

Company Introduction

AARUSHEE SOLAE ENERGY LLP

2014



AARUSHEE SOLAR ENERGY LLP

C/302 Shreepad Darshan, Nandivali,
Kalyan (E) Mumbai 421306.

Telefax : +91 22 26518861

Email: Pramod@aarusheesolar.com



AARUSHEE SOLAR ENERGY LLP

AARUSHEE solar Energy LLP is in the field of **Renewable Energies**. We offers critical solution for rooftop applications under Ministry of New and Renewable (MNRE) scheme under Jawaharlal Nehru Solar Mission (JNSM) using state of art technology for various uses and applications. AARUSHEE SOLAR ENERGY LLP is dedicated to research and development in Solar Photovoltaic applications. We focus on giving unbiased and unmatched solutions in for all your solar power backup and on grid power conditioning requirements.

AARUSHEE SOLAR ENERGY LLP provides superior consultancy and services in implementation of Solar Power Management solutions to the corporate world. Our goal is to exceed the expectations of every client by offering the right solution, by offering outstanding customer service, having increased flexibility in our solutions, carrying greater value thus optimizing system functionality and improving operation efficiency.

AARUSHEE SOLAR ENERGY LLP is distinguished by functional and technical expertise combined with our hands-on experience, thus ensuring that our clients receive the most effective and professional services.

Why Us?

- We give unbiased solution for solar backup requirements.
- We give customized solution based on requirement as well as budget.
- We give you the best and customized deals based on your requirements
- Our brand associations are with many multinational companies. They are the best in the industry.
- Very good service backup all over the India to ensure good after sales service.
- We can take up projects all over India.

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP

Solar Rooftop application:



प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP

Scope of Work:

- System Design & complete EPC
- Supply of all project related material (Such as PV modules, inverters, Structures etc.,)
- Civil activities which shall consist of module foundation and cable conduit construction.
- Installation & commissioning of all electrical components.
- Project planning & controlling
- All the technical support & documentation required for statutory and regulatory approvals will be supported by ASE.

Technology Offered:

The Solar photovoltaic Roof top power plant to be proposed shall be consisting of Multi crystalline solar modules with fixed tilt angle mounting systems and the solar inverters shall be of String type Inverters.

Benefits of proposed technology

- It occupies less area when compared to other thin film technologies
- Proven technology over 35 years
- Proven Long-term performance (25 Years)
- Abundant semiconductor materials to support high volume production and demand.

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



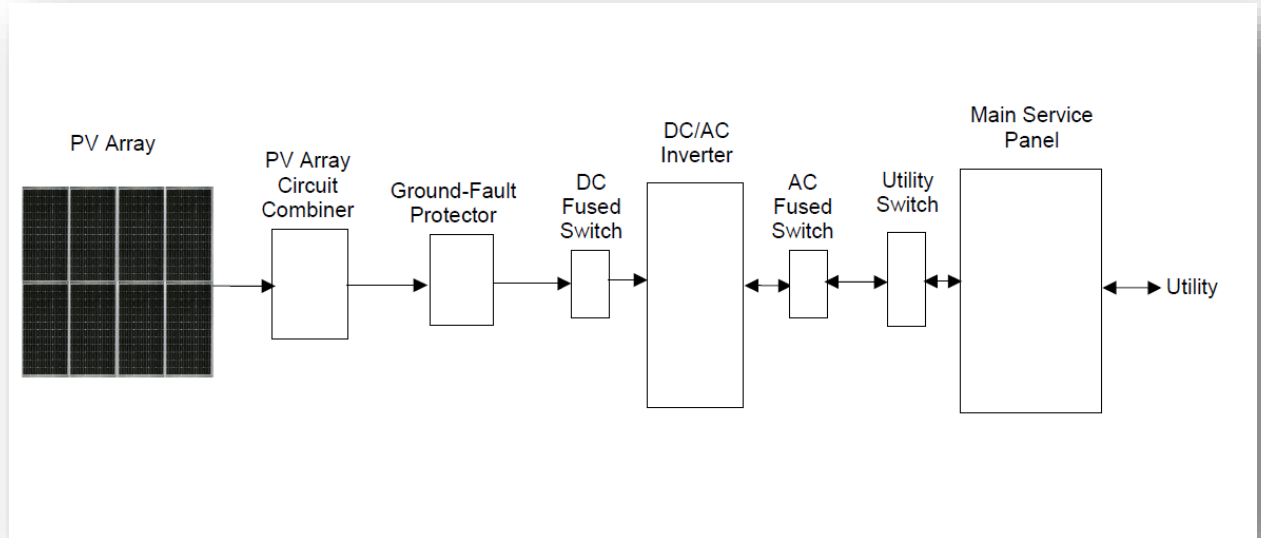
AARUSHEE SOLAR ENERGY LLP

Design Summary

Capacity	1 Kwp
Technology	Multi-Crystalline
Generation per Year (Approx.)	1643 Kwh or Units per Year
Mounting angle	23° Fixed Structure
Area Required	130 Sqft per Kw (True South facing)

** Note: The above values are indicative for the location based on the historical radiation data. The actual data may vary depending on the site conditions.

PV Installation Layout



प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP

System Description

A grid connected system is connected to a large independent grid (typically the public electricity grid) and feeds power into the grid & it's a system without battery back-up.

A String Inverter is a special type of Inverter (electrical) that is used in Solar Photovoltaic power system to convert direct current into alternating current and fed it into the System. The technical name for a String inverter is "Grid connected String inverter". They may also be called synchronous inverters. Grid-connected inverters typically cannot be used in standalone applications where utility power is not available.

The String Inverter is designed to convert solar electric (photovoltaic or PV) power into utility- grade electricity that can be used by the local load or sold to the local power company. In order to operate, the inverter must have grid power available and connected. The inverter will automatically synchronize itself to grid. The inverter is provided with the isolation transformer internally with basic insulation.

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP

System Components:

1. Solar Pv Modules
2. Solar on grid – string inverter
3. Structure
4. Monitoring System
5. AJB – Array Junction Box
6. Cables
7. Lightning Protection
8. Accessories for cable interconnection and Installation Kit

Solar Pv Modules

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP



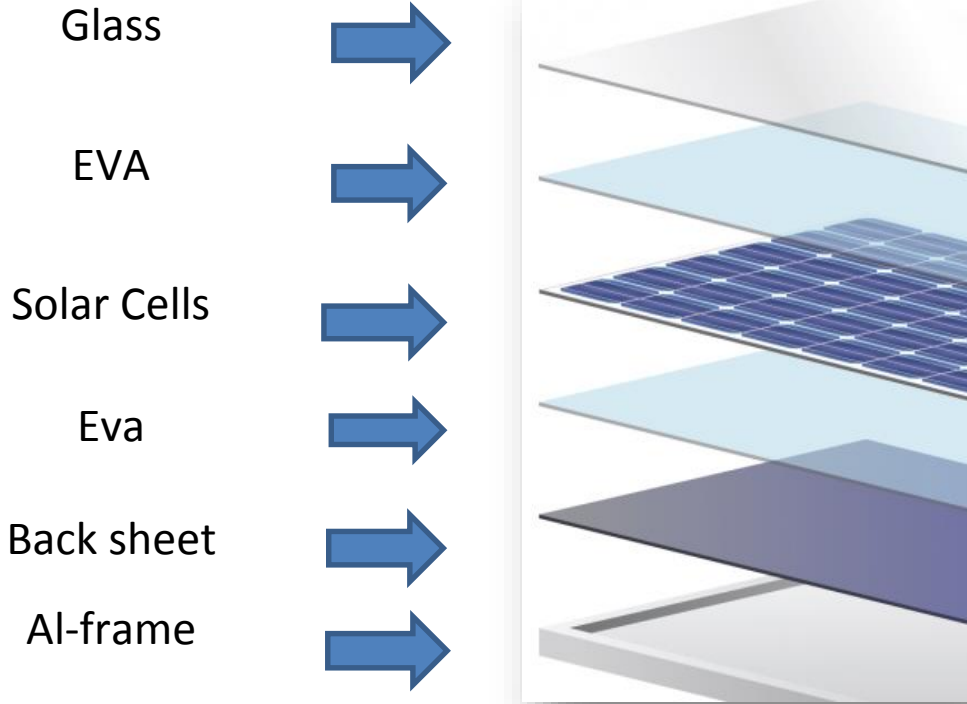
Solar cells produce direct current electricity from light, which can be used to power equipment or to recharge a battery. Cells require protection from the environment and are usually packaged tightly behind a glass sheet. When more power is required than a single cell can deliver, cells are electrically connected together to form photovoltaic solar panels. A photovoltaic module is a packaged interconnected assembly of photovoltaic cells, which converts sunlight into electrical power. The cells are hermetically sealed between glass and Tedlar to protect them from harsh environments.

Module Construction:

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP



Module Technical Specifications

Technical Specifications for Crystalline Modules	
Output power – Pmax (Watts)	250 Wp +3%
Nominal Voltage (Vmp)	36.00 V
Nominal Current (Imp)	6.95 A
Open-circuit voltage (Voc)	43.78 V
Short circuit current (Isc)	7.20 A
Maximum system voltage (Volts)	IEC: DC 1000V / UL: DC600V
Efficiency	15.26 %
Type of solar PV cell	Poly / Multi - Crystalline silicon
Suitability	For on / off grid connected system
Module output	Bizlink electronics plug (male and female)
Certification	IEC 61215, IEC 61730, MNRE Approved

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP

Solar Inverters:



The CM is a high-quality central inverter which is used to supply photovoltaically converted solar energy from PV modules to low-voltage networks. The String inverter converts the direct current generated in PV cells into alternating current. This enables you to feed the solar electricity which you have generated into the system or public electricity grid of the utility company. The efficient MPP tracking system ensures that the PV plant operates at maximum efficiency, even on dull days when the sky is cloudy.

With the MPPT concept, PV modules connected in series (strings) or strings at the same voltage so that the amount of wiring in the photovoltaic plant is substantially reduced. The photovoltaic plant can also be optimized to the input voltage range of the inverter by the interconnection in the strings. The modular design of the inverter takes into account the market requirements for flexible inverter solutions with higher output ranges.

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP

Structures and supports:



The module mounting structure is designed for holding suitable number of modules in series. The frames and leg assemblies of the module mounting structures is of M.S. Powder coated of suitable sections of Angle, Channel, Tubes or any other sections conforming to IS:2062 to meet the design criteria. All hardware considered for fastening modules with this structure are of very good quality of Stainless Steel (SS304). The module mounting structure is designed in such a way that it will occupy minimum space without sacrificing the output from SPV panels at the same time it will withstand severe wind speed up to a maximum 150 kmph.

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP

Technical Specification of Structure:

Technical Specification – Module Mounting Structures	
Material	MS Galvanized / Powder Coated
Overall dimension	As per design
Coating	Powder Coating for MS & Anodizing for Aluminium
Wind rating	150 km/hr
Tilt angle	Fixed
Foundation	RCC

Mounting Options:



1. Roof Mount



2. Patio Cover or Desk Shade

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP

(AJB) Array Junction Box:



The junction boxes are of dust, vermin, and waterproof and made of Thermo Plastic. The terminals will be connected to copper bus-bar arrangement of proper sizes. The junction boxes will have suitable cable entry points fitted with cable glands of appropriate sizes for both incoming and outgoing cables.

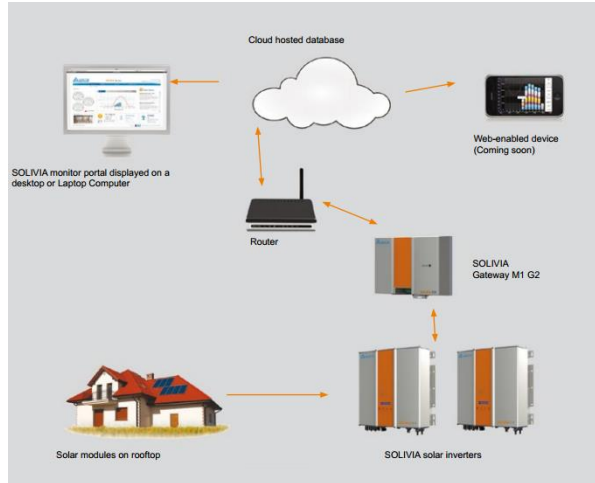
Technical Specification – Junction Boxes	
Material	Thermoplastic
Type	Dust, Vermin & Water proof
Hardware	SS 304
Cable Gland	Thermoplastic
Protection	IP 65

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP

Monitoring System:



**Offering Unique online Data logging features

Cables:



The size of the cables between array interconnections, array to junction boxes, junction boxes to Charge controller etc is so selected to keep the voltage drop and losses to the minimum.

Technical Specification – Cables	
Type	PV Insulated, sheath & UV resistance
Material	Copper
Voltage	Max. 1100V
Test Voltage	650V/1.1V
Temperature	10 – 70 °C

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



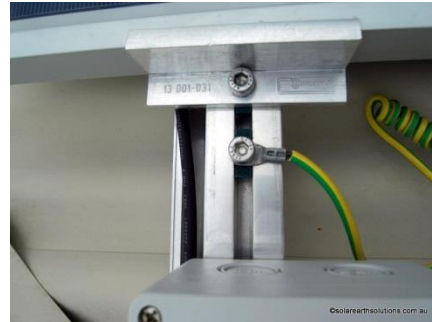
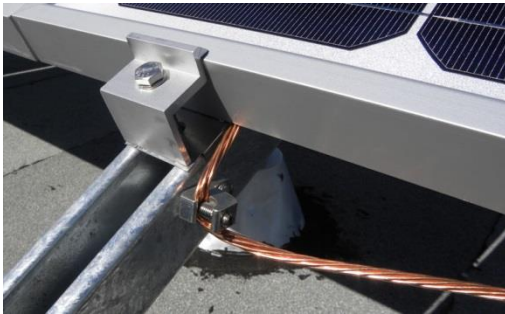
AARUSHEE SOLAR ENERGY LLP

Lightning Arrester:



Lightning Protection: The SPV Power Plant will be provided with lightning & over voltage protection. The main aim in this protection shall be to reduce the over voltage to a tolerable value before it reaches the PV or other sub system components. The source of over voltage can be lightning, atmosphere disturbances etc.

Earthing Protection:



Earthing: The array structure of the PV yard will be grounded properly using adequate number of earthing kits. All metal casing / shielding of the plant shall be thoroughly grounded to ensure safety of the power plant.

प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)



AARUSHEE SOLAR ENERGY LLP

We Are Business Partners for:



Contact Us

	C/302 Shreepad Darshan, Near Amruta Park, Kalyan (E) Thane. Pin - 421306.
	Office No. K – 08, Sanghavi Estate, Off College Road, Kalyan (W), Thane, Pin - 421301
	Email : pramod@aarusheesolar.com & support@aarusheesolar.com Web Presence at : www.aarusheesolar.com
	Telefax : +91 22 26518861



प्रज्वालितो भानुमयः प्रदीपः । (The lamp in the form of Sun is kindled!)