UTL SOLAR

22 YEARS TRUST

बिजली की चिंता छोड़िये,
सोलर से नाता जोड़िये...

Go Solar
With UTL Solar

Complete Range of
Solar rMPPT™ Solutions
1kVA - 120kVA

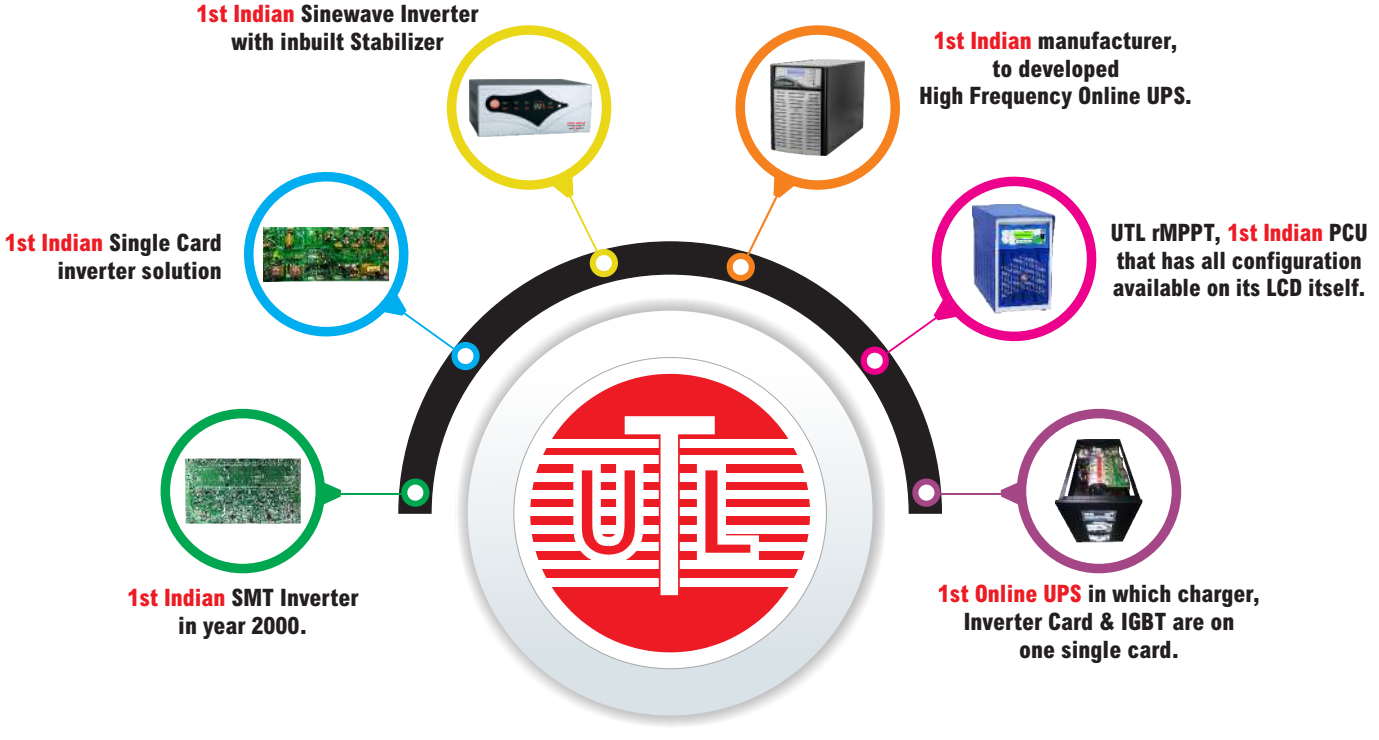
SOLAR
Product Catalogue
2018

ISO 9001 : 2015 | ISO 14001 : 2015 | CE | RoHS compliant

ABOUT UTL

UTL was founded in the year 1996 by 2 proficient engineers **Mr Yogesh Dua** and **Mr Pawan Garg**. UTL is one of the leading brand in power back-up and power generation in India. UTL offers wide range of quality products, has 4 manufacturing units, strong network of distributors and dealers across the globe and highly motivated workforce. We are offering excellent R&D services through the team of more than 60 R&D professionals and exporting R&D services & UL Certified products to various countries including USA. As the company values long term relationship, our stakeholders and even customers have very long association with UTL.

Some remarkable milestones covered by UTL are...



UTL in 2017-2018

4	Manufacturing Units
22	Years Old Brand
60+	Strong R&D Team
120	kVA- We made upto 120kVA Capacity
1000	Associated Employees
1000+	Per Day Production Capacity
10000+	Dealers in INDIA
5000000	Satisfied UTL Consumers
1.5 Bn	UTL Turnover

UTL SOLAR

SUNPACK (Solar Home PCU)

"Reliable Solar Home PCU
from Last 4 Years"

Available in
800VA-3KVA

FEATURES

- Normal Inverter inbuilt with Solar Functionality.
- Sine Wave Output.
- Extensive electronic protections.
- Maintain Battery Health for Longer Life.
- Any battery option.
- Can operate without Solar Panel also.
- Affordable and easy to install.
- Preference to Solar Power over Grid power.

UTL SOLAR

TECHNICAL SPECIFICATION

SUNPACK (Solar Home PCU)

Model No.		SP-1025/15A-40A	SP-1625/15A-40A	SP-2525/40A	SP-3525/60A
DC Voltage		12VDC	24VDC	24VDC	48VDC
Operation Logic for Charging					
First Priority		Solar			
Second Priority		Solar + Grid			
Third Priority		Grid			
Operation Mode	Solar Max. Mode	Solar Priority (By Default)			
	Grid Max. Mode	Grid Priority			
Input Parameters					
Input Voltage		230Vac			
Input Voltage Range (Mode)		Wide Range	90-290V ± 10V		
		Narrow Range	170-270V ± 10V		
Input Frequency		50Hz			
Charging Topology		Boost Mosfet based			
Charging Current		upto 15A±1A			
Output Parameters					
Output Voltage		220Vac ± 8%			
Output Frequency on Battery		50Hz ± 0.05Hz			
Output Voltage Waveform		Pure Sine Wave			
Typical Efficiency		>85%			
Over Load Capacity		Wide Range	>110% : 3 times auto reset, 4th time shut down >200% Output goes down		
		Narrow Range	>110% : 1st time shut down >200% : Output goes down		
LED Indication		Mains ON, Battery ON, Battery Low, Battery Charging, Overload, Wide Range, Narrow Range, Battery High, Overheat, Short Circuit.			
LCD parameter		Mains Voltage, Mains Frequency, O/P Voltage, O/P frequency, Battery Voltage, Load%, Battery Status, Overload, Battery Low, Short Circuit			
Audible Alarm					
Battery low		Intermittent			
Overload		Continuous			
Mode Change		Single beep			
Safety Protection					
Protection		Battery Low, Overload, Short Circuit, Reverse Battery, Over Charging			
Solar Specifications					
Solar Voc		18-22.5V	30-45V	30-45V	60-90V
Max. PV Connected		300/600W	630/1260W	1260W	3150W
Charging current		Sharing		Grid+Solar	
Others					
Battery Start		Standard			
ChangeOver Time		Narrow Range	<8ms		
		Wide Range	<80ms		
Environmental					
Operating Temperature Range		0°C to 50°C			
Cooling		Forced Air			
Max. Humidity		5-95% (non condensed)			
Storage Temperature		-10°C to 70°C			
Degree of Protection		IP 20			

*Specification are subject to change without prior notice due to constant improvement in design & technology.

UTL SOLAR

HELIAC (Solar Home PCU)

"Cost Effective PCU Compatible with SMF, Gel and Tubular Batteries."

Available in 850VA to 3500VA

FEATURES

- Inbuilt PWM Solar Charge Controller.
- Multi-Colour LCD Display.
- Freq.-Available 50 & 60Hz.
- Charging Multi Stage (Bulk, Absorption & Float) Auto Equalize in a month.
- Solar Priority of Load & Battery Charging.
- Preference to Solar Power over Grid Power.
- Pure Sine Wave Output.
- Protections : RBP, RSPV, OVL, BL, OBC, SC, IHV & ILV.
- Compatible with DG as an Input Source.
- Compatible with IT Load.
- Compatible with SMF, Gel & Tubular Batteries.
- Priority Selection - PCU, Smart & Hybrid for Saving Energy and Money.

UTL SOLAR

TECHNICAL SPECIFICATION

HELIAC (Solar Home PCU)

Parameters		Rating				
System Rating		850VA	1050VA	1500VA	2500VA	3500VA
Operating DC Voltage		12V		24V		48V
Switching Element		Mosfet				
Charger Topology		Boost Mosfet				
Parameters (Grid)		**Default Value**				**Variable Range**
Nominal Grid Voltage		230V				
Battery Low Buzzer		10.8V				Battery Low Cut - 0.3V
Battery Low Cut		10.5V				10V-11.5V
Battery High Cut		16.5V				16.5V-17.5V
SPV Charging Voltage (Boost)	SMF	13.7V				13.5V-14.5V
	TUB	15V				14V-15.5V
SPV Charging Voltage (Float)	SMF	13.7V				13.5V-14.5V
	TUB	14.2V				13.8V-14.5V
SPV Current		50A				NA
Grid Charging Voltage (Boost)	SMF	13.5V				13.5V-14.2V
	TUB	14.5V				13.5V-15V
Grid Charging Voltage (Float)	SMF	13.5V				13.5V-14.2V
	TUB	13.8V				13V-14.2V
Grid Charging Voltage (Equalize)		After 30Days				NA
Grid Charging Current		15A/18A				5A-20A
Grid Reconnect @ Battery Voltage		11.8V				11V-12V
Grid Low Cut Voltage	IT MODE ENABLE	170V±10V				
	IT MODE DISABLE	100V±10V				
Grid Low Cut Recovery	IT MODE ENABLE	180V±10V				
	IT MODE DISABLE	110V±10V				
Grid High Cut Voltage	IT MODE ENABLE	265V±10V				
	IT MODE DISABLE	290V±10V				
Grid High Cut Recovery	IT MODE ENABLE	255V±10V				
	IT MODE DISABLE	280V±10V				
Changeover (Battery to Mains)	IT MODE ENABLE/DISABLE	<5ms				
Changeover (Mains to Battery)	IT MODE ENABLE	<10ms				
	IT MODE DISABLE	<80ms				
Parameters (Inverter)						
Output Phase		1 Phase, 3Wire				
Nominal Output Voltage		220V±8%				
Nominal Frequency		50Hz±1%				50-60Hz
Load Power Factor		0.8				
Output Waveform		Sinewave				
Typical Efficiency		≥82%	≥80%	≥85%	≥80%	≥80%
Voltage Harmonic		<3% (Linear Load)				
Over Load Capacity		>110% 3Time Auto Reset, 4th Time Shut Down				
		>150% Output Goes Down				
Protection		Overload, Battery Low, Battery High, Output Short Ckt., Battery Reverse, Phase Reverse, Over Heat, Over frequency, Under Frequency, SPV High.				
LED Indication		System ON, (IT Mode, SMF/TUB, Boost Chg., DG Mode, Grid Chg.) Enable/Disable.				
Switches		Reset for System ON/OFF, UP, Down, Back, Enter(For LCD Calibration)				
Display		Battery Voltage, Charging Current, Grid Voltage, Grid Frequency, Output Voltage, Output Frequency, Load%, Battery Graph, Overheat, SPV Current, Working Mode(HYB/PCU/SMT).				
Parameters (Solar)						
Switching Element		Mosfet				
Controller		Yes				
Type of Charger		PWM				
Efficiency		≥95%				
Input Voltage Range (Min - Max)Voc		17V-25V		31V-45V		60V-90V
Maximum PV Power Recommended		150W*4=600W	150W*5=750W	315W*4=1260W	315W*6=1890W	315W*10=3150W
Parameters (Environment)						
Operating Temperature		0-50°C				
Cooling		Fan				
Max. Relative Humidity @25°C (non Condensing)		95%				
Noise @ 1meter		50db				
Standard Compliance		IP20				

*Specification are subject to change without prior notice due to constant improvement in design & technology.

UTL SOLAR

SHAMSI (Solar Home PCU)

"Affordable Yet, Very Reliable"

Available in
875VA to 1475VA

FEATURES

- Maintain battery health for longer life.
- Modified Sine wave output.
- Built-in IT mode.
- Easy Installation & low maintenance.
- Best Regulated output.
- Battery Charging with Multi stage (Bulk, Absorption & Float)
  Auto Equalize in a month.
- Protections : RBP, RSPV, OVL, BL, OBC, SC, IHV & ILV.
- Inbuilt PWM Solar Charge Controller.
- Priority Mode Selection
  1) PCU 2) Hybrid 3) Smart
  For Saving Energy & Money.
- Can Operate without Solar.

UTL SOLAR

TECHNICAL SPECIFICATION

SHAMSI (Solar Home PCU)

Parameters		Rating		
System Rating		875VA	1075VA	1475VA
Operating DC Voltage		12V		24V
Switching Element		Mosfet		
Charger Topology		Boost Mosfet		
Parameters (Grid)		**Default Value**		
Nominal Grid Voltage		230V		
Battery Low Buzzer		10.8V		
Battery Low Cut		10.5V		
Battery High Cut		16.5V		
SPV Charging Voltage (Boost)	SMF	13.7V		
	TUB	15V		
SPV Charging Voltage (Float)	SMF	13.7V		
	TUB	14.2V		
SPV Current		50A		
Grid Charging Voltage (Boost)	SMF	13.5V		
	TUB	14.5V		
Grid Charging Voltage (Float)	SMF	13.5V		
	TUB	13.8V		
Grid Charging Voltage (Equalize)		After 30 Days		
Grid Charging Current		10A/15A		
Grid Reconnect @ Battery Voltage		11.8V		
Grid Low Cut Voltage	IT MODE ENABLE	170V±10V		
	IT MODE DISABLE	100V±10V		
Grid Low Cut Recovery	IT MODE ENABLE	180V±10V		
	IT MODE DISABLE	110V±10V		
Grid High Cut Voltage	IT MODE ENABLE	265V±10V		
	IT MODE DISABLE	290V±10V		
Grid High Cut Recovery	IT MODE ENABLE	255V±10V		
	IT MODE DISABLE	280V±10V		
Changeover (Battery to Mains)	IT MODE ENABLE/DISABLE	<5ms		
Changeover (Mains to Battery)	IT MODE ENABLE	<10ms		
	IT MODE DISABLE	<80ms		
Parameters (Inverter)				
Output Phase		1 Phase, 3Wire		
Nominal Output Voltage		220V±8%		
Nominal Frequency		50Hz±1%		
Load Power Factor		0.8		
Output Waveform		Modified Sinewave		
Typical Efficiency		≥82%	≥80%	≥88%
Over Load Capacity		>110% 3Time Auto Reset, 4th Time Shut Down		
		>150% Output Goes Down		
Protection		Overload, Battery Low, Battery High, Output Short Ckt., Battery Reverse, Phase Reverse, Over Heat, SPV High.		
LED Indication		System ON, (IT Mode, SMF/TUB, Boost Chg., Grid Chg.) Enable/Disable, Mains Status, Overload, Grid Chg., Inverter ON, Battery Status, SPV Chg., Fault.		
Switches		System ON, (IT Mode, SMF/TUB, Boost Chg., Grid Chg.) Enable/Disable		
Parameters (Solar)				
Switching Element		Mosfet		
Controller		Yes		
Type of Charger		PWM		
Efficiency		>95%		
Input Voltage Range (Min - Max)Voc		17V-25V		31V-45V
Maximum PV Power Recommended		150W*4=600W	150W*5=750W	315W*4=1260W
Parameters (Environment)				
Operating Temperature		0-50°C		
Cooling		Fan		
Max. Relative Humidity @25°C (non Condensing)		95%		
Noise @ 1meter		50db		
Standard Compliance		IP20		

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UTL SOLAR

rMPPT™ Offline Solar PCU

ALFA SOLAR PCU (1Ph in 1Ph out)

"Most Featureful Solar PCU"

Available in 1-15KVA

FEATURES

- Upto 30% more Efficient because of rMPPT Charge Controller.
- Advance DSP Based design Pure Sine Wave.
- NLSD & Grid Charging - Enable/Disable by LCD.
- Tested as per IEC 61683 and IEC 60068-2-(1,2,14,30) standards.
- USB/Ethernet based monitoring with 30 days data storage, DC and AC energy meter.
- User Configurable Parameters.
- Lightening, Surge Protection.
- Short Circuit Protection.
- Intelligent Charge Sharing.

PCU Mode Priority

Solar/Battery/Grid

Hybrid Mode Priority

For Load - Grid/Solar/Battery
For Charging - Solar/Grid

Smart Mode Priority

For Day Time - Solar/Battery/Grid
For Night Time - Grid/Battery

UTL SOLAR

TECHNICAL SPECIFICATION

ALFA SOLAR PCU (1Ph in 1Ph out)

Parameters	Units											
System Rating	KVA	1	1	2	3	5	6	7.5	7.5	10	10	15
Operating DC Voltage	V	24	48	48	48	96	96	96	120	120	180	240
Photovoltaic Input												
Input Voltage Range (Min-Max)	VDC	45-90	90-230			180-360			225-450		337-540	450-720
Maximum PV Power Recommended	KW	1.0	1.0	2.0	3.0	5.0	6.0	7.5		10	10	15
MPPT Based Charging Controller												
Switching Element		Mosfet	IGBT									
Controller		DSP										
Type of Charger		PWM with MPPT										
Efficiency	%	95										
Configurable Parameter												**Default Value**
Battery Low Buzzer	V	Batt. Low Cut +0.2										11.2
Battery Low Cut	V	10-11.7										11.0
Battery High Cut	V	15-17										15.5
Battery Charging Voltage by SPV	V	13.5-16										14.5
Battery Charging Current by SPV	A	12-50										18
Battery Charging Voltage by Grid	V	13.0-15										14.2
Battery Charging Current by Grid	A	6-15										10
Grid Low Cut Voltage (IT Mode/Normal)	V	-------										175/120
Grid High Cut Voltage (IT Mode/Normal)	V	-------										255/280
Grid Charging		Enable/Disable										Enable
IT Load		Enable/Disable										Disable
Operating Mode		Smart/PCU/Hybrid										Smart
Output Voltage Low	V	170-190										185
Output Voltage High	V	250-260										260
No Load Shut Down		Enable/Disable										Disable
Input Source		Grid/Genset										Grid
Battery												
Grid Disconnect (Solar Available)		@14.5/Battery for 2minutes or 13.5/Battery-100% Current										
Grid Connect (PCU Mode/Smart Mode)	V	11-12										11.5
Temp. Compensation		@3mV/cell ; 18mV/Battery										
Inverter												
Switching Element		Mosfet				IGBT						
Control		PWM										
Nominal Output Voltage	VAC	220										
Output Supply Phase		1Phase, 3Wire										
Output Waveform		Sinewave										
Nominal Frequency	Hz	50.0										
Load Current	V	4.5	9	13.5	18	21.8	27		36		54.5	
Voltage Regulation	%	1.00										
Output Voltage Distortion with 100% Linear Load	%	<3										
Overload Capacity (IT LOAD DISABLE)	%	100-120(3time auto reset) : 60sec 120-150(3time auto reset) : 30sec 150-200 : 2sec				200-300 : 1sec 300-400 : 250ms >400 : 20ms						
Overload Capacity (IT LOAD ENABLE)	%	100-110 : 10 Min 110-120 : 2 Min 120-150 : 30sec				150-200 : 2Sec 200-300 : 1Sec 300-400 : 250ms		>400 : 20ms				
Peak Efficiency	%	>82	>88									
Noise @ 1meter	dB	60										
Cooling		Temp Controlled, Fan				Fan						
Protections		Overload, Battery Low, Battery High, Output Low, Output High, Output Short Ckt., Overheat, Under Frequency, Over Frequency, Solar Panel Reverse										
Display Parameters		Battery Voltage, Charging Current, Discharging Current, Charging KWH, Discharging KWH, Solar Voltage, Solar Current, Instantaneous Power, Cumulative Power, Grid Voltage, Grid Current, Grid Frequency, Output Voltage, Output Current, Output Frequency										
Switches		Reset for System ON/OFF, UP, DOWN, BACK, ENTER (for LCD Configuration)										
Indications		System ON, Inverter ON, SPV Charging, Grid Charging, Battery Low/High, Overload, Overheat, Mains Low, Mains High, Under Frequency, Over Frequency, NLSD										
Environment												
Operating Temperature	C	0-50										
Max Relative Humidity @25*C(non condensing)	%	95										
Degree of Protection		IP21										
Data Loggin		30 Day Data Storage										
Dimension (LxWxH)	Inch	18 X 10 X 18				24 X 13 X 23				24 X 13 X 26		
Weight	Kg.	40		45		60		70		100		

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UTL SOLAR

rMPPT™ Offline Solar PCU

BETA SOLAR PCU (1Ph in 1Ph out)

"Value for Money
Commercial / Industrial rMPPT PCU"

Available in 1-10kVA

FEATURES

- Upto 30% more efficient because of rMPPT charge controller.
- Advance DSP based design Pure Sine Wave.
- NLSD & Grid charging - enable/disable by LCD.
- Tested as per IEC 61683 and IEC 60068-2-(1,2,14,30) standards.
- USB/Ethernet based monitoring with 30 days data storage, DC and AC energy meter.
- User Configurable Parameters.
- Lightening, Surge Protection.
- Short Circuit Protection.
- Intelligent Charge Sharing.

PCU Mode Priority

Solar/Battery/Grid

Hybrid Mode Priority

For Load - Grid/Solar/Battery
For Charging - Solar/Grid

Smart Mode Priority

For Day Time - Solar/Battery/Grid
For Night Time - Grid/Battery

UTL SOLAR

TECHNICAL SPECIFICATION

BETA SOLAR PCU (1Ph in 1Ph out)

Parameters	Units	Rating								
System Rating	kVA	1	2	3	5	6	7.5		10	
Operating DC Voltage	V	24	48	48	96	96	96	120	120	180
Photo Voltaic Input										
Input Voltage Range (Min.-Max)	VDC	45-90	90-230		180-360			225-450		337-540
Maximum PV Power Recommended	KW	1.0	2.0	3.0	5.0	6.0	7.5		10.0	10.0
Number of Charge Controller		1								
MPPT Based Charge Controller										
Switching Element		Mosfet	IGBT							
Controller		DSP								
Type of Charger		PWM with MPPT								
Efficiency	%	95								
Parameter		**Default Value**								
Battery Low Buzzer	V	10.2/Battery								
Battery Low Cut	V	10V/Battery								
Battery High Cut	V	15.5/Battery								
Battery Charging Voltage By SPV	V	14.5/Battery								
Battery Charging Current By SPV	A	18								
Battery Charging Voltage By Grid	V	14.2/Battery								
Battery Charging Current By Grid	A	10								
Grid Low Cut Voltage (IT Load Enable/Disable)	V	175/120								
Grid High Cut Voltage (IT Load Enable/Disable)	V	255/280								
Output Voltage Low	V	185								
Output Voltage High	V	260								
No Load Shut Down	%	<2								
Grid Charger		Enable/Disable, Default-Enable								
No Load Shut Down	Configurable	Enable/Disable, Default-Disable								
IT Load		Enable/Disable, Default-Disable								
Operating Mode		Smart/PCU/Hybrid, Default-Smart								
Input Source		Grid/Genset, Default-Grid								
Battery										
Grid Disconnect (Solar Available)		@14.5/Battery for 2minuts of 13.5/Battery-100% Curent								
Grid Connect (PCU Mode/Smart Mode)	V	11.5								
Inverter										
Switching Element		Mosfet			IGBT					
Control		PWM								
Nominal Output Voltage	VAC	220								
Output Supply Phase		1Phase, 3wire								
Output Waveform		Sinewave								
Nominal Frequency	Hz	50.0								
Load Current	A	4.5	9	13.5	18	21.8	27		36	
Voltage Regulation	%	1.00								
Output Voltage Distortion with 100% Linear Load	%	<3								
Overload Capacity (IT Load Disable)	%	100-120(3time auto reset) : 60sec 120-150(3time auto reset) : 30sec 150-200 : 2sec				200-300 : 1sec 300-400 : 250ms >400 : 20ms				
Overload Capacity (IT Load Enable)	%	100-110 : 10 Min 110-120 : 2 Min 120-150 : 30sec				150-200 : 2Sec 200-300 : 1Sec 300-400 : 250ms		>400 : 20ms		
Peak Efficiency	%	82	88							
Noise @1meter	dB	55								
Cooling		Temp Controlled, Fan			Fan					
Protections		Overload, Battery Low, Battery High, Output Low, Output High, Output Short Ckt., Input Short Ckt., Overheat, Under Frequency, Over Frequency, Solar Panel Reverse.								
Display Parameters		Battery Voltage, Charging Current, Discharging Current, Solar Voltage, Solar Current, Instantaneous Power, Grid Voltage, Grid Frequency Output Voltage, Load%, Output Frequency, Grid, Inverter & SPV Charger Status								
Switches		Reset for System ON/OFF, UP, DOWN, BACK, ENTER (for LCD Configuration)								
Indications		System ON, Inverter ON, SPV Charging, Grid Charging, Battery Low/High, Overload, Overheat, Mains Low, Mains High, Under Frequency, Over Frequency, NLSD.								
Environment										
Operating Temperature	C	0-50								
Max Relative Humidity @25*C (non condensing)	%	95								
Degree of Protection		IP20	IP21							
Physical										
Weight	Kg	30	40		60		70		100	
Dimension (LxWxH)	Inch	17x13x17	18x10x18		24x13x23				24x13x26	

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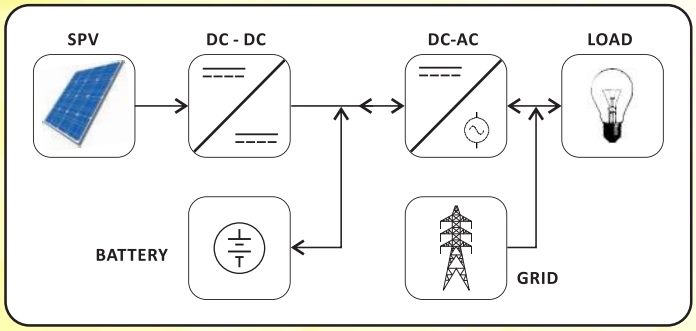
UTL SOLAR

rMPPT™ Offline Solar PCU

GAMMA SOLAR PCU 1Ph in 1Ph out

"Affordable Home rMPPT PCU"

Available in 1-5KVA



FEATURES

- DSP/Controller based design Pure Sine Wave, built in rMPPT charge controller.
- Maximum preference to Solar Power.
- Robust design 21 years product life.
- Extensive Electronic Protection.
- Digital display.
- User Friendly :- NLSD, Grid Charging, IT Load, GENSET (Enable/Disable by LCD) & Operating Mode (Selectable).
- User Configurable:- Batt. Low/High, SPV Volt./ Current, Grid Volt./Current, Grid Reconnect Setting.

PCU Mode Priority

Solar/Battery/Grid

Hybrid Mode Priority

For Load - Grid/Solar/Battery
For Charging - Solar/Grid

Smart Mode Priority

For Day Time - Solar/Battery/Grid
For Night Time - Grid/Battery

UTL SOLAR

TECHNICAL SPECIFICATION

GAMMA SOLAR PCU 1Ph in 1Ph out

Parameters	Units	Rating					
System Rating	KVA	1		2	3	5	5
Operating DC voltage	V	12	24	48	48	48	96
Photovoltaic input							
Input voltage range (Min.-Max)	VDC	15-45	30-90	90-230			180-360
Maximum PV power recommended	KW	1.0		2.0	3.0	5.0	
Number of charge controller		1					
MPPT based charge controller							
Switching element		MOSFET		IGBT			
Controller				DSP			
Type of Charger		YES		PWM with MPPT			
Efficiency	%	94		95			
Parameter		**Variable Range**	**Default Value**	**Default Value**			
Battery Low Buzzer	V	NA	11.3	10.2			
Battery Low Cut	V	10-11.7	11	10.0			
Battery High Cut	V	15-16	15.5	15.5			
Battery Charging Voltage by SPV	V	13.5-15	14.5	14.5			
Battery Charging Current by SPV	A	11-40	18	18			
Battery Charging Voltage by GRID	V	13-14.5	14.2	14.2			
Battery Charging Current by GRID	A	3-15	10	10			
Grid Low Cut Voltage (IT Load Disable/Enable)	V	100/170±10V		120/175			
Grid High Cut Voltage (IT Load Disable/Enable)	V	290/265±10V		280/255			
Output Voltage Low	V	150		185			
Output Voltage High	V	260		260			
Grid Disconnect (Solar Available)		@14.5 / Battery for 2 minutes OR 13.5/Battery-100% Current					
Grid Connect (PCU Mode / Smart Mode)	V	11.5					
No Load Shut Down	%	<2					
Grid Charger	Configurable	Enable / Disable, Default-Enable					
No Load Shut Down	Configurable	Enable / Disable, Default-Disalbe					
IT Load	Configurable	Enable / Disable, Default-Disalbe					
Operation Mode	Configurable	SMART/PCU/HYBRID, Default-SMART					
Input Source	Configurable	GRID/GENSET, Default-GRID					
Inverter							
Switching element		MOSFET					
Control		PWM					
Nominal output voltage	VAC	220		230			
Output supply phase		1 phase, 3 wire					
Output waveform		sinewave					
Nominal frequency	Hz	50.0					
Load Current	A	3.6		6.1	9.1	15.2	
Voltage regulation (No load to full load)	%	<5		<2			
Output voltage distortion with 100% linear load	%	<3					
*Overload Capacity (IT LOAD ENABLE)	%	100-110 : 10 min 110-120 : 2 min 120-150 : 30 sec			150-250 : 2sec 250-350 : 1sec >350 : 20ms		
*Overload Capacity (IT LOAD DISABLE)	%	100-120(3time auto reset): 60sec 120-150(3time auto reset): 30sec 150-250 : 2sec			250-350 : 1sec >350 : 20ms		
Peak Efficiency	%	82		>88			
Noise @ 1meter	dB	45		55			
Cooling		Temp Controlled, Fan					Fan
Protections		Overload, Battery low, Battery high, Output low, Output high, Output Short Circuit, Overheat, Under Frequency, Over Frequency, Solar panel reverse					
Display Parameters		Battery Voltage, Charging Current, Discharging Current* Solar Voltage, Solar Current, Instantaneous Power, Grid Voltage, I/P Frequency Output Voltage, Output Load% O/P Frequency Grid, Inverter & SPV Charger Status					
Switches		Reset for System ON/OFF, up, Down, Back, Enter (for LCD Configuration)					
Indications		System ON, Inv. ON, SPV Charging, Grid Charging, Batt. Low/High, Overload, Overheat, Mains Low, Mains High, Under frequency, Over frequency, (IT Mode, Grid Charging, NLSD, Boost Chg.,DG Mode)Enable/Disable*					
Environment							
Operating Temperature	°C	0-50					
Max Relative Humidity @25*C (non condensing)	%	95					
Dimension (L X W X H)	Inch	12 X 8 X 12		15 X 11 X 14	18 X 10 X 17		
Weight	Kg.	20		27	39	55	

*Overload Capacity IT Mode Enable/Disable >300 : 250ms is Applicable in 1KVA.
*Display Parameter-Discharging Current is not shown in 1KVA.
*Enable/Disable Indications are Available in 1KVA.

*Specification are subject to change without prior notice due to constant improvement in design & technology.

UTL SOLAR

rMPPT™ Solar PCU

SIGMA-Grid Export SOLAR PCU (1Ph in 1Ph out)

"A Smart PCU - Which Stores as well as Exports Electricity"

Available in 1-10KVA

FEATURES

- Grid Interactive.
- DSP based design built in rMPPT solar charge controller.
- USB/Ethernet based monitoring with 30 days data storage.
- Maximum preference to Solar Power.
- Priority based working modes:
  Smart Mode - Solar, Battery, Grid (Day time)
  Grid, Battery (Night time).
  PCU Mode - Solar, Battery, Grid.
  Hybrid Mode - Grid, Solar, Battery (Load)
  Solar/Grid (Charging)
  Grid Export Mode - Solar, Grid, Battery.
- User friendly & easily accessible LCD Display with all AC & DC parameter configurable from LCD:
  AC- Input & Output Voltage.
  DC- Battery charging voltage, Charging current, Low cut & High cut.
- Compatible with all PV arrays having different no of cells (36 cell/60 cell/72 cell) with 100% panel power rating.
- IEC 61683, 61727, 60529, 60068-2 (1,2,14,30) and 62116 standards approved from MNRE.

PCU Mode Priority

Solar/Battery/Grid

Hybrid Mode Priority

For Load - Grid/Solar/Battery
For Charging - Solar/Grid

Smart Mode Priority

For Day Time - Solar/Battery/Grid
For Night Time - Grid/Battery

Grid Export Mode

Solar/Grid/Battery

UTL SOLAR

TECHNICAL SPECIFICATION

SIGMA-Grid Export SOLAR PCU (1Ph in 1Ph out)

Parameters	Units	Rating						
System Rating	KVA	1	2	3	4	5	7.5	10
Operating DC Voltage	V	48	48	48	48	96	120	180
Photovoltaic Input								
Input Voltage range(Min.-Max.)	VDC	90-180	90-180	90-230	90-180	180-360	225-450	337-540
Maximum PV power recommended	kW	1	2	3	4	5	7.5	10
MPPT Based Charge Controller								
Switching Element		IGBT						
Controller		DSP						
Type of Charger		PWM with MPPT						
Efficiency	%	95						
Parameters		**Configurable**						**Default Value**
Battery Low Buzzer	V	Batt. Low Cut +0.2						11.2
Battery Low cut	V	10-11.7						11
Battery High cut	V	15-16						16
Battery Charging Voltage with SPV	V	13.5-15						14.5
Battery Charging Current with SPV	A	2-24						18
Battery Charging Voltage with Grid	V	13-14.5						13
Battery Charging Current with Grid	A	1-15						10
Grid low cut voltage(IT Mode/Normal) GRID EXPORT MODE DISABLE	V	175-200/120-200						175/120
Grid high cut voltage(IT Mode/Normal)	V	245-255/245-280						255/280
Grid Charging	V	Enable/Disable						Enable
IT Load		Enable/Disable						Enable
Operating mode		Smart/PCU/Hybrid/Grid Export						Smart
Output voltage low	V	170-190						185
Output voltage high	V	250-260						255
No load shutdown		Enable/Disable (<2%)						Disable
Grid Export Mode Enable								
Grid Low/recover	V	185/195						
Grid High/recover	V	280/275						
Synchronization voltage range	V	185-280V						
Synchronization frequency range	HZ	47 to 53						
maximum charging current from grid (import)	A	1-15A						10
Battery								
Grid Disconnect (Solar Available)		@14.5V/Battery for 2 minutes OR 13.5V/Battery-100% Current (if Grid Chg. Volt. Ref. set to 14.2V)						
Grid Reconnect (PCU Mode / Smart Mode), Import ON (Grid Export mode)	V	11-12						11.5
Temp. Compensation		@ 3mV/cell; 18mV/Battery						
Inverter								
Switching Element		MOSFET			IGBT			
Control		PWM						
Nominal Output voltage		220						
Output supply phase		1Phase, 3 Wire						
Output waveform		Sine Wave						
Nominal frequency	Hz	50						
Load power factor	Lagging	1			0.8			
Voltage regulation	%	1						
Output voltage distortion with 100% linear load	%	<3						
Overload capacity	%	**IT Load Disable** 100-120%(3Times auto reset):60sec; 200-300%:1 sec; 120- 150%(3Times auto reset:30sec; 300-400%:250msec; 150-200%:2sec; >400%:20msec;			**IT Load Enable** 100-110%:10min; 150-200%:2sec; >400%:20msec; 110-120%: 2min; 200-300%:2sec; 120-150%:30sec; 300-400%:250msec;			
Peak efficiency	%	>85						
Noise @ 1 meter	dB	60						
Cooling		Temp. Controlled Fan						
Protections		Overload, Battery Low, Battery High, Output Low, Output High, Output Short Ckt., Input Short Ckt., Overheat, Under Frequency, Over Frequency, Solar Panel Reverse, Anti-islanding						
Display Parameters		Battery Voltage, Charging Current, Discharging Current, charging KWH and discharging KWH Solar Voltage, Solar Current, Instantaneous Power, Cummulative Energy Grid Voltage Grid Current, Frequency, Import Power, Import Energy Export Power, Export Energy Output Voltage, Output Current, Frequency, Instantaneous Power & Commutative Energy Grid, Inverter & SPV Charger Status						
Switches		Reset for System ON/OFF, UP, DOWN, BACK, ENTER (for LCD Configuration)						
Indications		System ON, Inv. ON, SPV Charging, Grid Charging, Grid Export ON, Battery Low/High, No Load, Overload, Overheat, Mains Low, Mains High, Under frequency, Over frequency, Operating modes (smart, Hybrid, PCU and Gridexport)						
Environment								
Operating temperature	ºC	0-50						
Max. Relative Humidity @ 25 C (non condensing)	%	95						
Degree of Protection		IP-21						
Data Logging		30 Days Data Storage						
Dimension (LxWxH)	Inch	18 x 10 x 20				23 x 13 x 26		26 x 13 x 26
Weight	kg	35	43	50	52	60	78	90

*Specification are subject to change without prior notice due to constant improvement in design & technology.

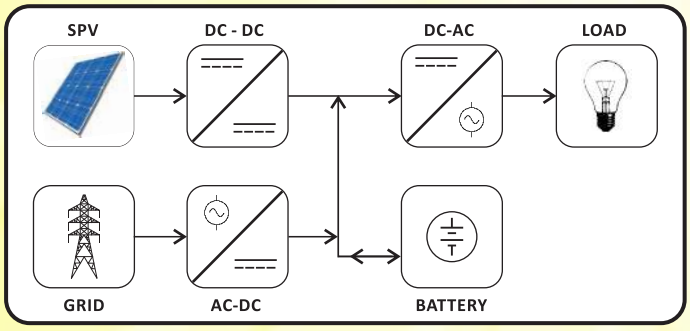
UTL SOLAR

rMPPT™ Online Solar PCU

ALFA ONLINE SOLAR PCU (1Ph in 1Ph out)

"Zero Changeover Suitable for Banks & IT Companies"

Available in 5-10KVA



FEATURES

- Upto 30% more Efficient because of rMPPT Charge Controller.
- Advance DSP Based design Pure Sine Wave.
- NLSD & Grid Charging - Enable/Disable by LCD.
- USB/Ethernet based monitoring with 30 days data storage, DC and AC energy meter.
- User Configurable Parameters.
- Lightening, Surge Protection.
- Short Circuit Protection.
- Intelligent Charge Sharing.

Working Mode

Solar/Grid/Battery
or
Solar/Battery/Grid

UTL SOLAR

TECHNICAL SPECIFICATION

ALFA ONLINE SOLAR PCU (1Ph in 1Ph out)

Parameters	Units	Rating			
System Rating	KVA	5	6	7.5	10
Operating DC Voltage	V	96	120	120	180
Photovoltage Input					
Input Voltage Range (Min-Max)	VDC	180-360	225-450		337-540
Maximum PV Power Recommended	KW	5.0	6.0	7.5	10
Number of Charge Controller		1			
MPPT Based Charge Controller					
Switching Element		IGBT			
Controller		DSP			
Type of Charger		PWM with MPPT			
Priority		Solar/Grid/Battery			
Efficiency		95			
Configurable Parameters					**Default Value**
Battery Low Buzzer	V	Battery Low Cut + 0.2			11.2
Battery Low Cut	V	10-11.7			11.0
Battery High Cut	V	15-16			15.5
Battery Charging Voltage by SPV	V	13.5-15			14.5
Battery Charging Current by SPV	A	12-25			18
Battery Charging Voltage by Grid	V	13.0-14.5			13.3
Battery Charging Current by Grid	A	3-12			10
Grid Low Cut Voltage	V	N/A			160
Grid High Cut Voltage	V	N/A			280
Output Voltage Low	V	170-190			185
Output Voltage High	V	250-260			260
Battery					
Temp. Compensation		@ 3mV/cell; 18mV/Battery			
Inverter					
Switching Element		IGBT			
Control		PWM			
Nominal Output Voltage	VAC	220			
Output Supply Phase		1 Phase, 3 Wire			
Output Waveform		Sinewave			
Nominal Frequency	Hz	50.0			
Load Current	A	18	21.8	27.2	36.3
Voltage Regulation	%	1.00			
Output Voltage Distortion with 100% Linear Load	%	<3			
Overload Capacity	%	100-110 : 10 Minutes 110-120 : 2 Minutes 120-150 : 30 sec		150-200 : 2sec 200-300 : 1sec 300-400 : 250msec	>400 : 20msec
Peak Efficiency	%	86			
Noise @ 1 meter	dB	55			
Cooling		Fan			
Protections		Overload, Battery Low, Battery High, Output Low, Output High, Output Short Ckt., Overload, Under Frequency, Over Frequency, Solar Panel Reverse			
Display Parameters		Battery Voltage, Charging Current, Discharging Current, Charging KWH, Discharging KWH, Battery Status Bar Graph			
		Solar Voltage, Solar Current, Instantaneous Power, Cumulative Power			
		Grid Voltage, Grid Current, Cumulative Power, Instantaneous Power, Grid Frequency			
		Output Voltage, Output Current, Cumulative Power, Instantaneous Power, Output Frequency			
Switches		Reset for System ON/OFF, UP, Down, Back, Enter (for LCD Configuration)			
Indications		System ON, Inverter ON, SPV Charging, Grid Charging, Battery Low/High, Overload, Overheat, Mains Low, Mains Hign, Under Frequency, Over Frequency			
Environment					
Operating Temperature	°C	0-50			
Max Relative Humudity @25°C (non Condensing)	%	95			
Degree of Protection		IP21			
Data Logging		30 Days Data Storage			
Dimension(LxWxH)	Inch	24X13X23			26X13X26
Weight	Kg.	65	70	80	94

*Specification are subject to change without prior notice due to constant improvement in design & technology.

UTL SOLAR

rMPPT™ Online Solar PCU

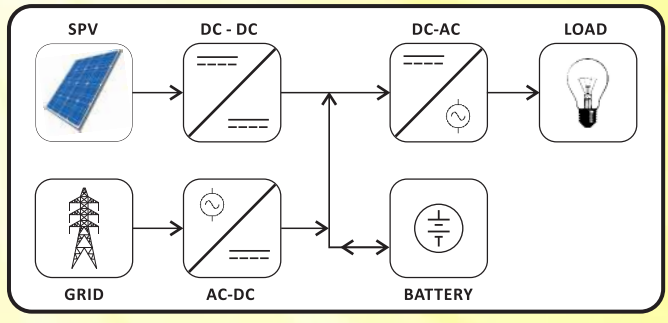
MARS ONLINE SOLAR PCU

"3 Phase, Zero Changeover
Suitable for All Resistive Loads"

Available in 5-20KVA

FEATURES

- DSP based design Pure Sine wave, Built in rMPPT charge controller.
- Thermal Protection.
- Maximum Preference to Solar Power.
- Ethernet based monitoring.
- Noiseless in Operation.
- Robust Design - 20 years Product life.
- Configurable Priority.
  a) Solar/Battery/Grid
  b) Solar/Grid/Battery
- AC and DC Parameter Configurable from LCD.
- AC-Output Voltage.
- DC- Charging Voltage Battery Charging Current, Battery Low Cut/High Cut.
- High Surg Capability (up to 300%) for starting heavy load.
- High Efficiency & High Reliability.



Working Mode

Solar/Grid/Battery
or
Solar/Battery/Grid

UTL SOLAR

TECHNICAL SPECIFICATION

MARS ONLINE SOLAR PCU (3Ph in 1Ph out)

Power Rating	5kVA/240V	6kVA/240V	7.5kVA/240V	10kVA/240V	15kVA/240V	20kVA/240V
INPUT						
Voltage Range	400V±20% Three phase four wire					
Frequency	50Hz±10%					
Power Factor	>0.92					
Charger Topology	Buck					
Connection Type	Terminal Block					
SOLAR						
K Watt	6KW	6KW	7.5KW	12KW	15KW	21KW
Voc (min-max)	(360V - 552V)	(360V - 552V)	(360V - 552V)	(360V - 552V)	(360V - 552V)	(360V - 552V)
Vmp	(288V - 441V)	(288V - 441V)	(288V - 441V)	(288V - 441V)	(288V - 441V)	(288V - 441V)
Configurable (250W 60 Cell)	12 panel in series *2 string	12 panel in series *2 string	15 panel in series *2 string	12 panel in series *4 string	15 panel in series *4 string	12 panel in series *7 string
Switching Devices	IGBT					
Switching Freq.	16KHz					
No. of Charger Controller	One					
Charger Topology	Buck					
Type of Charger	PWM with MPPT					
Peak Efficiency (DC - DC)	96%					
OUTPUT						
Voltage	220V/230V/240V±1% (1phase 2 wire)					
Load Current	17.4A	20.87A	26.08A	34.78A	52.17A	69.56A
Efficiency (DC - DC)	>90%@Full Load					
Frequency	50Hz					
Waveform	Pure Sine Wave					
Transient Response	<8 (10%~90% Linear Load)					
Voltage Harmonics	<3% Linear Load					
Overload Capacity	100 to 110%-10 Min., 110 to 120%-2 Min.; 120 to 150%-30 Sec; 150 to 200%-2 Sec; 200 to 300%-1sec.; 300 to 400%-250msec., >400%-20-30msec					
Crest Factor	3:1					
Voltage Harmonics	±1%					
Frequency Regulation	±0.05Hz					
Connection Type	Terminal Block					
Audible Warning						
Alarm	Battery Low, battery High, Overload, Mains Present					
Indication						
LED	#UPS ON #Mains CHG. #Overload #Output High/Low #Battery High/Low, #Bypass #SPVCG. ON #SPV High/Low #CHG. OVERHEAT #AC Input High/Low R,Y,B #fault					
LCD (20*4)	#Input Voltage & Freq. R,Y,B #Output Voltage, Freq. & Load% # Battery Voltage #Charging Current #Solar Voltage, Solar Current, Solar Watt, #Working Status					
Protections						
Parameters	#Output Overvoltage/Undervoltage, #Overload, #Output Shortcircuit, #Battery Overvoltage/undervoltage #SPV Under Voltage/ Over Voltage #Input Under Voltage/Over Voltage					
Miscellaneous						
Transfer Time	0 msec					
Extended Battery Charging	Optional					
Caster Wheels	Yes					
Environmental						
Operating Environment	0-50° C					
Operating Relative Humidity	(5%-95%) Non-condensed					
Storage Environment	0-75°C					
Storage Relative Humidity	0-95%					
Degree of Protection	IP20					
Remote Monitoring	Ethernet (Optional)					
Dimension (LXWXH) Inch	23x13x26			30x16x27		38x26x35

*Specification are subject to change without prior notice due to constant improvement in design & technology.

UTL SOLAR

TECHNICAL SPECIFICATION

MARS ONLINE SOLAR PCU (3Ph in 1Ph out)

Power Rating	5kVA/360V	6kVA/360V	7.5kVA/360V	10kVA/360V	15kVA/360V	20kVA/360V
Input						
Voltage Range	400V±20% Three phase four wire					
Frequency	50Hz±10%					
Power Factor	>0.92					
Charger Topology	Buck					
Connection Type	Terminal Block					
Solar						
K Watt	5KW	5KW	7.5KW	10KW	15KW	20KW
Voc (min-max)	(540V - 753V)	(540V - 753V)	(540V - 753V)	(540V - 753V)	(540V - 753V)	(540V - 753V)
Vmp	(432V - 602V)	(432V - 602V)	(432V - 602V)	(432V - 602V)	(432V - 602V)	(432V - 602V)
Configurable (250W 60 Cell)	20 panel in series *1 string	20 panel in series *1 string	15 panel in series *2 string	20 panel in series *2 string	20 panel in series *2 string	20 panel in series *4 string
Switching Devices	IGBT					
Switching Freq.	16KHz					
No. of Charger Controller	One					
Charger Topology	Buck					
Type of Charger	PWM with MPPT					
Peak Efficiency (DC - DC)	96%					
Output						
Voltage	220V/230V/240V ±1% (1phase 2 wire)					
Load Current	17.4A	20.87A	26.08A	34.78A	52.17A	69.56A
Efficiency (DC - DC)	>90%@Full Load					
Frequency	50Hz					
Waveform	Pure Sine Wave					
Transient Response	<8 (10%~90% Linear Load)					
Voltage Harmonics	<3% Linear Load					
Overload Capacity	100 to 110%-10 Min., 110 to 120%-2 Min.; 120 to 150%-30 Sec; 150 to 200%-2 Sec; 200 to 300%-1sec.; 300 to 400%-250msec., >400%-20-30msec					
Crest Factor	3:1					
Voltage Harmonics	±1%					
Frequency Regulation	±0.05Hz					
Connection Type	Terminal Block					
Audible Warning						
Alarm	Battery Low, battery High, Overload, Mains Present					
Indication						
LED	#UPS ON #Mains CHG. #Overload #Output High/Low #Battery High/Low, #Bypass #SPVCG. ON #SPV High/Low #CHG. OVERHEAT #AC Input High/Low R,Y,B #Fault					
LCD (20*4)	#Input Voltage & Freq. R,Y,B #Output Voltage, Freq. & Load% # Battery Voltage #Charging Current #Solar voltage, Solar Current, Solar Watt, #Working Status					
Protections						
Parameters	#Output Overvoltage/Undervoltage, #Overload, #Output Shortcircuit, #Battery Overvoltage/undervoltage #SPV Under Voltage/ Over Voltage #Input Under Voltage/Over Voltage					
Miscellaneous						
Transfer Time	0 msec					
Extended Battery Charging	Optional					
Caster Wheels	Yes					
Environmental						
Operating Environment	0-50° C					
Operating Relative Humidity	(5%-95%) Non-condensed					
Storage Environment	0-75°C					
Storage Relative Humidity	0-95%					
Degree of Protection	IP20					
Remote Monitoring	Ethernet (Optional)					
Dimension (LXWXH) Inch	23x13x26			30x16x27		38x26x35

*Specification are subject to change without prior notice due to constant improvement in design & technology.

UTL SOLAR

TECHNICAL SPECIFICATION

MARS ONLINE SOLAR PCU (3Ph in 3Ph out)

Power Rating	5kVA/360V	6kVA/240V	7.5kVA/240V	10kVA/240V	15kVA/240V	20kVA/240V
Input						
Voltage Range	400V±20% Three phase four wire					
Frequency	50Hz±10%					
Power Factor	>0.92					
Charger Topology	Buck					
Connection Type	Terminal Block					
Solar						
K Watt	6KW	6KW	7.5KW	12KW	15KW	20KW
Voc (min-max)	(360V - 552V)	(360V - 552V)	(360V - 552V)	(360V - 552V)	(360V - 552V)	360V - 552V)
Vmp	(288V - 441V)	(288V - 441V)	(288V -441V)	(288V - 441V)	(288V - 441V)	(288V - 441V)
Configurable (250W 60 Cell)	12 panel in series *2 string	12 panel in series *2 string	15 panel in series *2 string	12 panel in series *4 string	15 panel in series *4 string	12 panel in series *7 string
Switching Devices	IGBT					
Switching Freq.	16KHz					
No. of Charger Controller	One					
Charger Topology	Buck					
Type of Charger	PWM with MPPT					
Peak Efficiency (DC - DC)	96%					
Output						
Voltage	380V/400V ±1% (3phase 4 wire)					
Load Current	5.8A	6.95A	8.7A	11.6A	17.4A	23.2A
Efficiency (DC - DC)	>90%@Full Load					
Frequency	50Hz					
Waveform	Pure Sine Wave					
Transient Response	<8 (10%~90% Linear Load)					
Voltage Harmonics	<3% Linear Load					
Overload Capacity	100 to 110%-10 Min., 110 to 120%-2 Min.; 120 to 150%-30 Sec; 150 to 200%-2 Sec; 200 to 300%-1sec.; 300 to 400%-250msec., >400%-20-30msec					
Crest Factor	3:1					
Voltage Harmonics	±1%					
Frequency Regulation	±0.05Hz					
Connection Type	Terminal Block					
Audible Warning						
Alarm	Battery Low, battery High, Overload, Mains Present					
Indication						
LED	#UPS ON #Mains CHG. #Overload R,Y,B #Output High/Low R,Y,B #Battery High/Low #SPVCHG. ON #SPV High/Low #CHG. OVERHEAT #AC Input High/Low R,Y,B #FAULT					
LCD (20*4)	#Input Voltage & Freq. R,Y,B #Output Voltage, Freq. & Load% R,Y,B # Battery Voltage #Charging Current #Solar voltage, Solar Current, Solar Watt, #Working Status					
Protections						
Parameters	#Output Overvoltage/Undervoltage, #Overload, #Output Shortcircuit, #Battery Overvoltage/undervoltage #SPV Under Voltage/ Over Voltage #Input Under Voltage/Over Voltage					
Miscellaneous						
Transfer Time	0 msec					
Extended Battery Charging	Optional					
Caster Wheels	Yes					
Environmental						
Operating Environment	0-50° C					
Operating Relative Humidity	(5%-95%) Non-condensed					
Storage Environment	0-75°C					
Storage Relative Humidity	0-95%					
Degree of Protection	IP20					
Remote Monitoring	Ethernet (Optional)					
Dimension (LXWXH) Inch	23x13x26			30x16x27		38x26x35

*Specification are subject to change without prior notice due to constant improvement in design & technology.

UTL SOLAR

TECHNICAL SPECIFICATION

MARS ONLINE SOLAR PCU (3Ph in 3Ph out)

Power Rating	5kVA/360V	6kVA/360V	7.5kVA/360V	10kVA/360V	15kVA/360V	20kVA/360V
Input						
Voltage Range	400V±20% Three phase four wire					
Frequency	50Hz±10%					
Power Factor	>0.92					
Charger Topology	Buck					
Connection Type	Terminal Block					
Solar						
K Watt	5KW	5KW	7.5KW	10KW	15KW	20KW
Voc (min-max)	(540V - 75V)	(540V - 753V)	(540V - 753V)	(540V - 753V)	(540V - 753V)	540V - 753V)
Vmp	(432V - 602V)	(432V - 602V)	(432V -602V)	(432V - 602V)	(432V - 602V)	(432V - 602V)
Configurable (250W 60 Cell)	20 panel in series *1 string	20 panel in series *1 string	15 panel in series *2 string	12 panel in series *4 string	20 panel in series *3 string	20 panel in series *4 string
Switching Devices	IGBT					
Switching Freq.	16KHz					
No. of Charger Controller	One					
Charger Topology	Buck					
Type of Charger	PWM with MPPT					
Peak Efficiency (DC - DC)	96%					
Output						
Voltage (Ph-Ph)	380V/400V ±1% (3phase 4 wire)					
Load Current	5.8A	6.95A	8.7A	11.6A	17.4A	23.2A
Efficiency (DC - DC)	>90%@Full Load					
Frequency	50Hz					
Waveform	Pure Sine Wave					
Transient Response	<8 (10%~90% Linear Load)					
Voltage Harmonics	<3% Linear Load					
Overload Capacity	100 to 110%-10 Min., 110 to 120%-2 Min.; 120 to 150%-30 Sec; 150 to 200%-2 Sec; 200 to 300%-1sec.; 300 to 400%-250msec., >400%-20-30msec					
Crest Factor	3:1					
Voltage Harmonics	±1%					
Frequency Regulation	±0.05Hz					
Connection Type	Terminal Block					
Audible Warning						
Alarm	Battery Low, battery High, Overload, Mains Present					
Indication						
LED	#UPS ON #Mains Chg. #Overload R,Y,B #Output High/Low R,Y,B #Battery High/Low #SPV Chg. ON #SPV High/Low #Chg. Overheat #AC Input High/Low R,Y,B #FAULT					
LCD (20*4)	#Input Voltage & Freq. R,Y,B #Output Voltage, Freq. & Load% R,Y,B # Battery Voltage #Charging Current #Solar voltage, Solar Current, Solar Watt, #Working Status					
Protections						
Parameters	#Output Overvoltage/Undervoltage, #Overload, #Output Shortcircuit, #Battery Overvoltage/undervoltage #SPV Under Voltage/ Over Voltage #Input Under Voltage/Over Voltage					
Miscellaneous						
Transfer Time	0 msec					
Extended Battery Charging	Optional					
Caster Wheels	Yes					
Environmental						
Operating Environment	0-50° C					
Operating Relative Humidity	(5%-95%) Non-condensed					
Storage Environment	0-75°C					
Storage Relative Humidity	0-95%					
Degree of Protection	IP20					
Remote Monitoring	Ethernet (Optional)					
Dimension (LXWXH) Inch	23x13x26			30x16x27		38x26x35

*Specification are subject to change without prior notice due to constant improvement in design & technology.

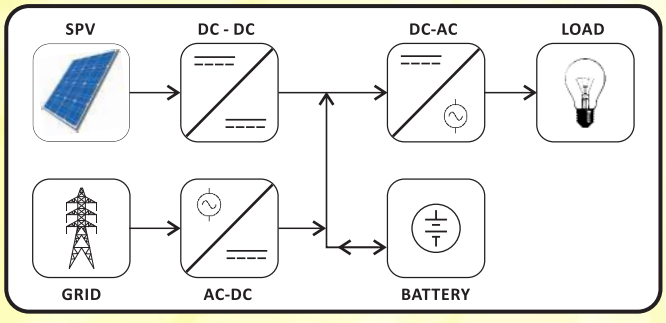
UTL SOLAR

rMPPT™ Online Solar PCU

STAR ONLINE SOLAR PCU

"3 Phase, Zero Changeover
for Heavy Loads"

Available in 25-120KVA



FEATURES

- Upto 30% more Efficient because of rMPPT Charge Controller.
- Short Circuit, Input under/over Voltage Protection.
- Advance DSP based design Pure Sine Wave.
- User Configurable Parameters.
- Lightening, Surge Protection.
- Ethernet based monitoring.
- Intelligent Charge Sharing.

Working Mode

Solar/Grid/Battery
or
Solar/Battery/Grid

UTL SOLAR

TECHNICAL SPECIFICATION

STAR ONLINE PCU 25-40KVA (3Ph in 1Ph out)

Power Rating	25kVA/360V	30kVA/360V	40kVA/360V
Input			
Voltage Range	400V± 20% Three phase four wire		
Frequency	50 Hz ± 10%		
Power Factor	0.94		
Charger Topology	Buck		
Connection Type	Terminal Block		
Solar			
K watt	25	30	40
Voc (min-max)	540-750		
Vmp	405-575		
configration(250W 60 cell)	5 string of 20 panel	6 string of 20 panel	8 string of 20 panel
switching devics	IGBT		
switching freq.	16KHZ		
charge controller	One		
Charger Topology	Buck		
Type of Charger	PWM with MPPT		
Output			
Voltage	220V/ 230V ± 1%		
Load Current	86.9A	104.3A	139A
Efficiency(AC to AC)	>90% @ Full Load		
Frequency	50 Hz		
Waveform	Pure Sine Wave		
Transient Response	<8 (10%~90% Linear Load)		
Voltage Harmonics	< 3 % (Linear load)		
Overload Capacity	100- 110%@10 Min, 110 -120%@2 Min; 120-150%@30s; 150- 200%@ 2s; 200- 300% @1s; 300-400%@250ms; >400%@20ms		
Crest Factor	3:1		
Voltage Regulation	± 1%		
Frequency Regulation	± 0.05 Hz		
Connection Type	Terminal Block		
Audible warning			
Alarm	Battery Low, Battery High, Overload, Mains Present		
Indications			
LED	UPS ON # CHG ON # Input R,Y,B High / low # Output Low-High # Overload # Fault # Batt. Low/High # SPV Low/High # SPV CHG ON #		
LCD (20*4)	Output Voltage, Load & Freq. # Battery Voltage # Charging Current # Input Voltage, Freq R,Y,B # Solar Voltage # Solar Current # Solar Watt # Working Status		
Protections			
Parameters	# Output Overvoltage/Undervoltage # Overload # Output Short Circuit # Battery Overvoltage/Undervoltage #Input Overvoltage/Undervoltage		
Miscellaneous			
Transfer Time	0 msec		
Extended Battery Charging	Optional		
Caster wheels	Yes		
Environmental			
Operating Environment	0-50 ºC		
Operating Relative Humidity	5 - 95 % (Non-condensed)		
Storage Environment	0-75 ºC		
Storage Relative Humidity	0-95%		
Degree of Protection	IP 20		
Remote Monitoring	Ethernet (Optional)		
Dimension (LXWXH) Inch	38X26X35		33X34X43

*Specification are subject to change without prior notice due to constant improvement in design & technology.

UTL SOLAR

TECHNICAL SPECIFICATION

STAR ONLINE PCU 30-120KVA (3Ph in 3Ph out)

Power Rating	30kVA/360V	40kVA/360V	50kVA/360V	60kVA/360V	80kVA/360V	100kVA/360V	120kVA/360V
Input							
Voltage Range	400V± 20% Three phase four wire						
Frequency	50 Hz ± 10%						
Power Factor	0.95						
Charger Topology	Buck						
Connection Type	Terminal Block						
Solar							
K watt	30	40	50	60	80	100	120
Voc (min-max)	540-750						
Vmp	405-575						
Configration(250W 60 cell)	6 string of 20 panel	8 string of 20 panel	10 string of 20 panel	12 string of 20 panel	16 string of 20 panel	20 string of 20 panel	24 string of 20 panel
Switching devics	IGBT						
Switching freq.	16KHZ						
No. of Charge Controller	One						
Charger Topology	Buck						
Type of Charger	PWM with MPPT						
Peak Efficiency(DC to DC)	96%						
Output							
Voltage (Ph-Ph)	380/ 400V/415V ± 1% Configurable by LCD Display						
Load Current Per Phase	34.8A	46.3A	57.9A	69.5A	92.75A	115.9A	139A
Efficiency(AC to AC)	>88% @ Full Load				>90% @ Full Load		
Frequency	50 Hz						
Waveform	Pure Sine Wave						
Transient Response	<8 (10%~90% Linear Load)						
Voltage Harmonics	< 3 % (Linear load)						
Overload Capacity	100- 110%@10 Min, 110 -120%@2 Min; 120-150%@30s; 150- 200%@ 2s; 200- 300% @1s; 300-400%@250ms; >400%@20ms						
Crest Factor	3:1						
Voltage Regulation	± 1%						
Frequency Regulation	± 0.05 Hz						
Connection Type	Terminal Block						
Audible warning							
Alarm	Battery Low, Battery High, Overload, Mains Present						
Indications							
LED	UPS On #Mains Chg. # Battery High / Low # Overload R,Y,B # Output High/Low R,Y,B # AC Input High / Low R,Y,B # SPV Charging ON # CHG. Overheat # SPV High/ Low						
LCD (20*4)	#Input Voltage & Freq. R,Y,B # Output Voltage, Freq. & Load % R,Y,B # Battery Voltage # Charging Current # Solar Voltage, Solar Current, Solar Watt # Working Status						
Protections							
Parameters	#Input Overvoltage/Undervoltage # Overload # Output Short Circuit # Battery Overvoltage #Input Overvoltage/Undervoltage.						
Miscellaneous							
Transfer Time	0 msec						
Extended Battery Charging	Optional						
Caster wheels	Yes						
Environmental							
Operating Environment	0-50 ºC						
Operating Relative Humidity	5 - 95 % (Non-condensed)						
Storage Environment	0-75 ºC						
Storage Relative Humidity	0-95%						
Degree of Protection	IP 20						
Remote Monitoring	Ethernet (Optional)						
Dimension (LXWXH) Inch	38X26X35		33X34X43		49X34X69		

*Specification are subject to change without prior notice due to constant improvement in design & technology.

UTL SOLAR

rMPPT™ SOLAR CHARGE CONTROLLER

"Convert your Higher Rating Inverter into Solar Inverter"

Available in
12V/10A to 240V/60A

FEATURES

- ➡ Save Money with UTL rMPPT Technology.
- ➡ Protection from Battery Over Voltage and Current.
- ➡ Protection from load short circuit to keep your system safe in lower rating.
- ➡ Multiple charging stages to maintain battery gravity.
- ➡ Remove build-up sulphate to increase battery life.
- ➡ Run DC Load with UTL Solar Charge Controller in lower rating only.
- ➡ Protection from reverse flow of current from battery to panel.
- ➡ Lightening and surge protections.

UTL SOLAR

TECHNICAL SPECIFICATION

MPPT SOLAR CHARGE CONTROLLER

Electrical	Technology		MPPT/PWM		
	Precise Control		Micro Controller Based		
	Switching Device		MOSFET		
	Efficiency		93%		
	Features		Dusk to Dawn / Parallel Load		
	Model		**MSCC 1210**	**MSCC 1220**	**MSCC 2410**
	Solar (SPV)	Recommended Panel	36-Cells	36-Cell	36-Cell
		SPV (Pmax)	150W	250W	250W
		SPVmax (Voc)	22.5V	22.5V	45V
		Operating Range	18V-22V	18V-22V	36V-44V
		Low Cut	12V±1V	12V±1V	24V±1V
		Low Cut Recovery	17±1V	17±1V	34±1V
	Battery	Battery Nominal Voltage	12V	12V	24V
		Bulk/Boost Voltage	14.5V±0.2V	14.5V±0.2V	29V±0.2V
		Float/Trickel Voltage	13.5V±0.2V	13.5V±0.2V	27V±0.2V
		Equalize Voltage	15V±0.2V	15V±0.2V	30V±0.2V
		Equalize Period	28 Days	28 Days	28 Days
		Charging Current	10A	20A	10A
		Battery Low Alarm	<11.2V±0.2V	<11.2V±0.2V	<22.4V±0.2V
	Load	Max. Load Current	10A	10A	10A
		Battery Low Load Disconnect	10.8V±0.2V	10.8V±0.2V	21.6V±0.2V
		Battery Low Load Reconnect	12.6V±0.2V	12.6V±0.2V	25.2V±0.2V
		Battery High Load Disconnect	15.5V±0.2V	15.5V±0.2V	31V±0.2V
		Battery High Load Reconnect	14.5V±0.2V	14.5V±0.2V	29V±0.2V
	Dusk to Dawn (Optional)	DC Load ON	≤ 0.9V of SPV	≤ 0.9V of SPV	≤ 1.8V of SPV
		DC Load OFF	≥ 1.9V of SPV	≥ 1.9V of SPV	≥ 3.8V of SPV
Protections	Over Charging Current		Provided		
	Over Charging Voltage		Provided		
	SPV Reverse Polarity		Provided		
	Battery Reverse Polarity		Provided		
	Output Short Circuit		Provided		
	Overload		Provided		
	Reverse Current Flow at Night		Provided		
	Lightning/Surge Protection		Provided		
Indications & Alarms	LED Parameters	SPV ON	Green		
		Charge ON	Green		
		Battery Full	Green		
		Battery Medium	Yellow		
		Battery Low	Red		
		Over Load	Red		
	Buzzer/Alarm		Battery Low Load Disconnect		
			Overload		
Overload Conditions	Load %	100%	Continuous		
		101% - 120%	1min. OFF / 10min. ON		
		121% - 150%	1min. OFF / 30 Sec. ON		
		151% - 200%	1min. OFF / 2 Sec. ON		
		>200%	1min. OFF / 0.5 Sec. ON		
Physical	Cabinet Type		Metallic		
	Cabinet Dimension, L x W x H		135X130X75 (mm)		
	Weight		0.55Kg		
	Cabinet Color		Gray		
	Placement		Wall Mounted		
			Indoor		
Environmental	Operation Temperature		0°C to 50°C		
	Storage Temperature		-10°C to 70°C		
	Max. Relative Humidity (Non Conditioning)		5% to 95%		
	Ingress Protection		IP-20		

*Specification are subject to change without prior notice due to constant improvement in design & technology.

UTL SOLAR

TECHNICAL SPECIFICATION

MPPT SOLAR CHARGE CONTROLLER

Technology		MPPT/PWM									
Precise Control		Micro Controller Based									
Switching Device		Power MOSFET									
Electrical											
Model		**MSCC 1230**	**MSCC 1240**	**MSCC 2420**	**MSCC 2430**	**MSCC 2440**	**MSCC 3610**	**MSCC 3620**	**MSCC 3630**	**MSCC 4810**	**MSCC 4820**
Solar (SPV)	Recommenced Panel	36-Cells	36-Cells	36-Cells	36-Cells	36-Cells	36-Cells	36-Cells	36-Cells	36-Cells	36-Cells
	SPV (Pmax)	400W	500W	500W	750W	1KW	400W	750W	1.1KW	500W	1KW
	SPVmax (Voc)	22.5V	22.5V	45V	45V	45V	67.5V	67.5V	67.5V	90V	90V
	Operating Range	18V-22V	18V-22V	31V-44V	31V-44V	31V-44V	54V-66.5V	54V-66.5V	54V-66.5V	72V-89V	72V-89V
	Low Cut	12.3V±0.2V	12.3V±0.2V	22.5V±0.2V	22.5V±0.2V	22.5V±0.2V	36.9V±0.2V	36.9V±0.2V	36.9V±0.2V	49.2V±0.2V	49.2V±0.2V
	Low Cut Recovery	17V±0.2V	17V±0.2V	30V±0.2V	30V±0.2V	30V±0.2V	51V±0.2V	51V±0.2V	51V±0.2V	68V±0.2V	68V±0.2V
Battery	Nominal Voltage	12V	12V	24V	24V	24V	36V	36V	36V	48V	48V
	Bulk/Boost	14.5V±0.2V	14.5V±0.2V	29V±0.2V	29V±0.2V	29V±0.2V	43.5V±0.2V	43.5V±0.2V	43.5V±0.2V	58V±0.2V	58V±0.2V
	Float/Trickel	13.5V±0.2V	13.5V±0.2V	27V±0.2V	27V±0.2V	27V±0.2V	40.5V±0.2V	40.5V±0.2V	40.5V±0.2V	54V±0.2V	54V±0.2V
	Equalize Voltage	15V±0.2V	15V±0.2V	30V±0.2V	30V±0.2V	30V±0.2V	45V±0.2V	45V±0.2V	45V±0.2V	60V±0.2V	60V±0.2V
	Equalize Period	28Days	28Days	28Days	28Days	28Days	28Days	28Days	28Days	28Days	28Days
	Charging Current	30A	40A	20A	30A	40A	10A	20A	30A	10A	20A
Protections											
Over Charging Current		Provided									
Over Charging Voltage		Provided									
SPV Reverse Polarity		Provided									
Reverse Current Flow at Night		Provided									
Lightning/Surge Protection		Provided									
		Display & Indication									
LED Parameters	SPV ON	Green									
	Charger ON	Green									
	Battery Full	Green									
	Battery Low	RED									
LCD Parameters (*Optional*)		SPV Voltage									
		SPV Current									
		Battery Voltage									
		Battery Current									
		Physical									
LCD		N/A	16x1(Optional)	N/A	16x1(Optional)	16x1(Optional)	16x1(Optional)	16x1(Optional)	16x1(Optional)	16x1(Optional)	16x1(Optional)
Cabinet Type		Plastic	Metallic	Plastic	Metallic	Metallic	Metallic	Metallic	Metallic	Metallic	Metallic
Dimension (L x W x H) (mm)		180x220x85	220x240x150	180x220x85	220x240x150	220x240x150	220x240x150	220x240x150	220x240x150	220x240x150	220x240x150
Weight		2Kg	3.5Kg	2Kg	3.5Kg	3.5Kg	3.5Kg	3.5Kg	3.5Kg	3.5Kg	3.5Kg
Cabinet Color		N/A	Seimens Gray	N/A	Seimens Gray	Seimens Gray	Seimens Gray	Seimens Gray	Seimens Gray	Seimens Gray	Seimens Gray
Placement		Horizontal									
		Indoor									
		Environmental									
Operating Temperature		0°C to 50°C									
Storage Temperature		-10°C to 70°C									
Max. Relative Humidity (Non Cond.)		5% to 95%									
Ingress Protection		IP-20									

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UTL SOLAR

TECHNICAL SPECIFICATION

MPPT SOLAR CHARGE CONTROLLER

Technology		MPPT/PWM										
Precise Control		Micro Controller Based										
Switching Device		IGBT										
Efficiency		>95%										
Electrical												
Model		**MSCC 4830**	**MSCC 4840**	**MSCC 4850**	**MSCC 4860**	**MSCC 9630**	**MSCC 9640**	**MSCC 9650**	**MSCC 9660**	**MSCC 12030**	**MSCC 12040**	**MSCC 12050**	**MSCC 12060**
Solar (SPV)	Recommenced Panel	36-Cells, 60-Cells, 72-Cells											
	SPV (Pmax)	1.5KW	2KW	2.5KW	3KW	3KW	4KW	5KW	6KW	3.5KW	5KW	6KW	7.5KW
	SPVmax (Voc)	180V	180V	180V	180V	360V	360V	360V	360V	450V	450V	450V	450V
	Operating Range	68V-176V	68V-176V	68V-176V	68V-176V	136V-352V	136V-352V	136V-352V	136V-352V	170V-440V	170V-440V	170V-440V	170V-440V
	Low Cut	48V±1V	48V±1V	48V±1V	48V±1V	96V±1V	96V±1V	96V±1V	96V±1V	120V±1V	120V±1V	120V±1V	120V±1V
	Low Cut Recovery	68V±1V	68V±1V	68V±1V	68V±1V	136V±1V	136V±1V	136V±1V	136V±1V	170V±1V	170V±1V	170V±1V	170V±1V
	High Cut	180V±1V	180V±1V	180V±1V	180V±1V	360V±1V	360V±1V	360V±1V	360V±1V	450V±1V	450V±1V	450V±1V	450V±1V
	High Cut Recovery	176V±1V	176V±1V	176V±1V	176V±1V	352V±1V	352V±1V	352V±1V	352V±1V	440V±1V	440V±1V	440V±1V	440V±1V
Battery	Nominal Voltage	48V	48V	48V	48V	96V	96V	96V	96V	120V	120V	120V	120V
	Charging Current	30A	40A	50A	60A	30A	40A	50A	60A	30A	40A	50A	60A
	Bulk/Boost Voltage	58V±1V	58V±1V	58V±1V	58V±1V	116V±1V	116V±1V	116V±1V	116V±1V	145V±1V	145V±1V	145V±1V	145V±1V
	Absorption Voltage	57.6V±1V	57.6V±1V	57.6V±1V	57.6V±1V	115.2V±1V	115.2V±1V	115.2V±1V	115.2V±1V	144V±1V	144V±1V	144V±1V	144V±1V
	Float/Trickel	54V±1V	54V±1V	54V±1V	54V±1V	108V±1V	108V±1V	108V±1V	108V±1V	135V±1V	135V±1V	135V±1V	135V±1V
	Equalize Voltage	60V±1V	60V±1V	60V±1V	60V±1V	120V±1V	120V±1V	120V±1V	120V±1V	150V±1V	150V±1V	150V±1V	150V±1V
	Equalize Period	28Days	28Days	28Days	28Days	28Days	28Days	28Days	28Days	28Days	28Days	28Days	28Days
Protection													
Over Charging Current		Provided											
Over Charging Voltage		Provided											
SPV High Cut		Provided											
Reverse Current Flow at Night		Provided											
Lightning/Surge Protection		Provided											
Display & Indication													
LED Parameters	SPV ON	GREEN											
	Charger ON	GREEN											
	Battery Full	GREEN											
	Battery Low	RED											
	SPV(Low/High) Cut	RED											
LCD Parameters		SPV Voltage											
		SPV Current											
		Battery Voltage											
		Battery Current											
Physical													
LCD		16x1											
Cabinet Type		Metallic											
Dimension (L x W x H) (mm)		355 x 332 x 230											
Weight		8.7Kg											
Cabinet Color		Black											
Placement		Horizontal											
		Indoor											
Environmental													
Operating Temperature		0°C to 50°C											
Storage Temperature		-10°C to 70°C											
Max. Relative Humidity (Non Cond.)		5% to 95%											
Ingress Protection		IP-21											

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UTL SOLAR

TECHNICAL SPECIFICATION

MPPT SOLAR CHARGE CONTROLLER

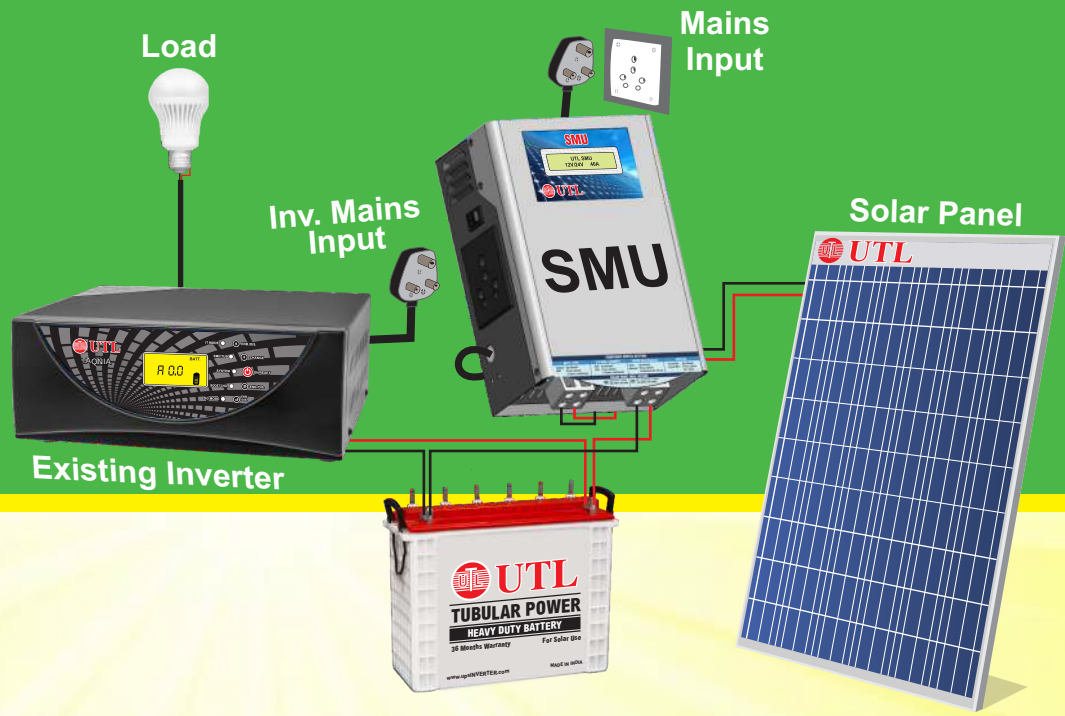
Technology		MPPT/PWM										
Precise Control		Micro Controller Based										
Switching Device		IGBT										
Efficiency		>95%										
Electrical												
Model		**MSCC 18030**	**MSCC 18040**	**MSCC 18050**	**MSCC 18060**	**MSCC 19230**	**MSCC 19240**	**MSCC 19250**	**MSCC 19260**	**MSCC 24030**	**MSCC 24040**	**MSCC 24050**	**MSCC 24060**
Solar (SPV)	Recommenced Panel	36-Cells, 60-Cells, 72-Cells											
	SPV (Pmax)	4.5KW	6KW	7.5KW	9KW	6KW	8KW	10KW	12KW	7.5KW	10KW	12KW	15KW
	SPVmax (Voc)	450V	450V	450V	450V	450V	450V	450V	450V	450V	450V	450V	450V
	Operating Range	255V-449V	255V-449V	255V-449V	255V-449V	272V-449V	272V-449V	272V-449V	272V-449V	340V-449V	340V-449V	340V-449V	340V-449V
	Low Cut	180V±1V	180V±1V	180V±1V	180V±1V	192V±1V	192V±1V	192V±1V	192V±1V	240V±1V	240V±1V	240V±1V	240V±1V
	Low Cut Recovery	255V±1V	255V±1V	255V±1V	255V±1V	272V±1V	272V±1V	272V±1V	272V±1V	340V±1V	340V±1V	340V±1V	340V±1V
	High Cut	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	High Cut Recovery	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Battery	Nominal Voltage	180V	180V	180V	180V	192V	192V	192V	192V	240V	240V	240V	240V
	Charging Current	30A	40A	50A	60A	30A	40A	50A	60A	30A	40A	50A	60A
	Bulk/Boost Voltage	217.5V±1V	217.5V±1V	217.5V±1V	217.5V±1V	232V±1V	232V±1V	232V±1V	232V±1V	290V±1V	290V±1V	290V±1V	290V±1V
	Absorption Voltage	216V±1V	216V±1V	216V±1V	216V±1V	230.4V±1V	230.4V±1V	230.4V±1V	230.4V±1V	288V±1V	288V±1V	288V±1V	288V±1V
	Float/Trickel	202.5V±1V	202.5V±1V	202.5V±1V	202.5V±1V	216V±1V	216V±1V	216V±1V	216V±1V	270V±1V	270V±1V	270V±1V	270V±1V
	Equalize Voltage	225V±1V	225V±1V	225V±1V	225V±1V	240V±1V	240V±1V	240V±1V	240V±1V	330V±1V	330V±1V	330V±1V	330V±1V
	Equalize Period	28 Days	28 Days	28 Days	28 Days	28 Days	28 Days	28 Days	28 Days	28 Days	28 Days	28 Days	28 Days
Protection													
Over Charging Current		Provided											
Over Charging Voltage		Provided											
SPV Reverse Polarity		Provided											
Reverse Current Flow at Night		Provided											
Lightning/Surge Protection		Provided											
Display & Indication													
LED Parameters	SPV ON	GREEN											
	Charger ON	GREEN											
	Battery Full	GREEN											
	Battery Low	RED											
	SPV(Low/High) Cut	RED											
LCD Parameters		SPV Voltage											
		SPV Current											
		Battery Voltage											
		Battery Current											
Physical													
LCD		16x1											
Cabinet Type		Metallic											
Dimension (L x W x H) (mm)		355 x 332 x 230											
Weight		8.7Kg										10Kg	
Cabinet Color		Black											
Placement		Horizontal											
		Indoor											
Environmental													
Operating Temperature		0°C to 50°C											
Storage Temperature		-10°C to 70°C											
Max. Relative Humidity (Non Cond.)		5% to 95%											
Ingress Protection		IP-21											

*Specification are subject to change without prior notice due to constant improvement in design & technology.

UTL SOLAR

SOLAR MANAGEMENT UNIT

"Convert your Home Inverter into Solar Inverter"



Available in 12V/24V/40A

FEATURES

- High speed and high performance micro-controller.
- High reliability with longer operational life.
- Inbuilt protection to avoid battery undercharge and over-charge.
- Inbuilt PWM Technology Charge Controller.
- Automatic voltage selection for 12V or 24V.
- Solar Prioritization.
- Compact design with wall mounting.
- Eco friendly.

UTL SOLAR

TECHNICAL SPECIFICATION

SOLAR MANAGEMENT UNIT

General	
Model	SMU122440
Operating temperature	0°C to 60°C
Storage temperature	-20°C to 60°C
Battery Type	Tubular/SMF, Battery 12V/24V
Battery (Ah)	100Ah - 180Ah
Battery charging regulation method	4 Stage PWM (Bulk/Absorption/Float/Equalize)
Solar Module size (Max)	12V, 20A : Upto 300 W
	24V, 20A : Upto 500 W
	12V, 40A : Upto 500 W
	24V, 40A : Upto 1000 W
Electrical	
Nominal system Voltage	12/24V DC
Charging current (Solar)	40A/20A
Charge controller efficiency	>95%
Idle consumption	<20mA
Operating Solar input Voltage(Voc)	22.5V/45V
Max. Solar input Voltage(Voc)+2V	25V/45V
Min. Solar input Voltage(Voc) @ start-up	15V/30V ± 2%
Solar panel recovery Voltage	17V/31V ± 2%
Max. Solar Current	40A By Default
Efficiency	> 95%
Battery set points @ 25°C	
Absorption voltage Tubular Battery	14.2V/28.4V ± 2%
Absorption voltage SMF Battery	13.7V/27.4V ± 2%
Absorption Duration	3hr
Float Voltage Tubular Battery	14V/28V ± 2%
Float Voltage SMF Battery	13.5V/27.0V ± 2%
Bulk Voltage Tubular Battery	14.6V/29.2V ± 2%
Equalize Voltage	14.9V/29.8V ± 2%
Equalize Duration	3hr
Equalize calendar	28 days
Mains reconnect when Solar not Present	At any Batt. Voltage
Mains reconnect when insufficient Solar Power	≤ 11.8V/23.6V ± 2%
Mains disconnect when sufficient Solar Power For Tubular	≥ 13.8V/27.6V ± 2%
Mains disconnect when sufficient Solar Power For SMF	13.7V/27.4V ± 2%
Display Parameters	**Protections**
1. Batt. Voltage, Batt. Current, Batt. Type	1. Battery Reverse Polarity
2. Solar Voltage, Solar Current	2. Batt. Reverse Current
3. Mode Selection	3. Over Current of SPV
4. Solar Status: High, Low, Overload, Overheat	4. Solar High Voltage
5. Saving- kWh	5. SPV Reverse Polarity
6. Mains Present, low, High, Absent	6. Load Short Circuit through AC Fuse
7. Max. PV Current	7. Solar Low Voltage
	8. Over Temperature
Physical	
Ingress Protection	IP-20
Fixing	Wall Mounted
Weight (Kg)	1.5
Dimension (LXWXH) Inch	9X6X3

*Specification are subject to change without prior notice due to constant improvement in design & technology.

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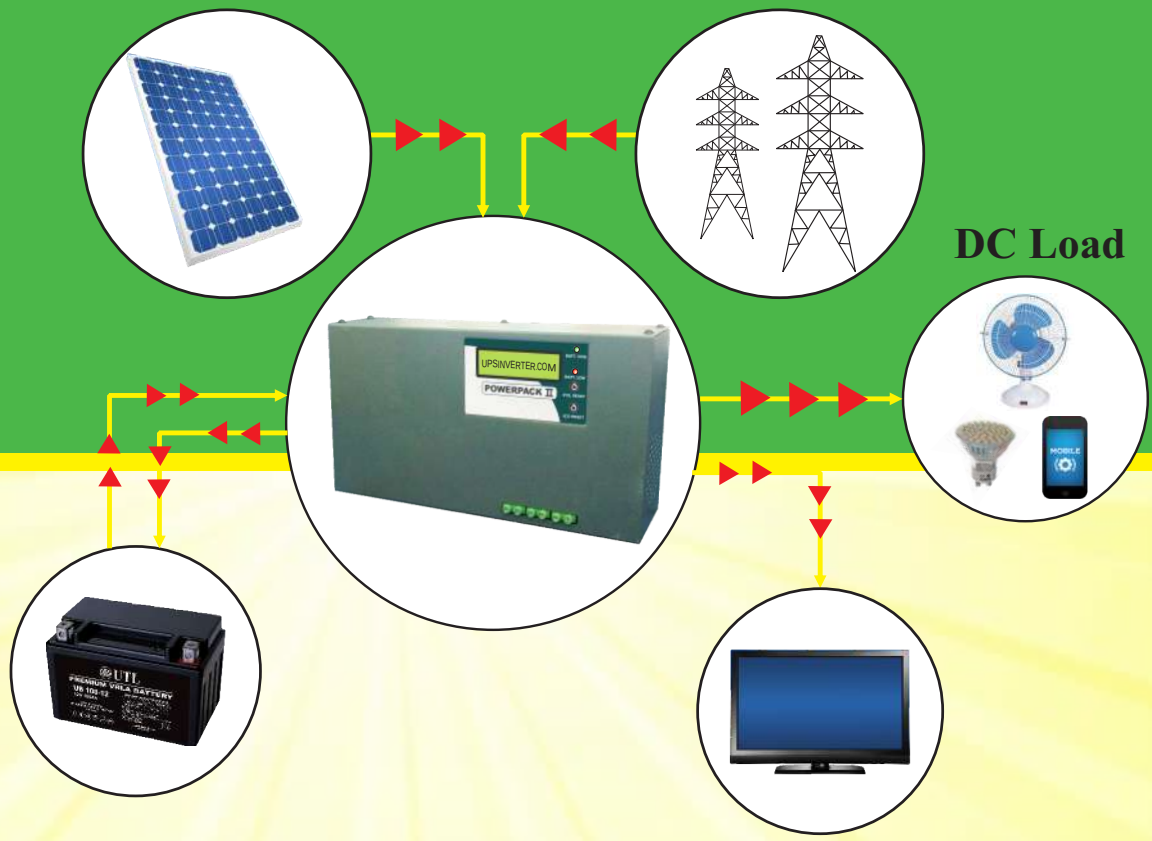
SOLAR POWERPACK-II

"DC Home lighting System"



FEATURES

- PV charging efficiency >90%.
- Self consumption of system <20mA.
- Temperature compensation for charging/discharging.
- Deep discharge protection.
- Solar priority over grid power.
- Sleep mode feature.
- Visual display metering.

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TECHNICAL SPECIFICATION

SOLAR POWERPACK-II

INPUT	Solar	Voc max	25V
		MPPT Volt., Vmp	16.4V
		Max. Panel Wattage	150W
	Mains	AC I/P Volt.	220V+/-10%
		Max. Power	150W
OUTPUT	Battery	Nominal Batt Volt.	12V
		Batt. Charging Current(Max)	10A
		Ripple Volt.	50mv
	Load	Load volt	12V
		Max. load current	3.8A
	Mobile charger	Voltage	5V
		Current	1A
Visual Display on LCD	Solar Voltage, Solar Current		
	Battery Voltage, Battery Percentage (%), Battery Current, Load Voltage, Load Current, Mains Status, Charging Stage with Solar, Load Status.		
Temperature Compensation	Battery Charging		Yes
Load Feature	LVD, LVR, HVD, HVR		Yes
Data Logging	By USB		USB Interface (Optional)
Protections	Battery Reverse		Yes
	Batt. high volt. and high current		Yes
	Solar high voltage		Yes
	Solar Reverse Polarity		Yes
	Deep discharge		Yes
	Protection against battery (night time leakage current from PV)		Yes
	Solar Charging Current limit		Yes
	Load short circuit and overload		Yes
LED status	LED1(Charging ON)	Glow Solid(GREEN)	
	LED2(Battery Low)	Glow Solid(RED)	
Transient and Surge protection			Yes
Withstand Volt.			1.5KV
Efficiency(at full Load)			>90%
Working Temperature			-10°C to 50°C
Control algorithm			MPPT

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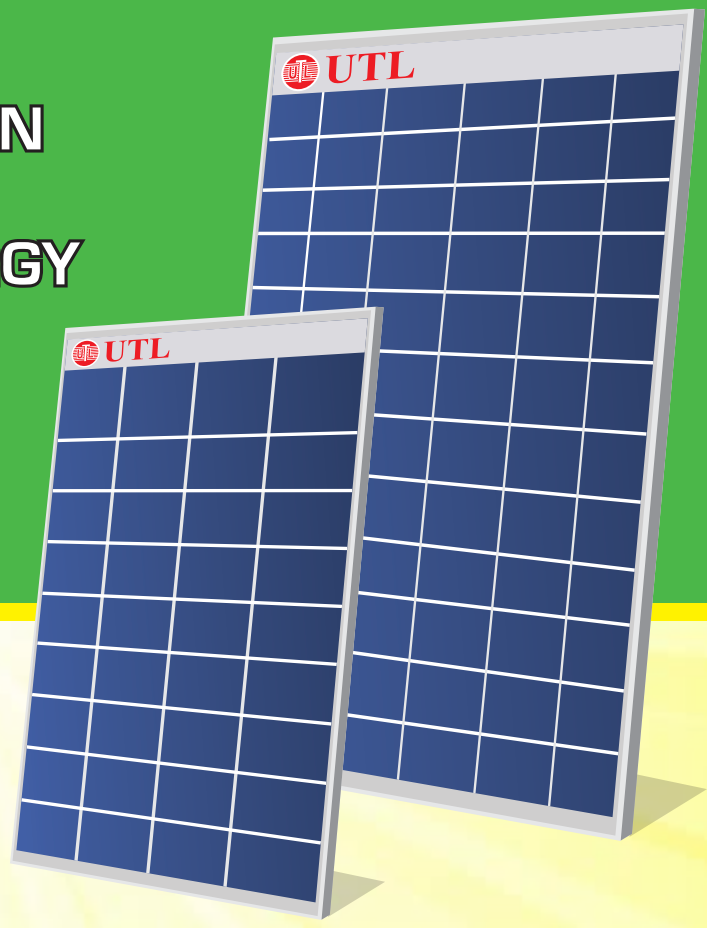
SOLAR PANEL

CLEAN, GREEN & INFINITE ENERGY



Available in
150W & 315W

- Designed for- Roof Top Application
- Reliable for all type of Environmental Conditions
- High Power Output using High Efficiency Cell
- 25 Durable for 25 Years

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Our Business Ethics helped us to achieve the huge list of fully satisfied clients spread all over the world.

and many more...

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- Solar
- Battery
- Charger

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