

## 15KW / 25KW / 50KW / 100KW COMMERCIAL GRID TIE PV SYSTEMS SPECIFICATIONS CONFIGURATION AND PERFORMANCE INFORMATION



Solar power

High efficiency

Quality 3 Phase Industrial Power  
Grid Tie Inverter

- Save on your buildings Electricity costs
- Average five years payback period
- Reduced KWH and KVA maximum demand
- Generator Sync Function and SMA Fuel Saver (save on fuel costs)
- **Turn your buildings into Energy Producing Assets!**

# 15KW Grid Tie PV System (Entry Level)

Average Monthly Production 2.2 MW per month

Direct Grid tie solar power Samples and Return on investment.



60 X 250W PV Panels

1 x 1500TL Three Phase SMA Inverter

## System overview

### 60 x Renesola JC250M-24/BB (01/2014) (PV array 1)

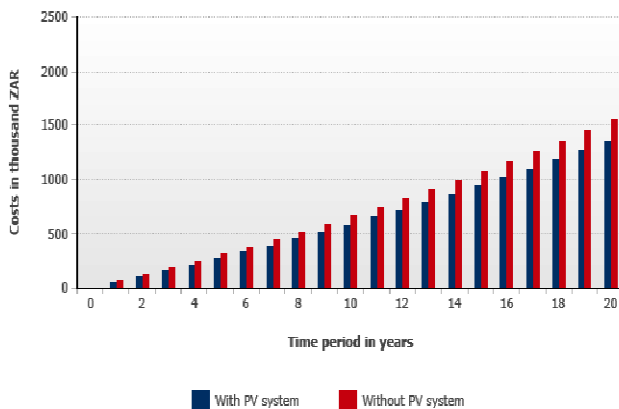
Azimuth angle: 180 °, Tilt angle: 25 °, Mounting type: Roof, Peak power: 15.00 kWp

### 1 x STP 1500TL-10

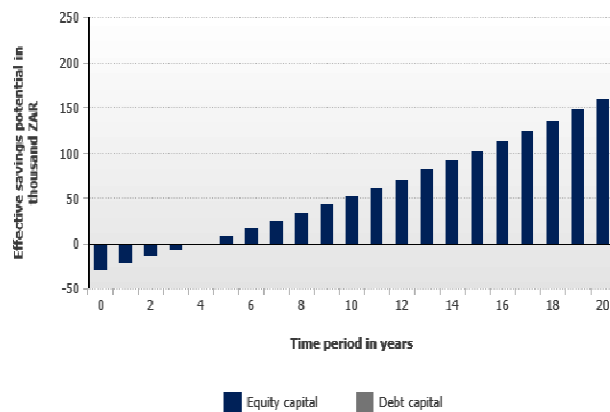
## Technical data

Total number of PV modules:	60	Performance ratio (approx.):*	86.9 %
Peak power:	15.00 kWp	Spec. energy yield (approx.):*	1867 kWh/kWp
Number of inverters:	1	Line losses (in % of PV energy):	---
Nominal AC power:	15.00 kW	Unbalanced load:	0.00 VA
AC active power:	15.00 kW	Annual energy consumption:	200.00 MWh
Active power ratio:	100 %	Self-consumption:	25.886.99 kWh
Annual energy yield (approx.):*	28,000.30 kWh	Self-consumption quota:	91.4 %
Energy usability factor:	100 %	Self-sufficiency quota (energy consumption in %):	12.8 %

## Comparison of cumulative electricity costs



## Effective savings



# 25KW Grid Tie PV System

## Cost Effectiveness of using only one Inverter

### Average Monthly Production 3.7MW per month

Direct Grid tie solar power Samples and Return on investment.



100 X 250W PV Panels



1 x 25000TL Three Phase SMA Inverter

#### System overview

##### 100 x Renesola JC250M-24/Bb (01/2014) (PV array 1)

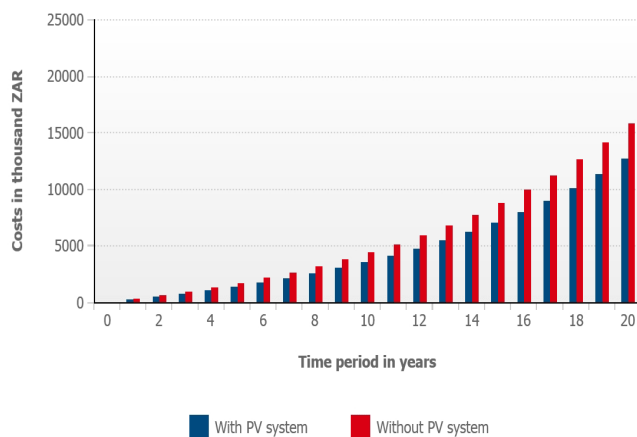
Azimuth angle: 180 °, Tilt angle: 25 °, Mounting type: Roof, Peak power: 25.00 kWp

##### 1 x STP 25000TL-30

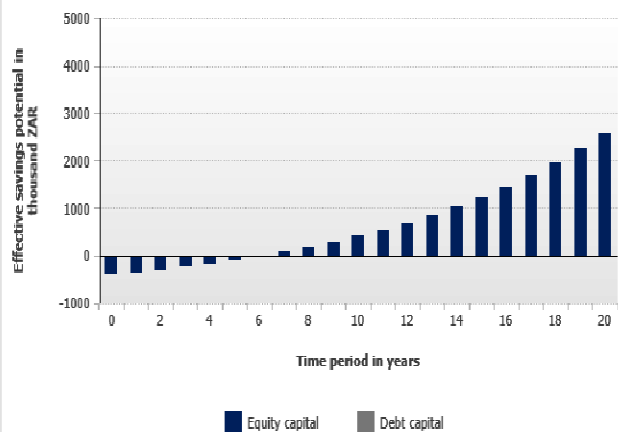
#### Technical data

Total number of PV modules:	100	Performance ratio (approx.):*	86.9 %
Peak power:	25.00 kWp	Spec. energy yield (approx.):*	1868 kWh/kWp
Number of inverters:	1	Line losses (in % of PV energy):	---
Nominal AC power:	25.00 kW	Unbalanced load:	0.00 VA
AC active power:	25.00 kW	Annual energy consumption:	200.00 MWh
Active power ratio:	100 %	Self-consumption:	39,635.47 kWh
Annual energy yield (approx.):*	46,712.00 kWh	Self-consumption quota:	84.9 %
Energy usability factor:	100 %	Self-sufficiency quota (energy consumption in %):	19.8 %

Comparison of cumulative electricity costs



Effective savings





# 50KW Grid Tie PV System

Average Monthly Production 7.7MW per month

Effective Energy Efficiency Strategy for medium Industrial Power Uses

Direct Grid tie solar power Samples and Return on investment.



200 x 250W PV Panels



2 x 25000TL Three Phase SMA Inverters

### System overview

**200 x Renesola JC250M-24/Bb (01/2014) (PV array 1)**

Azimuth angle: 180 °, Tilt angle: 25 °, Mounting type: Roof, Peak power: 50.00 kWp

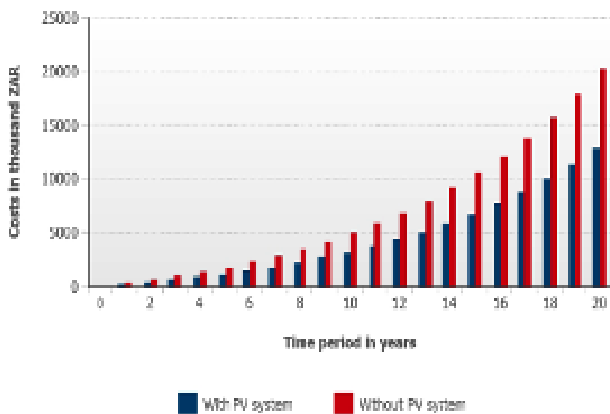


2 x STP 25000TL-30

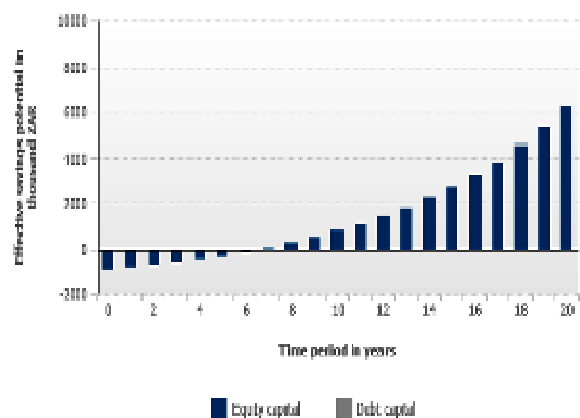
### Technical data

Total number of PV modules:	200	Performance ratio (approx.):*	86.9 %
Peak power:	50.00 kWp	Spec. energy yield (approx.):*	1868 kWh/kWp
Number of inverters:	2	Line losses (in % of PV energy):	---
Nominal AC power:	50.00 kW	Unbalanced load:	0.00 VA
AC active power:	50.00 kW	Annual energy consumption:	200.00 MWh
Active power ratio:	100 %	Self-consumption:	73,303.50 kWh
Annual energy yield (approx.):*	93,424.10 kWh	Self-consumption quota:	78.5 %
Energy usability factor:	100 %	Self-sufficiency quota (energy consumption in %):	36.7 %

Comparison of cumulative electricity costs



Effective savings



# 100KW Grid Tie PV System

Average Monthly Production 15.2MW per month

Sized for large power users to reduce their KWH and Maximum demand costs.

Direct Grid tie solar power Samples and Return on investment.



400 x 250W PV Panels



4 x 25000TL Three Phase SMA Inverters

## System overview

400 x Renesola JC250M-24/Bb (01/2014) (PV array 1)

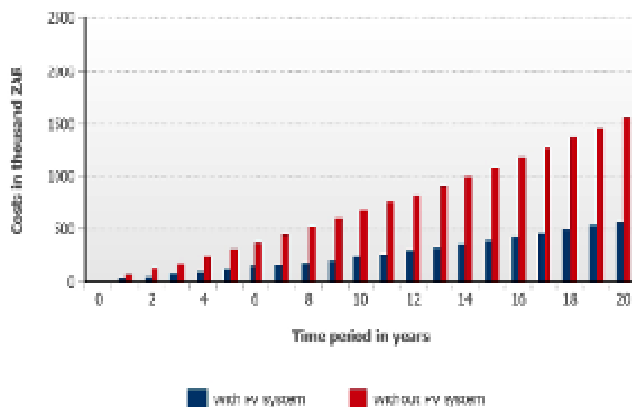
Azimuth angle: 180 °, Tilt angle: 25 °, Mounting type: Roof, Peak power: 100.00 kWp

5 x STP 20000TL-30

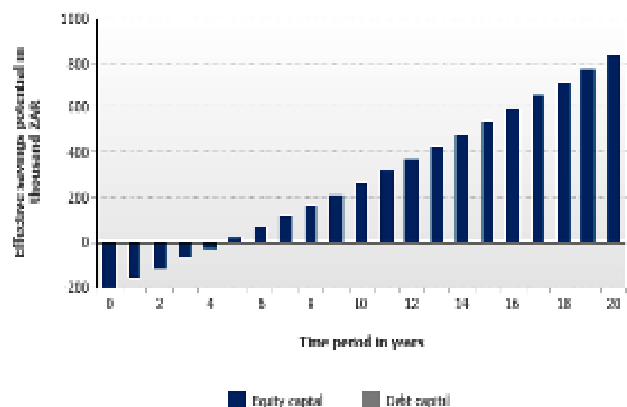
## Technical data

Total number of PV modules:	400	Performance ratio (approx)*:	86.9 %
Peak power:	100.00 kWp	Spec. energy yield (approx)*:	1868 kWh/kWp
Number of inverters:	5	Line losses (in % of PV energy):	---
Nominal AC power:	100.00 kW	Unbalanced load:	0.00 VA
AC active power:	100.00 kW	Annual energy consumption:	200.00 MWh
Active power ratio:	100 %	Self-consumption:	127.87 MWh
Annual energy yield (approx)*:	186.82 MWh	Self-consumption quota:	68.4 %
Energy usability factor:	100 %	Self-sufficiency quota (energy consumption in %):	63.9 %

Comparison of cumulative electricity costs



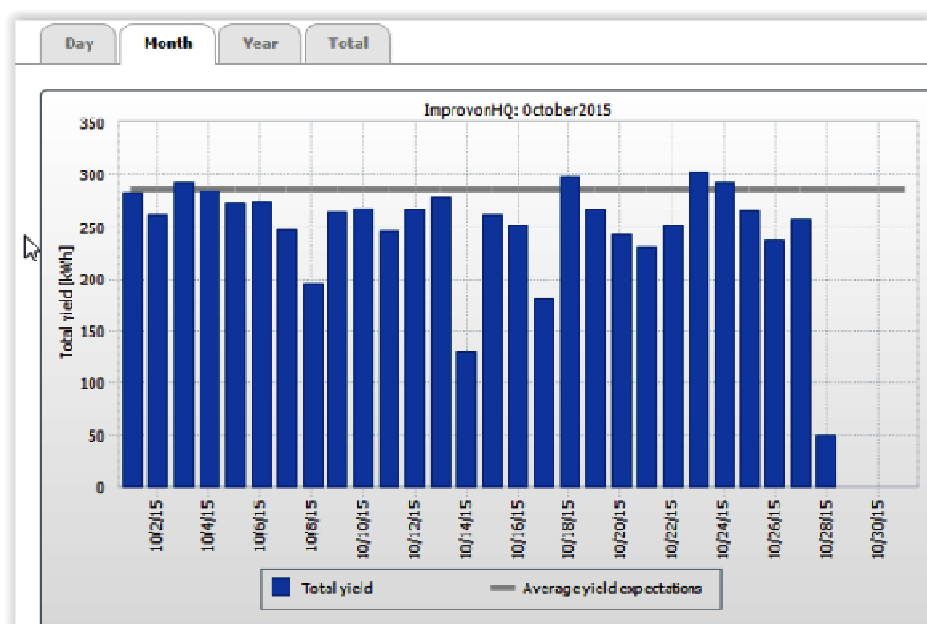
Effective savings



# Live performance data available on Sunny Portal (Sample)

▼ PV System Data

<b>Current power</b>  <b>34.04 kW</b> <a href="#">Energy and Power &gt;</a>	<b>Energy</b>  <b>129.66 kWh</b> Today Total: 102,233 MWh	<b>Reimbursement</b>  <b>242.47 ZAR</b> Today Total: 191,176.36 ZAR
<b>CO2 avoided</b>  <b>142 kg</b> Today Total: 112 t	<b>PV system information</b>  PV system power: <b>49.80 kWp</b> Commissioning: 10/1/2013 <a href="#">PV system profile &gt;</a>	<b>Weather for Longmeadow</b>  <b>24 °C</b> Light rain shower <a href="#">Tomorrow &gt;</a>
<b>Location</b>  8000 Longmeadow SOUTH AFRICA <a href="#">Enlarge map &gt;</a>		




**SMA FUEL SAVE CONTROLLER**

EASY INTEGRATION OF PHOTOVOLTAICS INTO FOSSIL-FUELLED POWER GENERATION WITH SMA HYBRID SYSTEM TECHNOLOGY

The SMA Fuel Save Controller is the central component of the SMA solution for hybrid systems consisting of photovoltaics and fossil-fuelled gensets. It ensures the demand-oriented control of the photovoltaic system dependent on the plant's load and genset characteristics. Thus the gensets operate in a reliable and stable state even with high levels of photovoltaics.

Together with the Fuel Save Controller, SMA inverters fulfil comprehensive grid management functions within the system. The SMA hybrid system technology is scalable on a modular basis and can be adapted to the specific requirements of the power plant.

Furthermore, the Fuel Save Controller offers the opportunity to monitor the hybrid system remotely. This assures optimum energy management for the plant operator and guarantees efficient and flexible system performance.

# SMA ENERGY METER



HOME SYSTEMS

INDUSTRIAL SYSTEMS

SERVICE & SUPPORT

PRODUCTS



## SMA ENERGY METER

UNIVERSAL RECORDING OF MEASURED VALUES FOR INTELLIGENT ENERGY MANAGEMENT

Now also available for applications > 63 A thanks to external current transformers.

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# CLUSTER CONTROLLER



## SMA CLUSTER CONTROLLER



## Summary of Functions and Goals



### Features & Functions

- > Plant monitoring and control of up to 75 SMA inverters
- > Data logging on USB mass storage device
- > Immediate notification by email and FTP Push in case of a failure
- > Remote monitoring and maintenance via integrated web interface and Sunny Portal
- > Interfaces for sensors and grid management specifications (active and reactive power setpoints)
- > High-level data performance right up to the inverter based on 100 Mbit/s Speedwire fieldbus
- > Open and standardized Modbus data interface

### Goals

- > High-performance system solution for large-scale PV plants with decentralized structure
- > Fulfills customer demands in the market segments Industrial and Large Commercial
- > Complies with national and international requirements on grid integration