

Developing Solutions for a better future ...



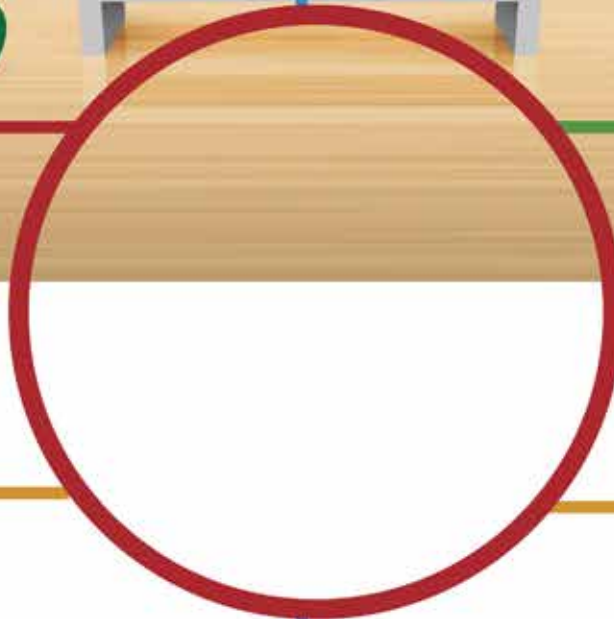


GROUP

Protonix Fortuner India Pvt. Ltd.
(Formerly Known as M/s Protonics Systems India Pvt. Ltd.)

FORTUNER

FORTUNER INTERNATIONAL

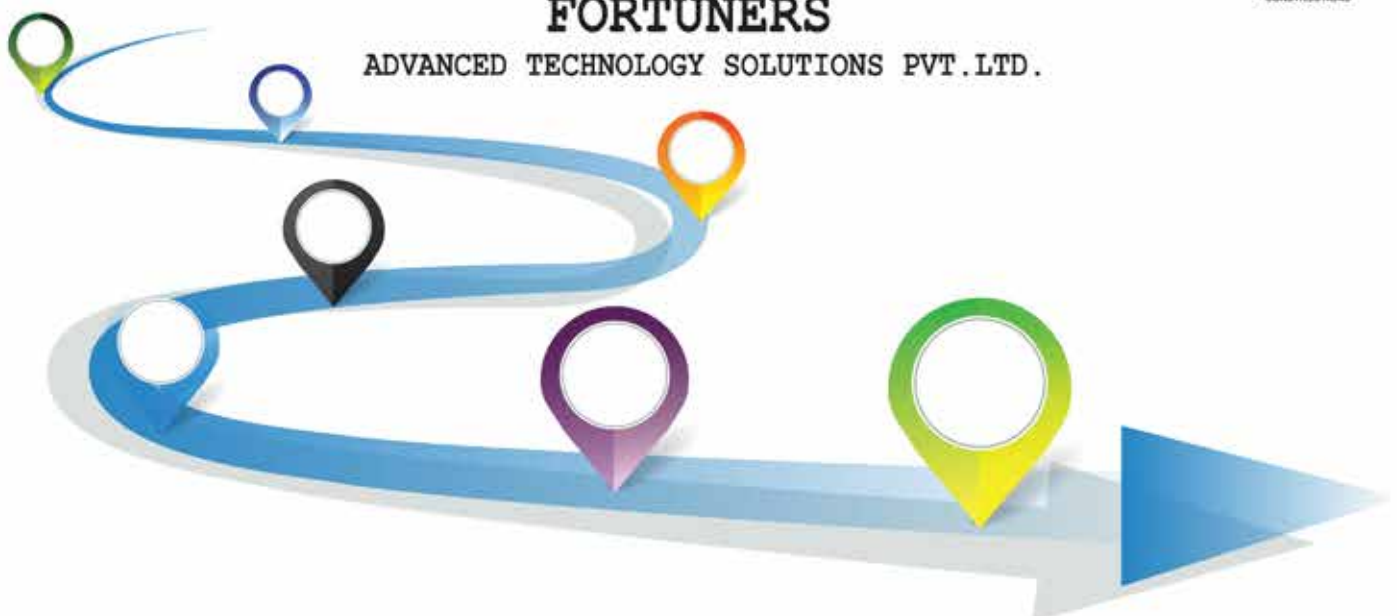


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NDR CONSTRUCTIONS PVT. LTD.
NDR
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FORTUNERS

ADVANCED TECHNOLOGY SOLUTIONS PVT. LTD.



PROTONIX





S. Ramakrishnan

S. Ramakrishnan is a 1972 Alumni of ACCET affiliated to the renowned Madras University. He graduated with a major in Electronics and Communication Engineering. He has over 47 years of experience in Production planning and management, Product development and Value Engineering spanning diverse fields such as Television, Computer peripherals, Entertainment Electronics and Power Electronics. He specialises in Setting up Manufacturing Plants and Operational Management. He leads a team of Electronics Engineers and System Specialists in running Plant operations in line with the latest international Practices. He is currently on the Board of Directors of Protonics Fortuner India Pvt Ltd and brings with him over 3decades of Entrepreneurial experience and wisdom.



Anil Bhusan

Anil Bhusan is B.Tech from Indian Institute of Science Bangalore in Electronics and communication Engineering. He has more than 44 years of professional experience in India and abroad as a techno commercial entrepreneur. He has more than 35 years experience in design and development of analog & video signal processor, system integration, power electronics and high frequency power supplies. His current interests are financial and marketing management and lighting technology.



Ashish Choudhary

Ashish Choudhary is Bachelor of Technology from MIET in Electronics & Communication Engineering with 15+ years of Techno Commercial experience in International Business. He is one of the recipient of Young Achiever's award 2019 in promotion of Green Technology. He is working on the fore front for promotion of Make In India initiative and competing with Global Giants in the field of Solar Power & Other sources of Renewable Energy, Secondary storage systems for electrical power. His contribution in indigenous manufacturing of LED Lightings, efficient utilization of electrical energy & high efficiency inverter systems is appreciated by the customers & business associates across the Globe.



Amit Saxena

Amit Saxena (Technical head), graduate with Electronics and Communication Engineering from Roorkee. He has over 22 years of experience in Research & development, Production planning and management, Design & development, Value Engineering in Power Electronics, product validation according to national and international standard.

PROFILE

PROTONIX



PROTONIX FORTUNER INDIA PRIVATE LIMITED is a leading manufacturing company managed by a group of young and dynamic team under guidance of senior professionals with more than four decades of manufacturing experience in LED Lighting, Computer peripherals, display devices, entertainment electronics & power electronics industries in India. We are a 4 decade old professionally managed OEM / ODM ISO 9001:2015 Certified Company in the field of Design, Development & Manufacturing of Power electronics, LED lighting, Power Backup, energy efficient Lighting and Renewable energy Solutions.

Today many of the leading Indian brands in LED lighting use our products carrying in their respective brand names.

We are equipped with state of the art automated precision manufacturing facility in the manufacturing hub of National Capital Region, New Delhi. Our Strong Techno Commercial team and business network is providing best in class, latest technology based products, with efficient services & reliable backup support.

Today Protonix Fortuner is known for its manufacturing quality, timely deliveries & product support after sales. We are a preferred source for Contract manufacturing, New Product Development and upgrades for many Indian & International leading brands in power electronics & lighting. Who desire well equipped, World-class, manufacturing setup with matching expertise & engineering skills offering flawless innovative products to compete globally meeting their specifications





Our Mission:

PROTONIX FORTUNER shall at all times strive to achieve 100% customer delight by Offering products and services with the use of latest technology, Zero defect manufacturing process with the latest manufacturing techniques, that provide protection, safety, comfort & peace of mind. Reliable performance, rugged construction, imaginative engineering & extensive pre-testing shall be the basic criteria for all products design & manufacturing. We shall constantly endeavor to upgrade technologies and quality systems to make our products user friendly with latest features and functions.

Our Vision:

Our vision is to have a Company offering zero defects, rugged and reliable products with strong service support that satisfies customer needs. We shall strive to upgrade our technology and, skill resources with training programs dedicated to meet quality commitment & Customer satisfaction.

Our Philosophy:

Changes in the energy industry are driven by the ever evolving business practices and norms of social responsibility. That is why our values and code of ethics follow a "Clean Energy coupled with Clean Business practices" approach. Our business practices and processes are designed to promote honesty, integrity, transparency and loyalty to our partners and society, in the utmost professional and efficient manner. The company also aims to be a socially and environmentally responsible organization, implementing green practices under our Corporate Social Responsibility (CSR) policy.



HONOURS & ACHIEVEMENTS

PROTONIX



NSIC
CERTIFIED CO.



CHANNEL PARTNER
JAS-ANZ



Clients / Partners

pharox
LED's save energy!



Indian Railways
Lifeline to the nation...



HALONIX



Radian
Inspiring Trust, since 1981



Overseas Trade Shows



Overseas Training Programs





SOLAR UPS/INVERTER HOME & INDUSTRIAL



Fortuner Solar Home UPS / INVERTER with inbuilt zero drop Solar charger is specially designed for solar applications.

These Single Phase and Three Phase Solar Home UPS / INVERTER are highly efficient and user friendly with selectable HYBRID / PCU function, to ensure maximum utilization of solar power according to user requirements.

Battery type selection (SMF / TUBULAR) feature make our inverters compatible with any type of Battery. This function enhances the battery life and power backup.

Fortuner Solar inverters can be used as an UPS for Computer application or Normal Inverter for home appliances. It can charge Batteries using the Grid Power also.



DSP based control guarantees high Reliability & Fast processing



User can set Solar Power Utilization (HYBRID / PCU mode) according to the requirement.



Extra Power & longer backup with the same Battery as compare to other low efficiency inverter.



LCD Display will display all Inverter parameters like: Battery, Mains Input and Output, Charging Current & Load Power parameters, which makes our inverters very user friendly.



Durable Design to sustain all type of Power fluctuations and fully protect the connected equipments.



TUBULAR / SMF, to Enhance the battery Life & Backup.



Intelligent Power full Grid Charging for speedy Charging of Batteries.



Unique onsite parameter setting features provide the flexibility to change the UPS / INVERTER operating Parameter as per site conditions.



Sine wave Inverters gives the same current which you get from power grid, in comparison to square wave inverters Pure Sine Wave protects and gives longer life to all Home appliances and sensitive Electronic devices.



No Need to use additional UPS for Computer, User can select UPS or INVERTER mode operation as per requirement.

Technical Specifications

Model	FR100, FR200, FR400, FR650, FR850, FR1000	FR1500, FR2000, FR2500-24, FR3000-24	FR2500, FR3000, FR3500, FR5000	FR5000, FR7500	FR10K, FR12K, FR15K	FR3P10K, FR3P12K, FR3P15K, FR3P20K, FR3P25K, FR3P30K
Battery Voltage	12V	24V	48V	96V, 120V	120V,180V, 240V	Customized*
Technology	DSP Based Full Bridge Topology					
Input/Output Phase	Single Phase					Three Phase
Output Voltage on Inverter Mode	220 ± 2%					220 ± 2% Per Phase
Output Frequency on Inverter Mode	50Hz ± 0.1Hz					
Changeover Time UPS Mode	<10 ms				NA	
Changeover Time Mains Mode	<30 ms				<40 ms	
Changeover Mains to UPS and UPS to Mains	Automatic					
Output Waveform on Backup Mode	Pure Sine Wave					
THD	<3% (On Resistive/Linear Load)					
Efficiency*	>80%			>85%		
Charger	CCCV Charger					
Charging Current	Up to 15Amp*			Up to 20Amp*		
Surge Load Capacity	300%					
Input Voltage (UPS)	170-260+/-10V			NA		
Input Voltage (INV)	100-290+/-10V			160-260+/-10V		
Output Voltage on Mains Mode	Same as Input					
Output Frequency on Mains Mode	Same as Input					
SOLAR CHARGER*						
System Battery Voltage	12V	24V	48V	96V	180V/240V	As Per System Requirement
Maximum Connected Panel Array VOC	30V	50V	90V	180V	300/400V	
Maximum Panel Current	40Amps.	40Amps.	40Amps.	40Amps.	40Amps.	
Suggested Solar Panel Watt Power*	600	1200	2400	4800	As Per Battery Voltage & System Requirement	
DISPLAY, PROTECTIONS AND INDICATIONS						
Display	16x2 Alpha Numeric LCD Display with LED Indications					
Display Parameters	Output Power (Watt), Mains AC Voltage, Output AC Voltage, Temperature (Deg C), Battery Voltage, Charging (Amp)					
Protections with Buzzer Indications	Low Battery, Overload, Short Circuit, Over Temperature					
Auto Reset Features	Yes					

APPLICATIONS

Telecom



UPS



Emergency lighting



Security



Utility



Railways



Photovoltaic



Universal





MPPT SOLAR UPS / INVERTER

Dual LCD Display

MPPT



Fortuner Solar UPS / INVERTER with inbuilt MPPT Solar charger is specially designed for maximum utilization of Solar Power. High efficiency MPPT charger design ensure 20 -30 % more solar energy harvest by using this Inverter as compared to other topology Inverters with the same capacity panel array. Wide Solar input voltage range makes our inverters compatible without Vmp limitation of solar panels.

Fortuner MPPT inverter have dual LCD display which shows inverter and solar charger parameters separately. Real time solar parameters can monitor in a single view. We are providing flexible parameters setting features with our inverters; User can set all parameters according to their requirements. All Single Phase and Three Phase Solar MPPT UPS have selectable HYBRID / PCU function, which ensure maximum utilization of solar power according to user requirements.

Battery type selection (SMF / TUBULAR) feature make our inverter compatible with any Battery. This function enhances the battery life and backup.



DSP based control guarantees high Reliability & Fast processing



User can set Solar Power Utilization (HYBRID / PCU mode) according to the requirement



Extra Power & longer backup with the same Battery as compare to other low efficiency inverter.



LCD Display will display all Inverter parameters like: Battery, Mains Input and Output, Charging Current & Load Power parameters, which makes our inverters very user friendly.



Durable Design to sustain all type of Power fluctuations and fully protect the connected equipments



TUBULAR / SMF, to Enhance the battery Life & Backup



Intelligent Power full Grid Charging for speedy Charging of Batteries.



Unique onsite parameter setting features provide the flexibility to change the UPS operating Parameter as per site conditions.



Sine wave Inverters gives the same current which you get from power grid, in comparison to square wave inverters Pure Sine Wave protects and gives longer life to all Home appliances and sensitive Electronic devices.



No Need to use additional UPS for Computer, User can select UPS or INVERTER mode operation as per requirement.

Technical Specifications

Model	MPPT 650	MPPT 850	MPPT 1000	MPPT 1500	MPPT 2000	MPPT 2500/3000/ 5000-48	MPPT 5000-96	MPPT 7500	MPPT 10000	MPPT 15000
Series	Fusion MPPT					Platinum MPPT			EF MPPT	
Battery Voltage	12V			24V		48V	96V	96V	120/180V	240V
Technology	DSP Based Full Bridge with MPPT Technology									
Input/Output Phase	Single Phase									
Power Device	MOSFET								IGBT	
	INVERTER / UPS									
Output Voltage on Inverter Mode	220 ± 5%									
Output Frequency on Inverter Mode	50Hz ± 0.5Hz									
Changeover Time on Ups Mode	< 10ms									
Change over Time on Normal Mode	< 30ms									
Change over Mains to UPS and UPS to Mains	Automatic									
Output Waveform on Backup Mode	Pure Sine Wave									
THD	< 3%									
Charger	Solar + Grid with Solar Priority*									
Inverter Overload	> 100%									
Surge Load Capacity	300%									
Input Voltage (UPS)	180-260V									
Input Voltage (INV)	100-290V									
Output Voltage on Mains Mode	Same as Input									
Output Frequency on Mains Mode	Same as Input									
	SOLAR CHARGER									
Topology	MPPT									
Maximum Connected Panel Array Power (W)	300			600		2500	5000	5000	10000	10000
Maximum Connected Panel Array Voc (V)	35			50		120	200	200	450	450
Recommended Panel Array Vmp (V)	18-30			30-36		62-108	120-144	120-144	270-360	270-400
	PROTECTIONS AND INDICATIONS									
At Respective Status/Fault Conditions	Alpha Numeric Dual LCD and LED Indications					Alpha Numeric LCD Display				
Parameters LCD Inverter UPS	Output Power (Watt), Mains Input Voltage, Output Voltage, Temperature (Deg C), Battery Voltage, Charging Current, Charging mode									
Parameters LCD MPPT	Solar Panel Input Voltage (VP), Solar Panel Input Current (IP), Battery Voltage (VB), Battery Current (IB)					Solar Panel Input Voltage (VP), Solar Panel Input Current (IP), Battery Voltage (VB), Battery Current (IB), Panel VA, KWH, Total KWH				
Protections and Buzzer Indications	Low Battery, Overload, Short Circuit, Over Temperature, Solar Panel Reverse									

APPLICATIONS

Telecom



UPS



Emergency lighting



Security



Utility



Railways



Photovoltaic



Universal





SOLAR CHARGE CONTROLLER



- 12V / 24V Auto Battery Selection
- Intelligent Maximum Power Tracking
- LCD Display
- High Efficiency
- Wide PV input range
- Overload, Short Circuit Protection
- Solar - Battery, Voltage & Current Parameter Display
- Cost Effective Solution
- Battery Reverse-Discharge Protection
- Battery Low Voltage Disconnection (LVD)
- Battery Reverse Connection Protection
- PV Reverse Connection Protection
- With DC Load Option (Optional)

MPPT - SERIES (10Amps.-80 Amps.)



- Wide Voltage Battery Range (12V - 96V)
- 10 Amps. to 40 Amps.
- LED / LCD Display
- High Efficiency Zero Drop / MPPT Solar Charger
- Compatible with any brand Inverter
- Cost Effective Solution
- Battery Reverse-Discharge Protection
- Battery Reverse Connection Protection
- PV Reverse Connection Protection
- Specially Designed to convert any existing Inverter to Solar inverter and reduce Utility / Electricity bill by using the maximum power utilization of Solar Power.

SOLAR MANAGEMENT UNIT (SMU) (10-40 Amps)



- 12 / 24 V Auto, 48V Battery Selection
 - LCD Display
 - Settable Operating mode of Load
 - Solar & Load Current Parameter Display
 - Automatic Identification System Voltage level
 - Intelligent PWM Charge Mode
 - Automatic Temperature Compensation
 - Adjustable Charge-Discharge Control Parameters
 - Accumulated Function of Charge And Discharge Ampere hour
 - USB Charging (Optional)
- Protections :
- Overload, Short Circuit
 - Battery Reverse-Discharge
 - Battery Low Voltage Disconnection (LVD)
 - Battery Reverse Connection

D SERIES & Z SERIES (10-50 Amps.)



- Wide Voltage Range (12V - 240V)
- LED / LCD Display
- 10 Amps. to 60 Amps.
- High Efficiency Zero Drop Solar Charger
- Cost Effective Solution
- Battery Reverse-Discharge Protection
- Battery Low Voltage Disconnection (LVD)
- Battery Reverse Connection Protection
- PV Reverse Connection Protection
- With DC Load Option (Optional)

SOLAR MAX & SOLAR HI MAX - SERIES (10-60 Amps.)



PROTONIX



Technical Specifications

Series	D Series		Z Series	MPPT Series
Rated Current	10A / 20A / 30A		30A	25A / 50A
System Voltage	12V / 24V Auto			
Solar Panel	< 50V			
Float Voltage	13.8V / 27.6V		13.8V / 27.6V Settable	13.8V / 27.6V
LVD	10.7V / 21.4V		10.7V / 21.4V Settable	N/A
LVR	12.6V/ 25.2V		12.6V / 25.2V Settable	N/A
Boost Voltage	b01 Sealed 14.4V /28.8V	Duration 2 Hours	14.4V /28.8V Settable	14.4V /28.8V
	b02 GEL 14.2V /28.4V			
	b03 Flooded 14.6V /29.2V			
USB Output Max (Optional)	1A/ 5V			N/A
Display Parameters & Indications	Battery Voltage, Floating Charge Voltage, Recovery Voltage after Low Battery, Under Voltage Protection, Load Mode, Battery Types, Solar OK, Battery Charging / Charged, Load ON, Load Timer		Battery Voltage, Battery Temp., Solar Panel Charging Current, Load Discharging Current, Accumulated Charging Power, Accumulated Discharging Power, Hight Cut Charge Voltage, Recovery Voltage after Low Battery, Under Voltage Protection, Load Mode, Battery Types, Solar OK, Battery Charging / Charged, Load ON, Load Timer	PV Input Voltage (VP) PV Input Current (IP), Battery Voltage (VB), Battery Current (IB)
Temperature Compensation	NA		-4mv / Cell / Deg C	N/A
Charge / Discharge Voltage Drop	< 0.3V / <0.2V			
Self-Consumption	≤ 20mA			≤ 30mA
Installation Cable Area	≤ 7# AWG (≤ 16mm²)			
Working Temperature	45° C			
Storage Temperature	-30° C - 70° C			
Humidity	10% - 90%, Non Condensing			



PWM



Protections



LCD Display



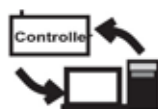
12/24V Auto



Timer



User Settable



Remote Monitoring
and control



Temperature
Compensation



Working Mode
of Load



Parameters
Adjustable



Accumulated
ampere Hours



Battery Type
Selection



DEEP CYCLE SOLAR BATTERY (VRLA & OPZV)



Our Deep Cycle Solar Batteries are best solution for your renewable energy storage system that ensures reliability and longevity. Unlike some manufacturers who simply repackage existing battery products into a new array and call it a solar battery, we understand market needs and developed an innovative Deep cycle solar storage battery that provides the best available power storage solution for contemporary Solar and Wind power systems. We have a very wide capacity range of Deep cycle Solar batteries.

Our batteries are heavy weight and that's important! "Heavy" means energy dense plates that use more active lead material. Heavier plates that use more lead material are directly related to stronger battery performance and longevity. So even if the batteries look similar, batteries with more active lead material will last longer!



10 Hr Capacity which gives extra power



High Efficiency of Recovery



Low Self Discharge which increase the Battery Life.



High Efficient Deep Discharge



Maintenance Free



No Electrolytic Stratification



Triplex Sealed Construction



Heavier plates which gives more Power & Longer Backup

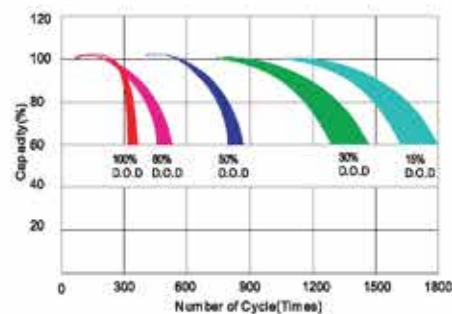
Technical Specifications

- Low self-discharge rate : $\leq 3\%$ month
- High sealed reaction efficiency : $\geq 99\%$
- Structure : Compact design, shorter internal connectors between cells
- Terminal Two or more types terminals are convenient for selection
- Terminal Sealing : Double sealing technique (mechanical + epoxy glue)
- Separator : Using improved AGM separator, makes lower resistance higher assembling pressure to increase deep cycle life
- Good high rate discharge performance
- Wide operation temperature range : -20°C to 60°C
- Plate : Pasted flat type, with advance deep cycle formula of AM
- Vent system : Gases can be vented through flame arrester/filter
- Battery case : Made of high strength ABS(UL94-HB) & (UL94-V0) is optional

VRLA (AGM & GEL) BATTERIES

6V & 12V-2.3Ah to 260Ah

Model	Voltage	Capacity AH	HR Rating	Weight (In kg)	Dimension (In mm)		
					Length	Width	Height
FR 645	6	4.5	20 HR	0.75	70	47	101
FR 1207	12	7		2.1	151	65	93.5
FR 1212	12	12		3.6	151	98	95
FR 1218	12	18		5.0	181	77	167
FR 1226	12	26		8.1	166	175	125
FR 1240	12	40	10 HR	13.0	198	166	171
FR 1255	12	55		18.0	229	138	210
FR 1270	12	70		23.0	260	169	210
FR 12100	12	100		31.0	328	172	222
FR 12150	12	150		45.0	483	170	24
FR 12200	12	200		61.0	522	240	219



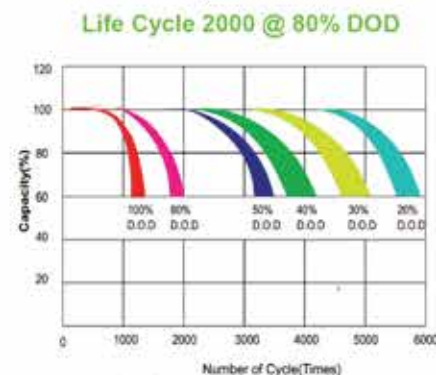
Life characteristics of cyclic use

OPZV (GEL-TUBULAR) BATTERIES

2V & 12V-100Ah to 10,000Ah

OPzV Valve Regulated Lead Acid Battery that adopts immobilized GEL and Tubular Plate technology to offer high reliability and performance. The Battery is designed and manufactured according to DIN standards and with die casting positive grid and advance formula of active material. OPzV series exceeds DIN standard values with more than 20 Years floating design life at 25 Deg C and is even more suitable for cyclic use under extreme operating conditions.

Model	Voltage	Capacity AH	HR Rating	Weight (In kg)	Dimension (In mm)		
					Length	Width	Height
FROPzV 2-200	2	200	10 HR	16.8	103	206	355
FROPzV 2-600	2	600		46.5	145	206	506
FROPzV 2-1000	2	1000		77	233	210	648
FROPzV 2-1500	2	1500		110	275	210	831
FROPzV 2-2000	2	2000		150	399	214	807
FROPzV 2-2500	2	2500		190	487	212	807
FROPzV 2-3000	2	3000		225	576	212	802
FROPzV 12-100	12	100		36	407	177	225
FROPzV 12-160	12	160		57	530	209	219
FROPzV 12-200	12	200		73	520	268	225



Life characteristics of cyclic use

APPLICATIONS

Telecom



UPS



Emergency lighting



Security



Utility



Railways



Photovoltaic



Universal





Fortuner

TUBULAR BATTERY (150-220 AH)



- » Higher Charge Efficiency
- » Low Self Discharge
- » Ultra low maintenance & Higher cycle life
- » Suitable for frequent power cut areas
- » Recommended for tropical climates
- » Level indicator for easy maintenance
- » Reliable & steady performance, even on heavy load
- » Eco-friendly aqua trap vent plugs ensuring no acidic fumes.

- » Batteries are designed to withstand frequent & long power cuts with Quick recharge adaptability. Long Life cycles
- » Low Antimony alloy of the Spines Ensure a very low self discharge.
- » Extra thick Tubular Plates with superfine Grain Structure, Minimise Grid Corrosion of High Temperature.
- » Eco Friendly Microporus Ceramic Vent cum float indicator to reduce topping up frequency & to ensure No Acidic Fumes.
- » PE Daramic Envelope Separator Ensures Longer life.
- » Design as bigger electrolyt reserve volume ensures less topping up required during service life once in a year

SR. No	MODEL	AH CAPACITY	TYPE	DIMENSIONS (MM)
1	FRTT22012	220AH	TALL TUBULAR	IT500-545X235X475
2	FRTT20012	200AH	TALL TUBULAR	IT500-545X235X475
4	FRTT18012	180AH	TALL TUBULAR	IT500-545X235X475
3	FRTT16512	165AH	TALL TUBULAR	IT500-545X235X475
4	FRTT15012	150AH	TALL TUBULAR	IT500-545X235X475

SOLAR WATER PUMP CONTROLLER

PROTONIX

1 HP TO 30 HP

- Built-in MPPT tracking algorithm, to get maximum power output from the Solar Array.
 - Built-in VFD & Torque Control function, for proper water harvest even in low light condition.
 - Low Voltage Panel operation for Human Safety and Low Leakage.
 - Pure Sine wave output for longer Pump Life and maximum Power Efficiency.
 - Battery Less operation.
 - Compatible with any existing three phase water pump.
 - Remote monitoring and Control (Optional)
 - Auto run on Utility power during Night time (Optional)
- Protections :
- Sensor less Dry Run
 - Reverse Polarity
 - Lightning
 - High Temperature
 - Over voltage
 - Under voltage
 - Over Load
 - Short Circuit

TURBO SERIES (1 HP - 5 HP)

Parameter	1HP	2HP	3HP	4HP	5HP
Control Device	32 Bit DSP				
Topology	3Phase Full Bridge				
Output	Pure Sine Wave				
Torque Control	Built In				
MPPT	Auto Tracking				
VFD	Active				
Isolation	Galvanic				
Short Circuit	Protected				
Dry Run	Protected				
Lightning	Protected				
Panel Voltage	150V (Max)				
Panel Vmp	110V to 120V				
Panel Wattage	1200W	2400W	3400W	4500W	5600W
Dynamic Lift Head	100ft	160ft	240ft	320ft	400ft

BOOSTER SERIES (3 HP - 30 HP)

Power Rating	3HP, 5 HP, 6HP, 7.5HP, 10HP, 12.5HP	15HP, 20HP, 25HP, 30HP
Control Device	Digital Signal Processing	
Controller Topology	Maximum Powerpoint Tracking (MPPT)	
Switching Element	IGBT	
Input Voltage (Vmp)	400-700 VDC	500-700 VDC
Working Current	1-20A	10-40A
Output	Pulse Width Modulate; Sine Wave	
Output Voltage	250-440 VAC 3/Phase- (Factory Settable for Pumps with Different Output Voltage)	
Frequency	0-60 Hz	
Protections	Dry Run ; Surge, Reverse Polarity, Short Circuit	
MPPT Efficiency	>99%	
Overall Efficiency	>96%	
Operating Temperature	-10°C to 60°C	
Topology	Transformerless	
Head Range	Up to 1000 Feet (Vertical) and up to 30,000 Feet (Horizontal)	
Cooling Method	Natural Convection through Heat Sink	
Pump	Any 3-Phase Pump	

DSP Pure Sine
Wave with Inbuilt
MPPT & VFD Drive

Battery less
operation.





Fortuner

SOLAR PHOTOVOLTAIC MODULE



Unique frame design with high Mechanical strength



Excellent performance under low light conditions



Advanced module processing technology



High conversion efficiency & Higher output



Easy installation & Low breakage rate



POLY CRYSTALLINE

MONO CRYSTALLINE

Electrical Parameters								
Model	FRS 50W	FRS 80W	FRS 100W	FRS 165W	FRS 235W	FRS 220W	FR275W	FRS 325W
Maximum Power (Pmx) Wp	50	80	100	165	235	220	250	325
Maximum Power (Vmp)	17.50	18.00	18.00	18.55	31.00	26.75	31.00	37.00
Maximum Voltage (Imp)	2.80	4.70	5.60	8.70	7.60	8.25	8.90	8.80
Open Circuit Voltage (Voc)	21.50	22.00	22.00	22.00	37.50	33.20	37.40	44.50
Short Circuit Current (Iso)	3.15	4.45	6.10	9.20	8.10	8.70	9.42	9.35
Junction Box	IP 65 rated Water Proof Nylon 6							
Cable	On Request				Double Insulated Solar Cable with MC4 Connector			
Front Glass	Low Iron Content, toughened & tempered High transmittance with Glass							
Solar Cells	36 Cells				60 Cells	54 Cells	60 Cells	72 Cells
Cell Encapsulation	EVA (Ethylene Vinyl Acetate)							
Back Sheet	TPT / EVA White Color							
Frame	Anodized Aluminum Frame							
Temperature Coefficients		Operating Conditions						
		Temperature Range		(-40°C to +85°C)				
Coefficients of Current α	0.05%/°C	Maximum System Voltage		1000V				
Coefficients of Voltage β	0.34%/°C	Maximum Surface Load Capacity		Tested up to 2400Pa according to IEC 61215				
Coefficients of Power γ	0.45%/°C	Warranty		10 Years Product Workmanship, 25 Years Linear Power Warranty				

All Electrical Parameter Specified at STC : 25°C, Cell Temperature : 1000W/m, Irradiance : AM 1.5

MPPT SOLAR ONLINE UPS (SINGLE & THREE PHASE)

PROTONIX



1 KVA - 50 KVA

- DSP base true online MPPT Solar UPS with Zero changeover time.
- IGBT Based robust and powerful desing.
- With Inbuilt MPPT Solar technology which ensure best and optimized use of solar power.
- Real time power sharing with Mains power with technology revolution.
- Power priority sequence: Solar - Grid Battery.
- Best Solar solution for ATM, Banks, Servers, Hospitals and process industry.
- Remote Monitoring SNMP/GSM(optional).
- User settable parameter configuration setting.

- Online double conversion.
- Full DSP Control.
- High output power factor.
- Wide input adaptability.
- Optimized battery management.
- N+X Parallel redundancy.
- Strong overload capability.
- Power walk in.
- Generator mode.
- LBS synchronization.
- Multi-protection.
- EPO function.
- User-friendly network management.
- Remote Monitoring SNMP/GSM(optional).

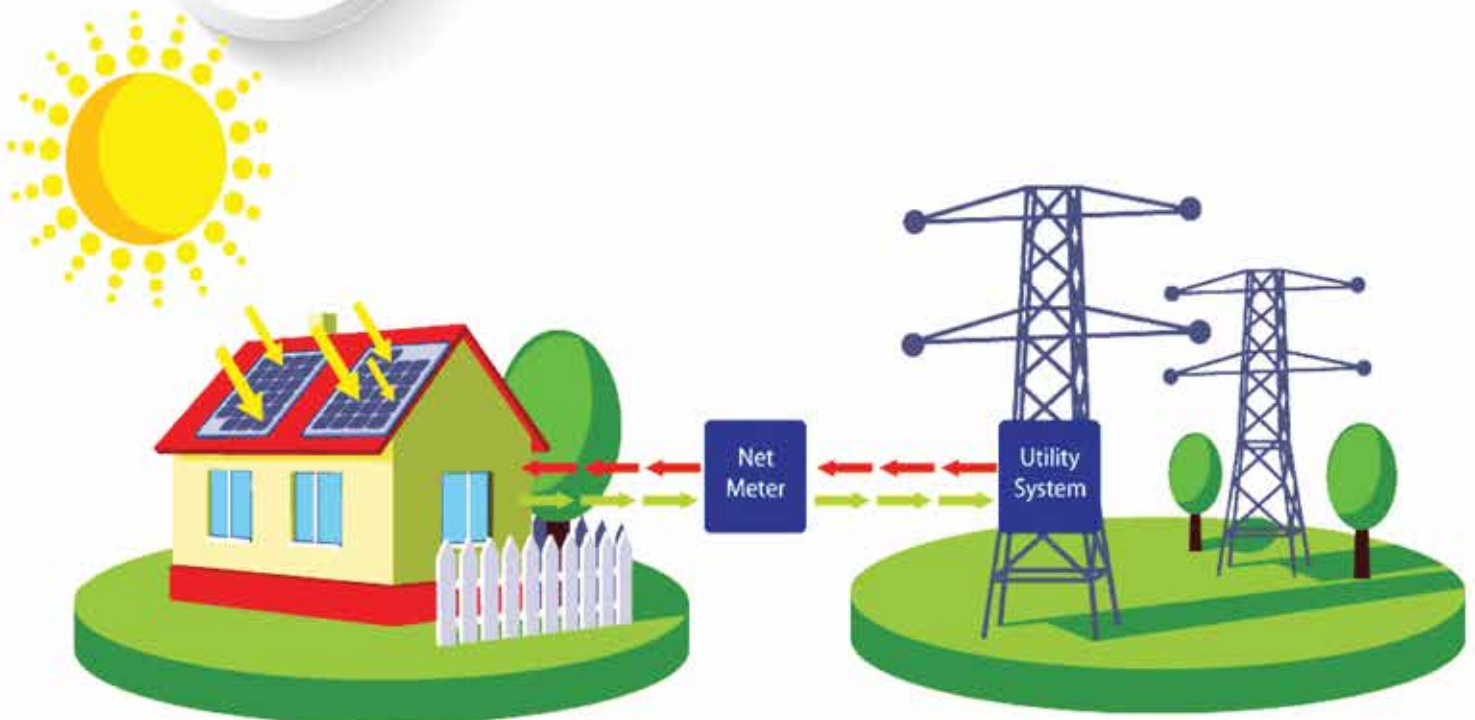
**ISOLATION
TRANSFORMER**
advantage of
NOISE REJECTION



ONLINE UPS (1 KVA - 500 KVA)



GRID TIE SOLAR INVERTER



Features:

- High efficiency: max 98.2% Euro 97.8%
- Max I/P Voltage 1000V
- Wide MPPT working range: 250V-800V
- IP65 protection grade for indoor & outdoor use
- MPPT with unbalance I/P power management
- Dual MPPT with Independent tracking
- State Of The Art Technology

Touch Screen Display

- Incredibly responsive touch screen display
- Accessible even after sunset
- Inbuilt data Logger
- Graphic Icons for clear readability
- Multi-inverter readings on one display
- Real time monitoring Instant data Log transfer feature through USB pen drive



FORTUNER Grid Tie Solar Inverter is designed to convert Solar Power into utility-grade electricity Power that can be utilized by the home or sold to the local power authority. Grid tie Inverters use high efficiency MPPT technology to ensure maximum power harvesting from PV array and conversion to AC and delivered to the Utility Grid. Grid Tie Inverters are configured to feed into the LT(Low Voltage) utility network with the all safety measures. Anti islanding feature ensures that the inverters switch off when grid power is absent.

In order to operate, the Solar Grid Tie Inverter must have grid power available and connected.

Wide input voltage range of PV array Voltage gives adequate flexibility to the user to size the PV array as per Module availability.

INTEGRATED SOLAR POWER BACKUP SOLUTIONS

PROTONIX



Our Energy Storage Systems is a visually stunning addition of Power Electronics to your Home/Office. A powerful Solar Hybrid Inverter with a compact system of built-in batteries to provide you the peace of mind you deserve.

Advantages :-

- Runs your AC for 3 hours
- Elegant looks for a drawing room solution
- Compact: takes very little footprint
- 9.6KWH SMF Batteries
- 3KVA Hybrid Inverter

Applications :-

Energy storage systems are used wherever there is a requirement for power backup. This product is especially useful for applications such as: residences, small offices, shops, Bank ATMs, clinics, gyms etc. for example 3kVA inverter is sufficient to meet the load of a small office.

ENERGY STORAGE SYSTEMS

STRING COMBINER BOXES

We offer a wide range of Array Junction Boxes, String Monitoring Boxes, and DC Fuse Boxes suitable for combining PV panel strings at various levels. These combiner boxes can easily handle high voltage PV strings and give on-line current data of each string used to reliably detect reduced generation or failure of any string. The product is 100% customizable and is suitable for harsh weather conditions.

Features:

- Monitoring of up to 24 strings in a single box
- 100% customisable as per requirement
- Can be manufactured under other brand names
- Approved for all safety and performance standards
- Supplied to over 1000 MW capacity plants in India
- Now 1500VDC version also available

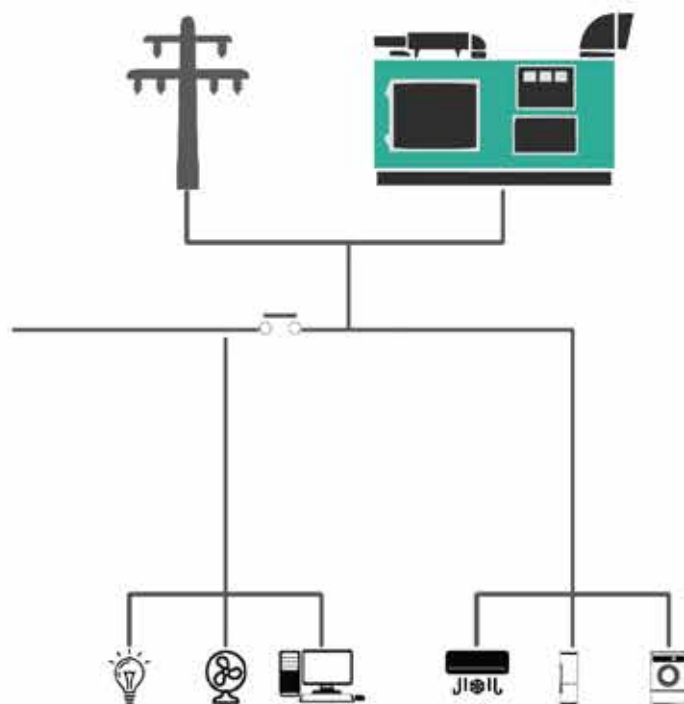


String Combiner Boxes



Fortuner

INTELLIGENT SOLAR HYBRID SYSTEM



Grid Synchronized with Battery based storage

Export to Grid During Lean Load

Customizable Scheduling Features



Industrial Solution: Best Solar Solutions for Industrial and Commercial Complex.



Active Front End Technology: Low distortion O/P at unity power factor Increased battery life by avoiding PSOC condition Export excess PV power to grid through grid synchronisation



BESS Solution: Peak load shaving/ load levelling Voltage/ Frequency regulation Time shifting applications



Scheduling Features: Controlled scheduling via keypad or PLC Battery charging according to TOD Programmable night saving mode



Flexible Compatibility: Can be AC coupled with String inverters Compatible with wind, hydro and other sources as well Seamless synchronisation with DG Sets.

Fortuner Intelligent range of Solar Hybrid Inverters is the Trusted Hybrid solar technology in the Indian market. Active front end technology enables it to store the renewable solar energy in the battery as well as export any excess solar power generated, to the grid through net meter, resulting in improved savings at consumer end. High level of flexibility in the form of configurable set points gives the intelligent series an unparalleled level of control over the inverters' parameters. Customizability of settings makes it the ideal product for solar applications like process industries or Telecom BTS where each site has a different grid condition.

Remote monitoring facility make this inverter more user friendly. User can remotely control and monitor all system parameters with interactive graphical options.



Office Buildings



Telecom BTS



Mini Grid



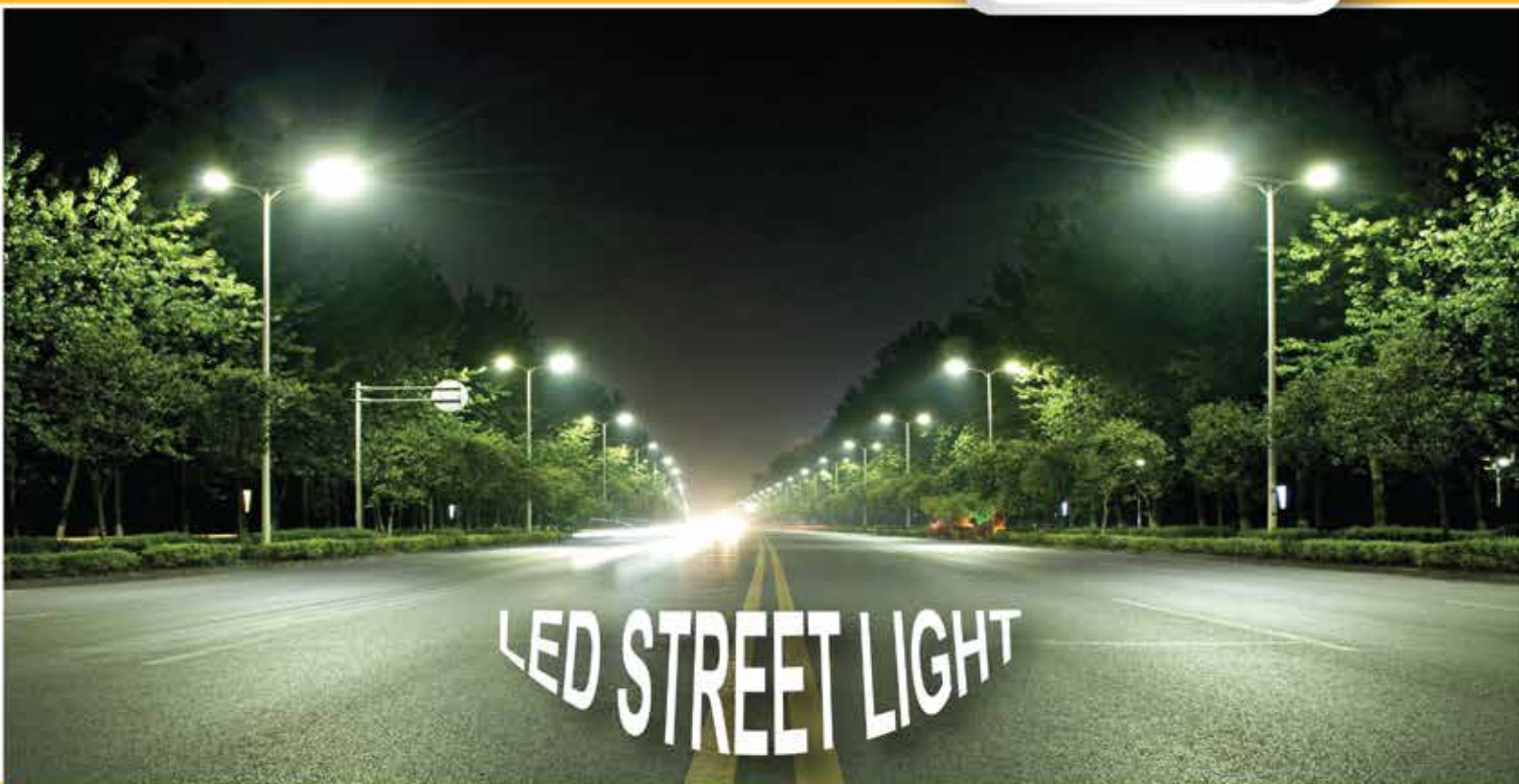
Schools



Industries

LED STREET LIGHT

PROTONIX



- ▶ High Intensity LED's
- ▶ High Efficiency.
- ▶ IP65 Enclosure.
- ▶ Wide Mains input range. 90V-400V AC.
- ▶ High Energy Efficient
- ▶ High Power Factor > 0.95 & Low THD
- ▶ CRI : >75

Technical Specifications

System Wattage	: 6W-120W
Input Voltage	: 230V AC
Operate on	: 120V-300V AC
LED Driver Efficiency	: >95%
LED Lumen	: 135 lm/w
Power Factor	: >0.9
Frequency	: 50 Hz

AC STREET LIGHT



- ▶ High Intensity LED's
- ▶ High Efficiency.
- ▶ IP65 Enclosure.
- ▶ Wide Mains input range. 90V-400V AC.
- ▶ High Energy Efficient
- ▶ High Power Factor > 0.95 & Low THD
- ▶ CRI : >75

Technical Specifications

System Wattage	: 10W-160W
Input DC Voltage	: 12V / 24 V
LED Driver Efficiency	: >95%
LED Lumen	: 135 lm/w



SOLAR DC STREET LIGHT



- ▶ High Intensity LED's
- ▶ High Efficiency.
- ▶ IP65 Enclosure.
- ▶ Wide Mains input range. 90V-400V AC.
- ▶ High Energy Efficient
- ▶ High Power Factor > 0.95 & Low THD
- ▶ CRI : >75

Technical Specifications

System Wattage	: 6W-40W
Input DC Voltage	: 12V / 24 V
LED Driver Efficiency	: >95%
LED Lumen	: 135 lm/w

SOLAR ALL IN ONE STREET LIGHT



Fortuner

LED

3W-12W



LED BULB (3 W TO 12W)

SPECIFICATION

Efficacy : 100 LM/Watt
High Efficiency: 90%
High Power Factor >0.95
CRI : >75
No IR & UV radiation.
Sockets : B22/E27
Wide Mains input range. 100V - 430V.
Constant Brightness even at low voltage condition.
Longer Life – 50,000* hours, Low Maintenance.
Surge Capacity : >2.5KV

12W-48W
(1X1, 1X2,
2X2, 2X4)



LED PANEL (EDGE LIT / BACK LIT)

SPECIFICATION

Aluminum/Plastic Die Cast Enclosure
Efficacy : 100LM / Watt
Wide Mains input range. 100V-430V
Efficiency : >90%
High Power Factor > 0.95 & Low THD
CRI : >75
THD : <15%
Surge Capacity : > 3.5KV

3W-24W



LED PANEL (SLIM/SURFACE)

SPECIFICATION

Efficacy : 100LM / Watt
Extruded Aluminum/Plastic housing
Wide Mains input range: 100V-430V
Efficiency: >90%
High Power Factor : > 0.95 & Low THD
CRI : >75
THD : <15%
Surge Capacity : >3.5KV

3W-24W





LED Lights



10W-350W



LED FLOOD LIGHT

SPECIFICATION

IP-65 Aluminum Pressure Die Cast Enclosure,
Epoxy Powder Coated.
Heat Resistance and Toughened type Glass
Efficacy : 100LM / Watt
Wide Mains input range. 100V-450V
Efficiency : >90%
High Power Factor > 0.95
CRI : >75
THD : < 10%
Surge Capacity : > 4KV/6KV/ 10KV

MODEL : T5, T8
SIZES : 1ft, 2ft & 4ft



LED TUBE LIGHT(5W TO 24W)

SPECIFICATION

Efficacy : 100 LM / Watt
High Efficiency : 90%
High Power Factor >0.95
CRI : >75
No IR & UV radiation.
Choice of T5/T8 Housing
Wide Mains input range. 100V-430V
Constant Brightness even at low voltage condition.
Longer Life – 50,000* hours, Low Maintenance.
Housing - Aluminium / Plastic
Surge Capacity : >3.0KV

LED STREET LIGHT (AC/DC)

SPECIFICATION

IP-65 Aluminum Pressure Die Cast Enclosure,
Epoxy Powder Coated.
Heat Resistance and Toughened type Glass
Efficacy : 100LM / Watt
Wide Mains input range. 100V-450V
Efficiency : >90%
High Power Factor > 0.95
CRI : >75
THD : < 10%
Surge Capacity : > 4KV/6KV/ 10KV





Fortuner

OTHER PRODUCTS



- Micro- Controller Based Circuit.
- High intensity LED's
- Dual charging from Solar & Grid
- Hi Strength Polymer Body.
- Multiple Mobile Charging.
- Longer Power backup.
- User Friendly Operation.
- Three Level Selectable Brightness modes.

SOLAR LANTERN



- Superior performance with Elegant design.
- Maximum output with minimum power consumption
- 100% pure Copper to guarantee quality and life of the motor
- High Speed
- Energy Saving
- AC/DC Double Duty
- Low power consumption
- Long Life - More than 3000 hours lifetime
- Reverse Battery polarity protection

SOLAR DC FAN



- Built in Battery.
- LED Torch function.
- Compact & Unique Design.
- Available in multi configuration
- Solar / Mains Charging Compatible.
- FM Radio, USB, SD Card interface for music.
- LED Indicators for Mains, UPS, Charging & Overload.
- Battery Deep Discharge and Overcharge Protection.

SOLAR HOME LIGHTING KIT



- Built in Battery.
- Fully Automatic.
- LED Torch function.
- Compact & Unique Design.
- Solar / Mains Charging Compatible.
- FM Radio, USB, SD Card interface for music.
- LED Indicators for Mains, UPS, Charging & Overload.
- Battery Deep Discharge and Overcharge Protection.

CFL INVERTER



- Unique design.
- Strong structure.
- Front Door open
- Optimum loading capacity.
- Single & Double Battery option at same level
- Strong Base Wheels for easy to move.
- Protect the floor with acid.

BATTERY TROLLEY

GLOBAL PRESENCE

PROTONIX



OUR SERVICES

 Botswana Yemen South Africa Egypt Sierra Leone Ghana Iraq Sudan Zambia	 Web Support Team Technology Awareness Program Knowledge Sharing OEM / ODM SERVICE OEM & ODM Manufacturing	 Skills Development Program Qualified Sales & Support Team World wide Service & Support Network ENERGY AUDITS Energy Audits Service	 Malawi Tanzania Uganda Nepal Nigeria Rwanda United Arab Emirates Senegal Zimbabwe
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Fortuner

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