Any Company • Any Street 21 • 54321 Any Town

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**	**Location: Germany / Rostok**
Project number:	5	Imported meteorological data (GOTEBORG_ LANDVETTER)
Project file:	Klosterlyckan_22+7.sdp2	Grid voltage: 3~230 V

System overview

18 x Yingli Solar YL240P-29b-PC (Modul_240W_18st)
Azimuth angle: 20°, Inclination: 20°, Mounting type: Free installation, PV peak power: 4,32 kWp

14 x Yingli Solar YL240P-29b-PC (Modul_240W_14st)
Azimuth angle: 20°, Inclination: 20°, 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.)*:	86,8 %
Number of inverters:	1	Spec. energy yield (approx.)*:	976 kWh/kWp
Nominal AC power:	7,00 kW	Line losses (in % of PV energy):	0,10 %
AC active power:	6,65 kW	Unbalanced load:	0,00 VA
Active power ratio:	86,6 %	Self-consumption:	1772,20 kWh
Annual energy yield (approx.)*:	7492,10 kWh	Self-consumption quota:	23,7 %

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
Project number: 5
Project file: Klosterlyckan_22+7.sdp2

Part project 1

Location: Germany / Rostok
Ambient temperature:
Record Low Temperature: -20,00 °C
Average High Temperature: 25,00 °C
Record High Temperature: 33,00 °C

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	

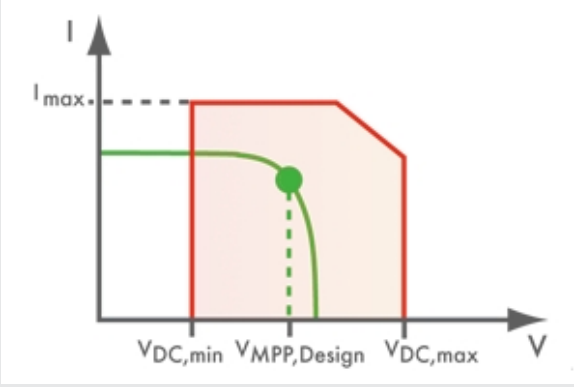
STP 7000TL-20

Technical data

Input A: Modul_240W_18st
18 x Yingli Solar YL240P-29b-PC, Azimuth angle: 20°, Inclination: 20°, Mounting type: Free installation

Input B: Modul_240W_14st
14 x Yingli Solar YL240P-29b-PC, Azimuth angle: 20°, Inclination: 20°, 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

Information

Project name: Klosterlyckan_18+14
Project number: 5
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Location: Germany / Rostok

Klosterlyckan_18+14

- 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.

Self-consumption

Project name: Klosterlyckan_18+14
Project number: 5
Project file: Klosterlyckan_22+7.sdp2

Location: Germany / Rostok

Information on self-consumption

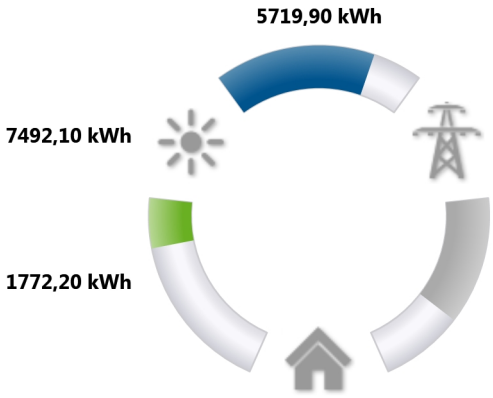
Load profile: 2-person household
Private household with typical load peaks at lunchtime and further consumption increases in the morning and evening.

Energy consumption per year: 4500,00 kWh

Result

Energy yield of the PV plant	**7492,10 kWh**
Grid feed-in	**5719,90 kWh**
Consumption	**2727,80 kWh**
Self-consumption	**1772,20 kWh**
Self-consumption quota (in % of PV energy)	**23,7 %**

Self-consumption quota 23,7 %



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.

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