

DEMONSTRATION PROJECT

SOLAR PV-THERMAL HYBRID SYSTEM

Auroville, Tamil Nadu

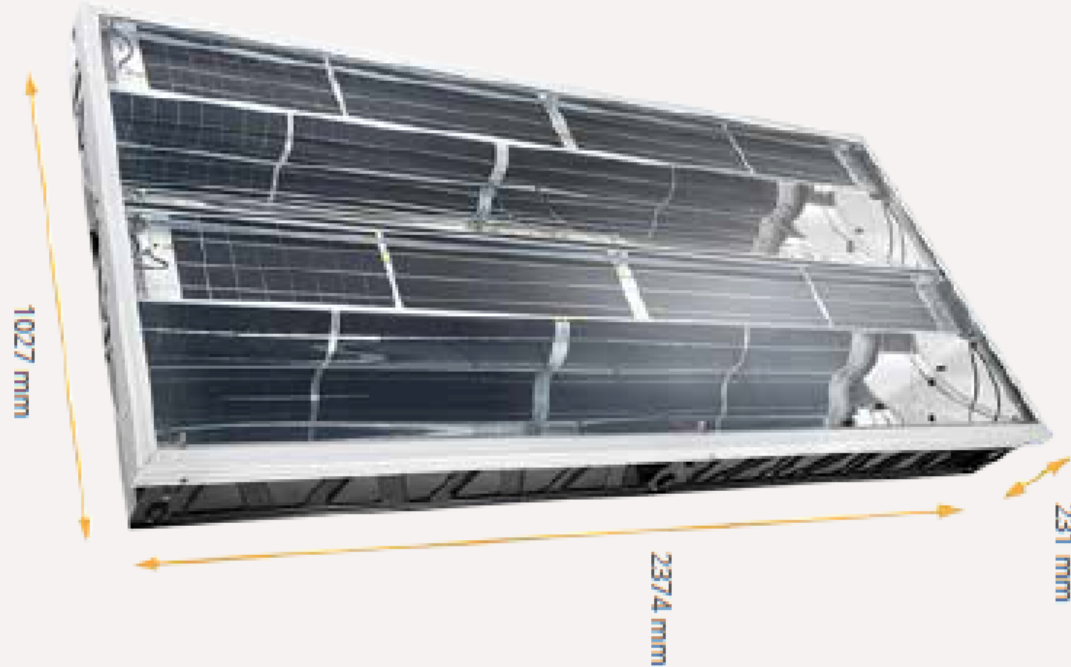
OBJECTIVES

The demonstration project aims at:

- Testing and optimizing the solar PT thermal hybrid system for the idian context (climatic, angle of irradiation etc.)
 - Performance monitoring of the system (IT-enabled with only dashboard)
 - Comparions of system cost and actual power output with more conventional systems
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TECHNOLOGY | Power Collector

By Solarus



General specifications

Dimension (L x W x H) :	2374 x 1027 x 231 mm
Weight :	55 KG
Aperture area :	2.2 M ²
Gross area :	2.4 M ²
Cover :	4 mm anti reflective coated glass, super transparent, hailstone safe

Electrical properties per side

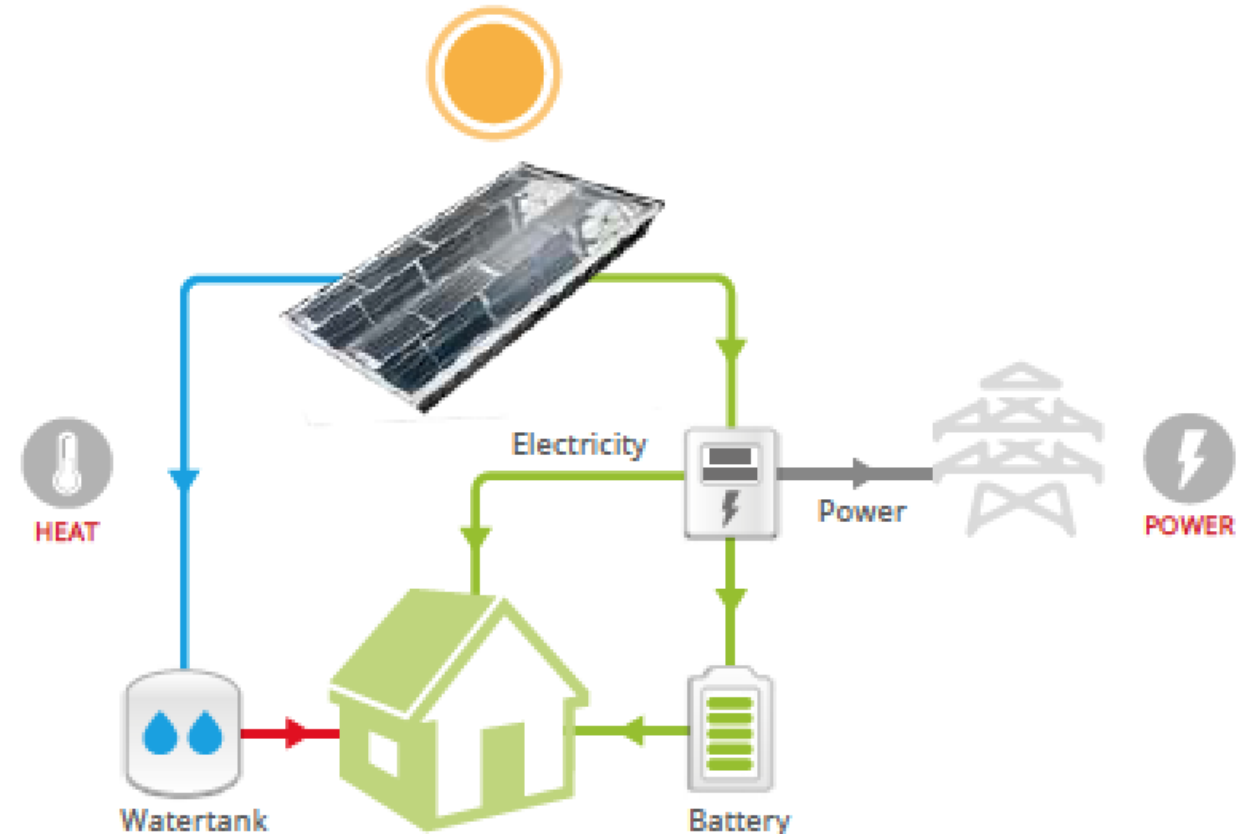
Number of Cells :	152
Cell dimension :	52 x 148 x 240 mm
Peak Electrical Power :	250 W (e) ±5%

Thermal properties

Heat Loss Coefficient :	4,8 W/m ² .°K
Peak Power :	1250 W (t)
Capacity antifreeze :	1,4 L/module
Max working pressure :	6 bar
Stagnation Temperature :	175°C

TECHNOLOGY

The Solarus PowerCollector™ is a concentrating, hybrid solar photovoltaic and solar thermal panel. Concentrating means that it has a curved mirror to collect and reflect more sunlight throughout the day. Hybrid means that it combines solar photovoltaic (PV) generation of electricity with solar thermal (T) generation heat. Solarus offers, as the only company in the world, both Active Cell Cooling (ACC) and MaReCo (Maximum Reflector Collector) technologies, which makes the PowerCollector™ the absolute highest performing thermal collector on the planet.



SITE LOCATION

The demonstration project will be installed at the Auroville Solar Kitchen.

About the Solar Kitchen:

- is an Auroville Service Unit that supplies lunch to more than 1300 people daily
- has a fixed spherical solar concentrator (15 meters diameter) that supply steam for cooking purposes



The solar bowl at the Auroville Solar Kitchen

PROJECT SCOPE

The system will have 8 PVT 11 Collectors

Total electrical peak power: 2 kWp

Total thermal peak power: 10 kWt

Monitoring system

Micro-inverters

2 X 250 l insulated water tank

PROJECT COSTING

Total project cost: 7.5 lakh

Funding available: 2 lakh

Funding required: 5.5 lakh

ABOUT AUROVILLE

Auroville, is an international township near Puducherry (India) founded in 1968 based on the vision of The Mother from the Sri Aurobindo Ashram and endorsed by UNESCO and Government of India as an ongoing experiment in human unity. Over the years, Auroville has won international acclaim for its efforts in social and environmental sustainability.

PROJECT PARTNERS

Solarus | www.solarus.com

Auroville Consulting | www.aurovilleconsulting.com
