

# 3 PHASE SOLAR HYBRID TX SERIES

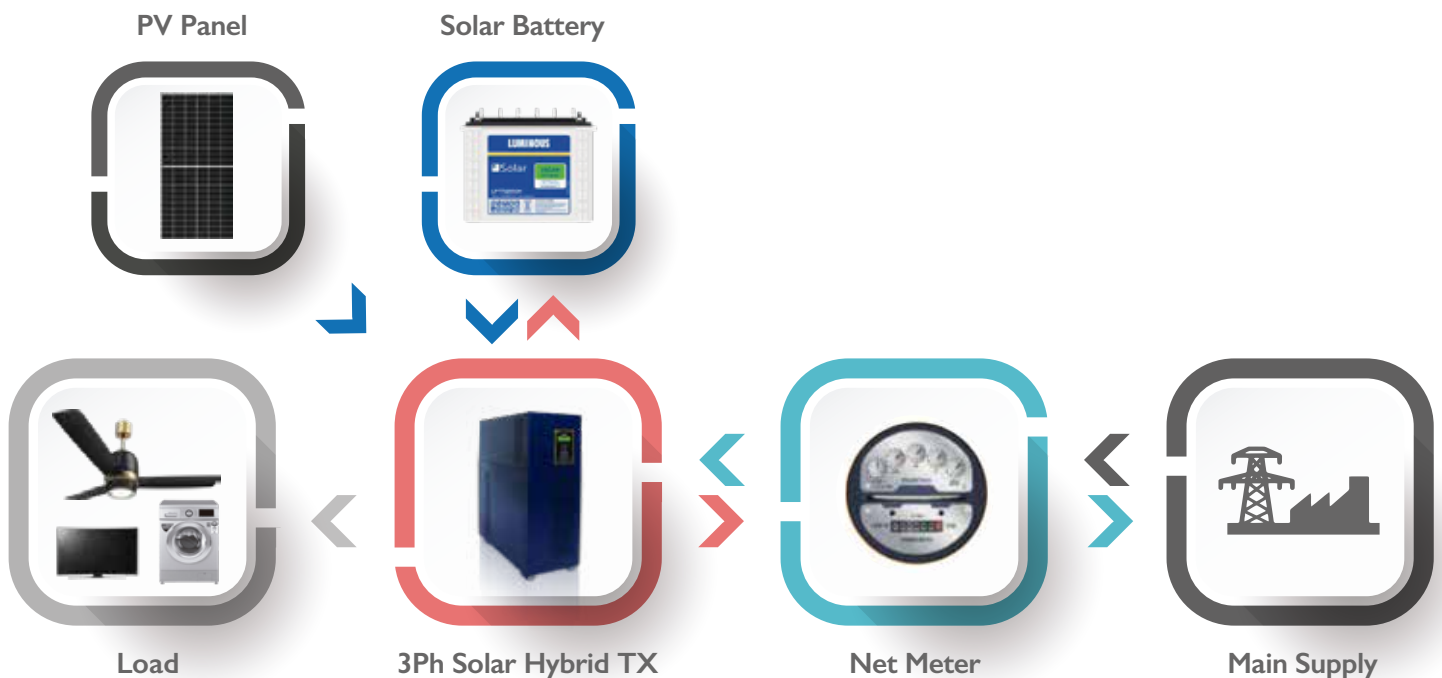


10kVA to  
250 kVA

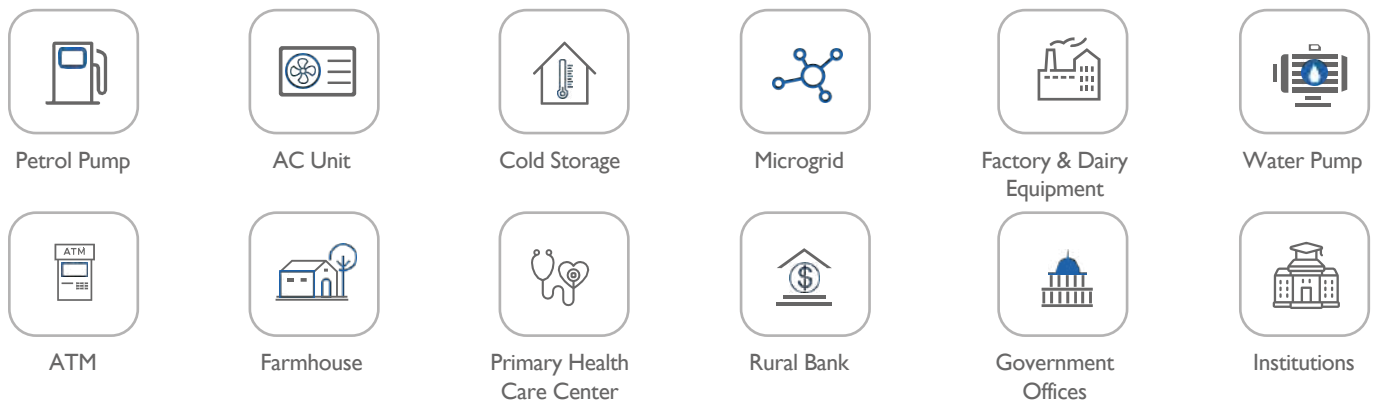


## Savings and Backup All Together

3 Phase Solar Hybrid TX is designed with advanced technology. It adopts double transform high frequency and high-performance digital control technique (DSP), with perfect protection, super network management function, reasonable man-machine interface, and a series of precision designs to meet high-reliability requirements. Experience a power that integrates reliability, safety, and maintainability characteristics.



## Applications



## Features

- Space Vector Modulation
- Real Time MPPT
- Inbuilt Charger controller
- Grid Synchronization with storage
- Selectable Priority Features - SOLAR/BATTERY/GRID
- Inbuilt galvanic Isolation Transformer
- Export excess PV power to Grid
- Surge Protection on Grid side/PV side
- MODBUS / RS-485 remote monitoring (optional)
- LCD display

\*Not recommended for life support, medical devices & IT servers



Bidirectional  
Inverter Operation



Advanced  
DSP Control



IGBT Based  
Rectifier



Grid Utilization  
Features

System Rating (kVA/kW)	<b>10kVA/8kW</b>
<b>SOLAR</b>	
Open circuit voltage	400V
Maximum PV Power	10kVA
Charge Controller	MPPT Charge Controller
Switching Element	IGBT
Type of Charger	MPPT
Charger Efficiency	>95%
<b>GRID</b>	
Input Supply	415 VAC, 3 Phase, 4 wire (+15% , -15%)
Input Frequency	50Hz ± 6%
<b>BATTERY</b>	
Battery Voltage	120VDC
Grid charger type	Bi-Directional
Charging current from grid	15A for 150Ah battery/20A for 200Ah Battery or, as required by any other battery (upto inverter kVA Capacity)
Battery Type	Lead Acid/SMF/Lithium ion*
<b>INVERTER</b>	
Switching Element	IGBT
Output wave form	Pure Sine Wave
Output Nominal Voltage	415VAC ±2%, 3Ph
Output Frequency	50Hz ±1%
Load Power Factor	0.6 lag to 1 (within VA and kW rating)
Inverter Peak Efficiency	90%
Vth with 100% linear load	Mains mode: Same as Grid inverter mode <3%
Galvanic isolation	Inbuilt isolation transformation inverter output
Overload conditions	110% for 60 sec / 125% for 10 sec/150% for 1 sec
<b>PROTECTION</b>	
Protection	Input Under and Over voltage, Input Under and Over Frequency, Output Overload, Output short circuit, Output over and Under Voltage
	Over Temperature Array Reverse Polarity, Battery Over and Under voltage
<b>Display Parameter, LED Indication and Alarm</b>	
Display Parameter	Grid-Voltage Current Power* Output voltage, Current total Power, Load Percentage. Battery - voltage, current DC Power* Solar-Voltage, Current Power. Statistics - KWH (Grid import, Grid Export, Inverter Battery IN and OUT, Solar) Event log (5 No's/option USB Storage:upto 1000 no's)
LED Indication	Grid ON/OFF, Grid Static switch ON/OFF, inverter ON/OFF, inverter static Switch ON/OFF, Load ON/OFF, Battery Charging and Discharging
Alarm	Audible alarm for fault conditions and warnings
<b>CONFIGURATION</b>	
Modes	2 different priority modes selectable from display (Solar-Battery-Grid) & (Solar-Grid-Battery)
Parameter Setting	All main Parameters can be set through LCD Display
Bypass	Manual bypass switch available for maintenance and service
<b>ENCLOSURE</b>	
Degree of protection	IP 20
Cooling	Forced Air Cooling
Color	RAL 5013 Cobalt Blue
Dimensions (L*W*H)mm	710 x 300 x 790
Netweight (Approx in Kg's)	130
<b>ENVIRONMENT</b>	
Temperature Operating	0-40° C
Max. Relative humidity@25° (non condensing)	Upto 95%
Max. Altitude above sea level without de-rating	upto 1000 mtr

System Rating (kVA/kW)	15kVA/12kW	20kVA/16kW
<b>SOLAR</b>		
Open circuit voltage	400V	500V
Maximum PV Power	15kVA	20kVA
Charge Controller	MPPT Charge Controller	
Switching Element	IGBT	
Type of Charger	MPPT	
Charger Efficiency	>95%	
<b>GRID</b>		
Input Supply	415 VAC, 3 Phase, 4 wire (+15% , -15%)	
Input Frequency	50Hz ± 6%	
<b>BATTERY</b>		
Battery Voltage	180VDC	240VDC
Grid charger type	Bi-Directional	
Charging current from grid	15A for 150Ah battery/20A for 200Ah Battery or, as required by any other battery (upto inverter kVA Capacity)	
Battery Type	Lead Acid/SMF/Lithium ion*	
<b>INVERTER</b>		
Switching Element	IGBT	
Output wave form	Pure Sine Wave	
Output Nominal Voltage	415VAC ±2%, 3Ph	
Output Frequency	50Hz ±1%	
Load Power Factor	0.6 lag to 1 (within VA and kW rating)	
Inverter Peak Efficiency	90%	
Vth with 100% linear load	Mains mode: Same as Grid inverter mode <3%	
Galvanic isolation	Inbuilt isolation transformation inverter output	
Overload conditions	110% for 60 sec / 125% for 10 sec/150% for 1 sec	
<b>PROTECTION</b>		
Protection	Input Under and Over voltage, Input Under and Over Frequency, Output Overload, Output short circuit, Output over and Under Voltage	
	Over Temperature Array Reverse Polarity, Battery Over and Under voltage	
<b>Display Parameter, LED Indication and Alarm</b>		
Display Parameter	Grid-Voltage Current Power* Output voltage, Current total Power, Load Percentage. Battery - voltage, current DC Power* Solar-Voltage, Current Power. Statistics - KWH (Grid import, Grid Export, Inverter Battery IN and OUT, Solar) Event log (5 No's/option USB Storage:upto 1000 no's)	
LED Indication	Grid ON/OFF, Grid Static switch ON/OFF, inverter ON/OFF, inverter static Switch ON/OFF, Load ON/OFF, Battery Charging and Discharging	
Alarm	Audible alarm for fault conditions and warnings	
<b>CONFIGURATION</b>		
Modes	2 different priority modes selectable from display (Solar-Battery-Grid) & (Solar-Grid-Battery)	
Parameter Setting	All main Parameters can be set through LCD Display	
Bypass	Manual bypass switch available for maintenance and service	
<b>ENCLOSURE</b>		
Degree of protection	IP 20	
Cooling	Forced Air Cooling	
Color	RAL 5013 Cobalt Blue	
Dimensions (L*W*H)mm	770 x 400 x 880	
Netweight (Approx in Kg's)	154	
<b>ENVIRONMENT</b>		
Temperature Operating	0-40° C	
Max. Relative humidity@25° (non condensing)	Upto 95%	
Max. Altitude above sea level without de-rating	upto 1000 mtr	

System Rating (kVA/kW)	<b>25kVA/20kW</b>
<b>SOLAR</b>	
Open circuit voltage	500V
Maximum PV Power	25kVA
Charge Controller	MPPT Charge Controller
Switching Element	IGBT
Type of Charger	MPPT
Charger Efficiency	>95%
<b>GRID</b>	
Input Supply	415 VAC, 3 Phase, 4 wire (+15% , -15%)
Input Frequency	50Hz ± 6%
<b>BATTERY</b>	
Battery Voltage	240VDC
Grid charger type	Bi-Directional
Charging current from grid	15A for 150Ah battery/20A for 200Ah Battery or, as required by any other battery (upto inverter kVA Capacity)
Battery Type	Lead Acid/SMF/Lithium ion*
<b>INVERTER</b>	
Switching Element	IGBT
Output wave form	Pure Sine Wave
Output Nominal Voltage	415VAC ±2%, 3Ph
Output Frequency	50Hz ±1%
Load Power Factor	0.6 lag to 1 (within VA and kW rating)
Inverter Peak Efficiency	90%
Vth with 100% linear load	Mains mode: Same as Grid inverter mode <3%
Galvanic isolation	Inbuilt isolation transformation inverter output
Overload conditions	110% for 60 sec / 125% for 10 sec/150% for 1 sec
<b>PROTECTION</b>	
Protection	Input Under and Over voltage, Input Under and Over Frequency, Output Overload, Output short circuit, Output over and Under Voltage
	Over Temperature Array Reverse Polarity, Battery Over and Under voltage
<b>Display Parameter, LED Indication and Alarm</b>	
Display Parameter	Grid-Voltage Current Power* Output voltage, Current total Power, Load Percentage. Battery - voltage, current DC Power* Solar-Voltage, Current Power. Statistics - KWH (Grid import, Grid Export, Inverter Battery IN and OUT, Solar) Event log (5 No's/option USB Storage:upto 1000 no's)
LED Indication	Grid ON/OFF, Grid Static switch ON/OFF, inverter ON/OFF, inverter static Switch ON/OFF, Load ON/OFF, Battery Charging and Discharging
Alarm	Audible alarm for fault conditions and warnings
<b>CONFIGURATION</b>	
Modes	2 different priority modes selectable from display (Solar-Battery-Grid) & (Solar-Grid-Battery)
Parameter Setting	All main Parameters can be set through LCD Display
Bypass	Manual bypass switch available for maintenance and service
<b>ENCLOSURE</b>	
Degree of protection	IP 20
Cooling	Forced Air Cooling
Color	RAL 5013 Cobalt Blue
Dimensions (L*W*H)mm	900 x 400 x 880
Netweight (Approx in Kg's)	180
<b>ENVIRONMENT</b>	
Temperature Operating	0-40° C
Max. Relative humidity@25° (non condensing)	Upto 95%
Max. Altitude above sea level without de-rating	upto 1000 mtr

System Rating (kVA/kW)	30kVA/24kW	40kVA/32kW	50kVA/40kW
<b>SOLAR</b>			
Open circuit voltage	750V		
Maximum PV Power	30kVA	40kVA	50kVA
Charge Controller	MPPT Charge Controller		
Switching Element	IGBT		
Type of Charger	MPPT		
Charger Efficiency	>95%		
<b>GRID</b>			
Input Supply	415 VAC, 3 Phase, 4 wire (+15% , -15%)		
Input Frequency	50Hz ± 6%		
<b>BATTERY</b>			
Battery Voltage	360VDC		
Grid charger type	Bi-Directional		
Charging current from grid	15A for 150Ah battery/20A for 200Ah Battery or, as required by any other battery (upto inverter kVA Capacity)		
Battery Type	Lead Acid/SMF/Lithium ion*		
<b>INVERTER</b>			
Switching Element	IGBT		
Output wave form	Pure Sine Wave		
Output Nominal Voltage	415VAC ±2%, 3Ph		
Output Fequency	50Hz ±1%		
Load Power Factor	0.6 lag to 1 (within VA and kW rating)		
Inverter Peak Efficiency	90%		
Vth with 100% linear load	Mains mode: Same as Grid inverter mode <3%		
Galvanic isolation	Inbuilt isolation transformation inverter output		
Overload conditions	110% for 60 sec / 125% for 10 sec/150% for 1 sec		
<b>PROTECTION</b>			
Protection	Input Under and Over voltage, Input Under and Over Fequency, Output Overload, Output short circuit, Output over and Under Voltage		
	Over Temperature Array Reverse Polarity, Battery Over and Under voltage		
<b>Display Parameter, LED Indication and Alarm</b>			
Display Parameter	Grid-Voltage Current Power* Output voltage, Current total Power, Load Percentage. Battery - voltage, current DC Power* Solar-Voltage, Current Power. Statistics - KWH (Grid import, Grid Export, Inverter Battery IN and OUT, Solar) Event log (5 No's/option USB Storage:upto 1000 no's)		
LED Indication	Grid ON/OFF, Grid Static switch ON/OFF, inverter ON/OFF, inverter static Switch ON/OFF, Load ON/OFF, Battery Charging and Discharging		
Alarm	Audible alarm for fault conditions and warnings		
<b>CONFIGURATION</b>			
Modes	2 different priority modes selectable from display (Solar-Battery-Grid) & (Solar-Grid-Battery)		
Parameter Setting	All main Parameters can be set through LCD Display		
Bypass	Manual bypass switch available for maintenance and service		
<b>ENCLOSURE</b>			
Degree of protection	IP 20		
Cooling	Forced Air Cooling		
Color	RAL 5013 Cobalt Blue		
Dimensions (L*W*H)mm	925 x 535 x 1190		
Netweight (Approx in Kg's)	250	310	325
<b>ENVIRONMENT</b>			
Temperature Operating	0-40° C		
Max. Relative humidity@25° (non condensing)	Upto 95%		
Max. Altitude above sea level without de-rating	upto 1000 mtr		

System Rating (kVA/kW)	60kVA/48kW	80kVA/64kW
<b>SOLAR</b>		
Open circuit voltage	750V	750V
Maximum PV Power	60kVA	80kVA
Charge Controller	MPPT Charge Controller	
Switching Element	IGBT	
Type of Charger	MPPT	
Charger Efficiency	>95%	
<b>GRID</b>		
Input Supply	415 VAC, 3 Phase, 4 wire (+15% , -15%)	
Input Frequency	50Hz $\pm$ 6%	
<b>BATTERY</b>		
Battery Voltage	360VDC	
Grid charger type	Bi-Directional	
Charging current from grid	15A for 150Ah battery/20A for 200Ah Battery or, as required by any other battery (upto inverter kVA Capacity)	
Battery Type	Lead Acid/SMF/Lithium ion*	
<b>INVERTER</b>		
Switching Element	IGBT	
Output wave form	Pure Sine Wave	
Output Nominal Voltage	415VAC $\pm$ 2%, 3Ph	
Output Frequency	50Hz $\pm$ 1%	
Load Power Factor	0.6 lag to 1 (within VA and kW rating)	
Inverter Peak Efficiency	90%	
Vth with 100% linear load	Mains mode: Same as Grid inverter mode <3%	
Galvanic isolation	Inbuilt isolation transformation inverter output	
Overload conditions	110% for 60 sec / 125% for 10 sec/150% for 1 sec	
<b>PROTECTION</b>		
Protection	Input Under and Over voltage, Input Under and Over Frequency, Output Overload, Output short circuit, Output over and Under Voltage	
	Over Temperature Array Reverse Polarity, Battery Over and Under voltage	
<b>Display Parameter, LED Indication and Alarm</b>		
Display Parameter	Grid-Voltage Current Power* Output voltage, Current total Power, Load Percentage. Battery - voltage, current DC Power* Solar-Voltage, Current Power. Statistics - KWH (Grid import, Grid Export, Inverter Battery IN and OUT, Solar) Event log (5 No's/option USB Storage:upto 1000 no's)	
LED Indication	Grid ON/OFF, Grid Static switch ON/OFF, inverter ON/OFF, inverter static Switch ON/OFF, Load ON/OFF, Battery Charging and Discharging	
Alarm	Audible alarm for fault conditions and warnings	
<b>CONFIGURATION</b>		
Modes	2 different priority modes selectable from display (Solar-Battery-Grid) & (Solar-Grid-Battery)	
Parameter Setting	All main Parameters can be set through LCD Display	
Bypass	Manual bypass switch available for maintenance and service	
<b>ENCLOSURE</b>		
Degree of protection	IP 20	
Cooling	Forced Air Cooling	
Color	RAL 5013 Cobalt Blue	
Dimensions (L*W*H)mm	1000 x 700 x 1500	
Netweight (Approx in Kg's)	510	550
<b>ENVIRONMENT</b>		
Temperature Operating	0-40° C	
Max. Relative humidity@25° (non condensing)	Upto 95%	
Max. Altitude above sea level without de-rating	upto 1000 mtr	

System Rating (kVA/kW)	100kVA/80kW	120kVA/96kW	150kVA/120kW	200kVA/160kW
<b>SOLAR</b>				
Open circuit voltage	750V			1150V
Maximum PV Power	100kVA	120kVA	150kVA	200kVA
Charge Controller	MPPT Charge Controller			
Switching Element	IGBT			
Type of Charger	MPPT			
Charger Efficiency	>95%			
<b>GRID</b>				
Input Supply	415 VAC, 3 Phase, 4 wire (+15% , -15%)			
Input Frequency	50Hz ± 6%			
<b>BATTERY</b>				
Battery Voltage	480VDC			
Grid charger type	Bi-Directional			
Charging current from grid	15A for 150Ah battery/20A for 200Ah Battery or, as required by any other battery (upto inverter kVA Capacity)			
Battery Type	Lead Acid/SMF/Lithium ion*			
<b>INVERTER</b>				
Switching Element	IGBT			
Output wave form	Pure Sine Wave			
Output Nominal Voltage	415VAC ±2%, 3Ph			
Output Frequency	50Hz ±1%			
Load Power Factor	0.6 lag to 1 (within VA and kW rating)			
Inverter Peak Efficiency	90%			
Vth with 100% linear load	Mains mode: Same as Grid inverter mode <3%			
Galvanic isolation	Inbuilt isolation transformation inverter output			
Overload conditions	110% for 60 sec / 125% for 10 sec/150% for 1 sec			
<b>PROTECTION</b>				
Protection	Input Under and Over voltage, Input Under and Over Frequency, Output Overload, Output short circuit, Output over and Under Voltage			
	Over Temperature Array Reverse Polarity, Battery Over and Under voltage			
<b>Display Parameter, LED Indication and Alarm</b>				
Display Parameter	Grid-Voltage Current Power* Output voltage, Current total Power, Load Percentage. Battery - voltage, current DC Power* Solar-Voltage, Current Power. Statistics - KWH (Grid import, Grid Export, Inverter Battery IN and OUT, Solar) Event log (5 No's/option USB Storage:upto 1000 no's)			
LED Indication	Grid ON/OFF, Grid Static switch ON/OFF, inverter ON/OFF, inverter static Switch ON/OFF, Load ON/OFF, Battery Charging and Discharging			
Alarm	Audible alarm for fault conditions and warnings			
<b>CONFIGURATION</b>				
Modes	2 different priority modes selectable from display (Solar-Battery-Grid) & (Solar-Grid-Battery)			
Parameter Setting	All main Parameters can be set through LCD Display			
Bypass	Manual bypass switch available for maintenance and service			
<b>ENCLOSURE</b>				
Degree of protection	IP 20			
Cooling	Forced Air Cooling			
Color	RAL 5013 Cobalt Blue			
Dimensions (L*W*H)mm	1000 x 1000 x 1700			
Netweight (Approx in Kg's)	710	780	840	910
<b>ENVIRONMENT</b>				
Temperature Operating	0-40° C			
Max. Relative humidity@25° (non condensing)	Upto 95%			
Max. Altitude above sea level without de-rating	upto 1000 mtr			



System Rating (kVA/kW)	<b>250kVA/200kW</b>
<b>SOLAR</b>	
Open circuit voltage	1150V
Maximum PV Power	250kVA
Charge Controller	MPPT Charge Controller
Switching Element	IGBT
Type of Charger	MPPT
Charger Efficiency	>95%
<b>GRID</b>	
Input Supply	415 VAC, 3 Phase, 4 wire (+15% , -15%)
Input Frequency	50Hz $\pm$ 6%
<b>BATTERY</b>	
Battery Voltage	672VDC
Grid charger type	Bi-Directional
Charging current from grid	15A for 150Ah battery/20A for 200Ah Battery or, as required by any other battery (upto inverter kVA Capacity)
Battery Type	Lead Acid/SMF/Lithium ion*
<b>INVERTER</b>	
Switching Element	IGBT
Output wave form	Pure Sine Wave
Output Nominal Voltage	415VAC $\pm$ 2%, 3Ph
Output Fequency	50Hz $\pm$ 1%
Load Power Factor	0.6 lag to 1 (within VA and kW rating)
Inverter Peak Efficiency	90%
Vth with 100% linear load	Mains mode: Same as Grid inverter mode <3%
Galvanic isolation	Inbuilt isolation transformation inverter output
Overload conditions	110% for 60 sec / 125% for 10 sec/150% for 1 sec
<b>PROTECTION</b>	
Protection	Input Under and Over voltage, Input Under and Over Fequency, Output Overload, Output short circuit, Output over and Under Voltage
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LED Indication	Grid ON/OFF, Grid Static switch ON/OFF, inverter ON/OFF, inverter static Switch ON/OFF, Load ON/OFF, Battery Charging and Discharging
Alarm	Audible alarm for fault conditions and warnings
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Modes	2 different priority modes selectable from display (Solar-Battery-Grid) & (Solar-Grid-Battery)
Parameter Setting	All main Parameters can be set through LCD Display
Bypass	Manual bypass switch available for maintenance and service
<b>ENCLOSURE</b>	
Degree of protection	IP 20
Cooling	Forced Air Cooling
Color	RAL 5013 Cobalt Blue
Dimensions (L*W*H)mm	1260 x 1104 x 1850
Netweight (Approx in Kg's)	1200
<b>ENVIRONMENT</b>	
Temperature Operating	0-40° C
Max. Relative humidity@25° (non condensing)	Upto 95%
Max. Altitude above sea level without de-rating	upto 1000 mtr

# INDIA'S WIDEST RANGE OF SOLAR PRODUCTS



INVERTERS

BATTERIES

PV PANELS

**LUMINOUS**

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