooling	
Environment Protection Rating	IP65	
Recommended Mounting	Wall Mounting	
Relative Humidity	0-95 %	
<b>Display &amp; Communication</b>		
Display	128x64 Graphic LCD	
Display Parameters	PV - Voltage & Current, Battery - Voltage & Current, Grid Voltage, Grid Feed Current, Energy Generated, Energy Feed to Grid, Cumulative Energy Generated per Day	
Communication	RS-485	
Communication Interface (Optional)	WiFi 802.11 b/g/n	
<b>Certifications</b>		
Certifications	IEC 61683, IEC 60068-2(1,2,14,30), IEC 62116, IEC/EN 62109-1: 2010, IEC/EN 62109-2: 2011, IEC 61000, IEC62891, IS 16169, IS 16221-1,2, IEC-61727	

# LIVWIFI

## Product Description

Livguard brings state of the art Livwifi device that will make GIH systems IoT enabled and provide real-time solar data analytics for the concerned stakeholders.



LivWiFi	
<b>Electrical Data</b>	
Power Requirements	5 V, 0.8 A
Max. Power Consumption	4 W
Power Supply	External Adaptor (230 VAC, 1 Ph)
<b>User Interface</b>	
WiFi (2.4 GHz, 802.11 b/g/n, WEP, WPA, WPA2, PSK)	Yes
RS 485	Yes
Analog Input for Connecting Weather Monitoring Station	Yes (Optional) - 4 Inputs
LED	4 Numbers - Power On, WiFi Connected, Internet Connected and In Slave Mode
<b>Communication Range</b>	
RS 485	1000 m
<b>Mechanical Data</b>	
Dimensions (W/H/D)	155x30x50 mm
Weight	250 g
Installation	Wall, Indoor
<b>Environmental Conditions</b>	
Operation	up to +55°C
Relative Humidity (Non-Condensing)	95%
Protection Class	IP 20
<b>General Data</b>	
Cloud Support	Yes
Language Support	EN
<b>Features</b>	
No. of Connected Inverters	20
Storage	SD Card

# 3 PHASE GRID INTERACTIVE INVERTER

## Product Description

Our range of 3 Phase Inverters is a state of the art technology with all the grid interactive features, including the flexibility for different large scale PV systems and applications

## Application

Homes and establishments that need to reduce their electricity bills

**8** YEAR  
PRODUCT  
WARRANTY



8-year warranty to ensure peace of mind and increased ROI



I-V curve scanning functionality to achieve enhanced safety, proactive maintenance, higher O&M efficiency and lower operation cost



Wide MPPT voltage range and with efficiency > 99.9 % to yield greater solar energy



Highest rated PV input power to ensure maximized utilization of solar energy



Best in class real-time monitoring of solar systems installed, leading to superior customer service

# SPECIFICATION

3 Phase Grid Interactive Series					
Parameters	LS305GI	LS308GI	LS310GI	LS320GI	LS330GI
<b>Input (DC)</b>					
Max. Recommended PV Input Power	7320W	11710W	14630W	26600W	39900W
Start-up Input Voltage		180V		250V	
Number of MPPTs			2		
MPPT Voltage Range		160-960V			230-960V
Input Range with Full Power Operation with 2 MPPTs Parallel	240-850V	380-850V	480-850V	480-850V	520-850V
Max. Input Current		11A/11A			24A/24A
Input Short-circuit Current for each MPPT		14A/14A			30A/30A
<b>Output (AC)</b>					
Nominal Output Power	5000W	8000W	10000W	20000W	30000W
Max. Output Power	5500VA	8800VA	11000VA	22000VA	33000VA
Max. Output Current	8A	12.8A	15.9A	32A	48A
Grid Input Voltage Range		310-480 VAC (Adjustable)			
Nominal Grid Frequency		50/60Hz			
THD/THDi		< 3 %			
<b>Efficiency, Safety and Protection</b>					
Max. Efficiency	98.0%	98.3%	98.3%	98.2%	98.4%
Euro Efficiency	97.5%	98.0%	98.0%	98.0%	98.2%
MPPT Adaptation Efficiency		> 99.5%			> 99.9%
Self-consumption at Night		< 1 W			
Communication		RS 485, WiFi (Optional), GPRS (Optional)			
DC Switch		Yes			
DC Reverse Polarity Protection		Yes			
<b>General Data</b>					
Ambient Temperature		-25°C to +60°C			
Cooling		Natural			Fan
Dimension		457 x 452 x 202 mm			666 x 512 x 254 mm
Weight	21Kg	22Kg	22Kg	37Kg	37Kg
Noise		< 29 dB			< 30 dB
Ingress Protection		IP 65			
Warranty		8 Years			
Standards	IS 16221(Part-2), IS 16169, IEC 61727, IEC 60068, IEC 61683, IEC 62109, IEC 61000, IEC 62116				

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# ZERO EXPORT DEVICE

## About Product

The device helps PV plants to function without net metering.

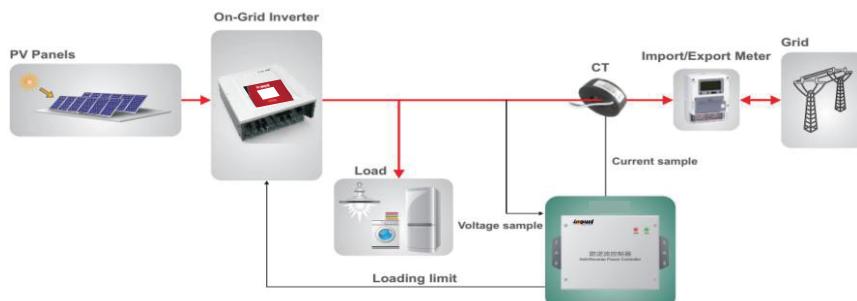
Also useful for establishments that have DG Sets wherein the solar power is not exported to the DG set.

### SPECIFICATIONS

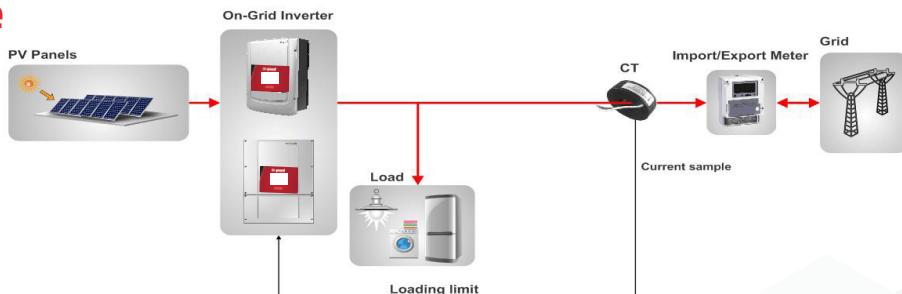
Parameters	Values
Rated Supply Voltage	230 VAC
Power Consumption	< 3 W
Protection Class	IP30
Solar PV kW Compatibility	Up to 1.5 MW
Power Phase Connectivity	Single, Three
L1-N, L2-N, L3-N	90 - 270 Vrms
Input	0 - 1 A
Rated Frequency	50/60 Hz
Frequency Range	45 - 65 Hz
Response Time	1 s
Sampling Rate per Channel (x 10 Channels)	300 per Half Cycle
Switching Elements Max Current/Voltage	2 A/250 VAC, 2 A/220 VDC
Power to Unit	Green LED
Grid Available	Green LED
Generation Available	Red LED
Operation Temperature	-25°C to 60°C
Dimensions (WxHxD)	200 x 180 x 55

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### 3 Phase



### 1 Phase





## Notes:

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