

Jan Engvald  
Nordanväg 10  
222 28 Lund  
Tel.: 0702-073707

Any Company  
Any Street 21  
54321 Any Town

Tel.: +49 123 456-0  
Fax: +49 123 456-100  
E-Mail: info@any-company.de  
Internet: www.any-company.de

**Project name:** Klosterlyckan\_18+14\_0-  
**Project number:** 6  
**Project file:** Klosterlyckan\_22+10.sdp2

**Location: Germany / Rostok**  
Imported meteorological data (GOTEBORG\_  
LANDVETTER)  
Grid voltage: 3~230 V

## System overview

### 18 x Yingli Solar YL240P-29b-PC (Modul\_240W\_18st)

Azimuth angle: 20°, Inclination: 7°, Mounting type: Free installation, PV peak power: 4,32 kWp

### 14 x Yingli Solar YL240P-29b-PC (Modul\_240W\_14st)

Azimuth angle: 20°, Inclination: 0°, Mounting type: Free installation, PV peak power: 3,36 kWp



**1 x STP 7000TL-20**

## Technical data

Total number of PV modules:	32	Energy usability factor:	100 %
PV peak power:	7,68 kWp	Performance ratio (approx.):*	86,1 %
Number of inverters:	1	Spec. energy yield (approx.):*	890 kWh/kWp
Nominal AC power:	7,00 kW	Line losses (in % of PV energy):	0,09 %
AC active power:	6,65 kW	Unbalanced load:	0,00 VA
Active power ratio:	86,6 %	Self-consumption:	1699,79 kWh
Annual energy yield (approx.):*	6837,80 kWh	Self-consumption quota:	24,9 %

Sunny Design 2.30.0.R

\_\_\_\_\_  
Signature

\*Important: The yield values displayed are estimates. They are determined mathematically. SMA Solar Technology AG accepts no responsibility for the real yield value which can deviate from the yield values displayed here. Reasons for deviations are various outside conditions, such as soiling of the PV Modules or fluctuations in the efficiency of the PV modules.

# Evaluation of design

**Project name:** Klosterlyckan\_18+14\_0-grad

Project number: 6

Project file: Klosterlyckan\_22+10.sdp2

**Location:** Germany / Rostok

**Ambient temperature:**

Record Low Temperature: -20,00 °C

Average High Temperature: 25,00 °C

Record High Temperature: 33,00 °C

## Part project 1

### 1 x STP 7000TL-20

PV peak power:	7,68 kWp
Total number of PV modules:	32
Number of inverters:	1
Max. DC power (cos φ = 1):	7,18 kW
Max. AC active power (cos φ = -0,95):	6,65 kW
Grid voltage:	230 V
Nominal power ratio:	89 %
Displacement power factor cos φ:	-0,95



**STP 7000TL-20**

### Technical data

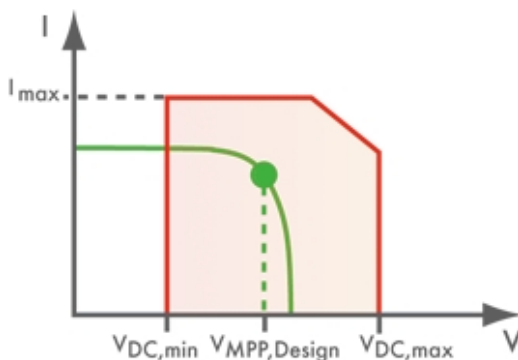
#### Input A: Modul\_240W\_18st

18 x Yingli Solar YL240P-29b-PC, Azimuth angle: 20°, Inclination: 7°, Mounting type: Free installation

#### Input B: Modul\_240W\_14st

14 x Yingli Solar YL240P-29b-PC, Azimuth angle: 20°, Inclination: 0°, Mounting type: Free installation

	Input A:		Input B:	
Number of strings:	1		1	
PV modules per string:	18		14	
Peak power (input):	4,32 kWp		3,36 kWp	
Typical PV voltage:	491 V	✓	382 V	✓
Min. PV voltage:	461 V	✓	359 V	✓
Min. DC voltage (Grid voltage 230 V):	150 V		150 V	
Max. PV voltage:	788 V	✓	613 V	✓
Max. DC voltage (PV):	1000 V		1000 V	
Max. current of PV array:	8,1 A	✓	8,1 A	✓
Max. DC current:	15,0 A		10,0 A	
Max. short-circuit current:	33,0 A		12,5 A	



**PV/Inverter compatible**

Sunny Design 2.30.0.R

# Information

---

**Project name: Klosterlyckan\_18+14\_0-grad**

**Location: Germany / Rostok**

Project number: 6

Project file: Klosterlyckan\_22+10.sdp2

## ✔ Klosterlyckan\_18+14\_0-grad

- ✔ In Germany, energy generation plants with a power of between 3.68 kVA and 13.8 kVA must from 2012-01-01 be able to make reactive power available in accordance with requirements of the distribution grid operator. The displacement power factor of the inverters used will automatically be adjusted to 0.95 under-excited (-).
- ✔ Plants with an installed power of a maximum 30 kWp must, according to the Renewable Energy Sources Act (EEG) 2012, be equipped with technical equipment with which the grid operator can remotely reduce the feed-in capacity in the event of grid overload at all times. Alternatively, the maximum active power feed-in of the plant at the grid connection point can be limited to 70% of the installed power.

Sunny Design 2.30.0.R

# Self-consumption

**Project name:**

Project number: 6

Project file: Klosterlyckan\_22+10.sdp2

**Location: Germany / Rostok**

## Information on self-consumption

**Load profile:**

2-person household

Private household with typical load peaks at lunchtime and further consumption increases in the morning and evening.

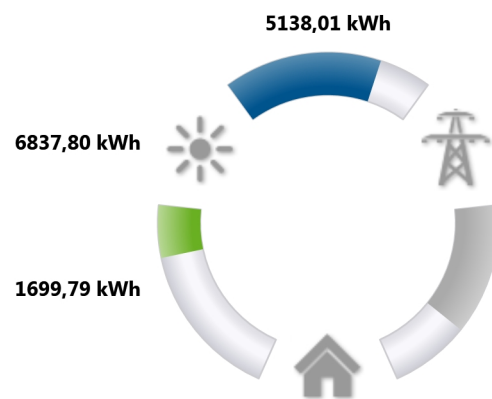
Energy consumption per year: 4500,00 kWh

## Result

Energy yield of the PV plant	<b>6837,80 kWh</b>
Grid feed-in	<b>5138,01 kWh</b>
Consumption	<b>2800,21 kWh</b>
Self-consumption	<b>1699,79 kWh</b>
Self-consumption quota (in % of PV energy)	<b>24,9 %</b>



Self-consumption quota 24,9 %



The displayed results are estimated values which are derived mathematically. SMA Solar Technology AG accepts no liability for the actual self-consumption which may deviate from the values displayed here. The potential self-consumption essentially depends on individual load patterns, which may deviate from the load profile on which the calculation is based.

Sunny Design 2.30.0.R