

Offer no.: Valvex

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Documentation- Valvex

Customer Details

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Project Data

Project Name	
Offer no.	Valvex
Project Designer	
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Project Overview



Figure: Overview Image, 3D Design

PV System

3D, Grid-connected PV System with Electrical Appliances

Climate Data	Jordanów, POL (2001 - 2020)
Values source	Meteonorm 8.2(i)
PV Generator Output	299,85 kWp
PV Generator Surface	1 315,6 m ²
Number of PV Modules	659
Number of Inverters	2

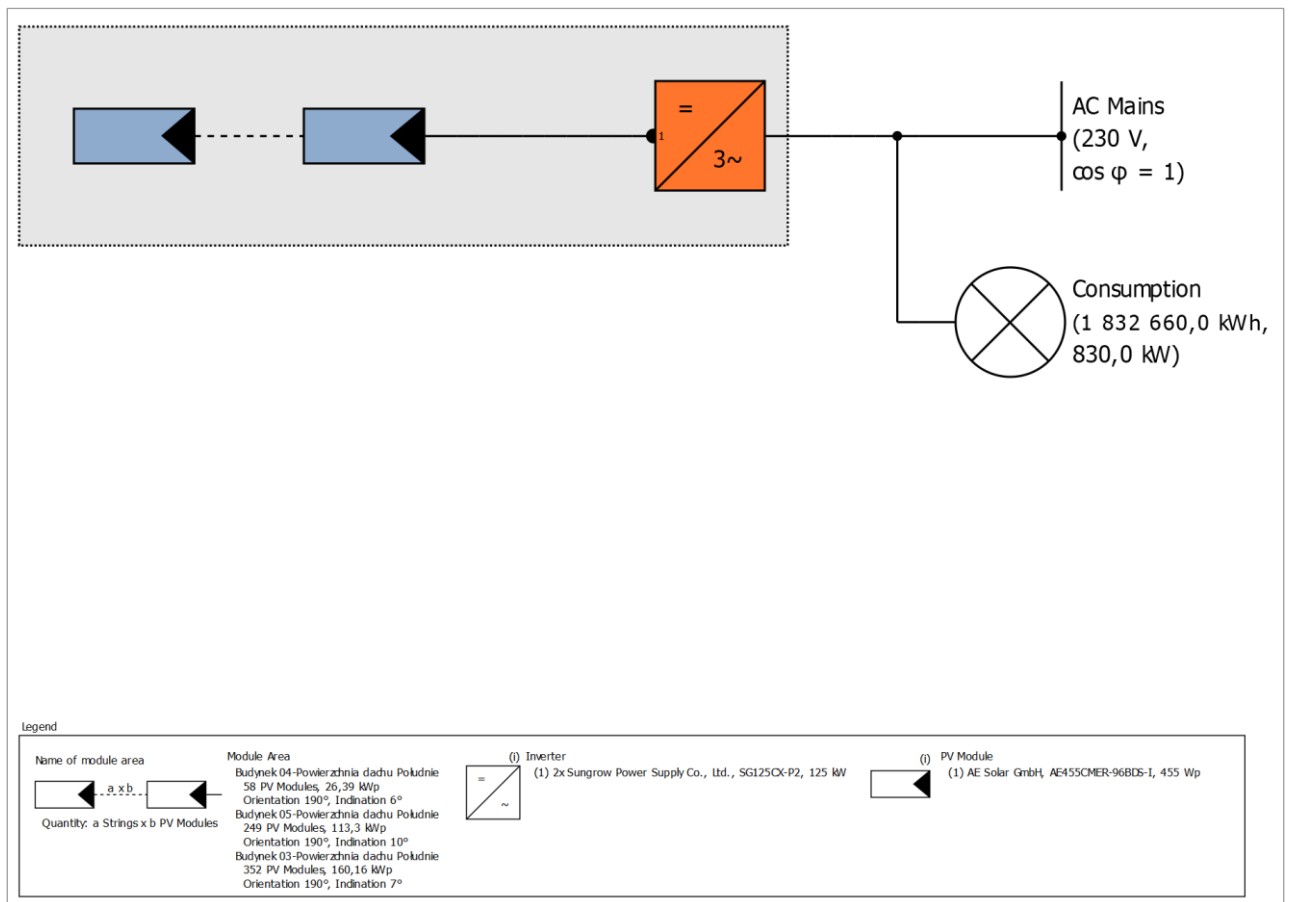


Figure: Schematic diagram

Production Forecast

Production Forecast

PV Generator Output	299,85 kWp
Spec. Annual Yield	1 019,13 kWh/kWp
Performance Ratio (PR)	88,54 %
Yield Reduction due to Shading	1,5 %
PV Generator Energy (AC grid)	305 617 kWh/Year
Clipping at Feed-in Point	0 kWh/Year
CO ₂ Emissions avoided	116 121 kg / year
Level of Self-sufficiency	14,3 %

The results have been calculated with a mathematical model calculation from Valentin Software GmbH (PV*SOL algorithms). The actual yields from the solar power system may differ as a result of weather variations, the efficiency of the modules and inverter, and other factors.

Set-up of the System

Module Areas

1. Module Area - Budynek 04-Powierzchnia dachu Południe

PV Generator, 1. Module Area - Budynek 04-Powierzchnia dachu Południe

Name	Budynek 04-Powierzchnia dachu Południe
PV Modules	58 x AE455CMER-96BDS-I (v2)
Manufacturer	AE Solar GmbH
Inclination	6 °
Orientation	South 190 °
Installation Type	Roof parallel
PV Generator Surface	115,8 m ²



Figure: 1. Module Area - Budynek 04-Powierzchnia dachu Południe

2. Module Area - Budynek 05-Powierzchnia dachu Południe

PV Generator, 2. Module Area - Budynek 05-Powierzchnia dachu Południe

Name	Budynek 05-Powierzchnia dachu Południe
PV Modules	249 x AE455CMER-96BDS-I (v2)
Manufacturer	AE Solar GmbH
Inclination	10 °
Orientation	South 190 °
Installation Type	Roof parallel
PV Generator Surface	497,1 m ²

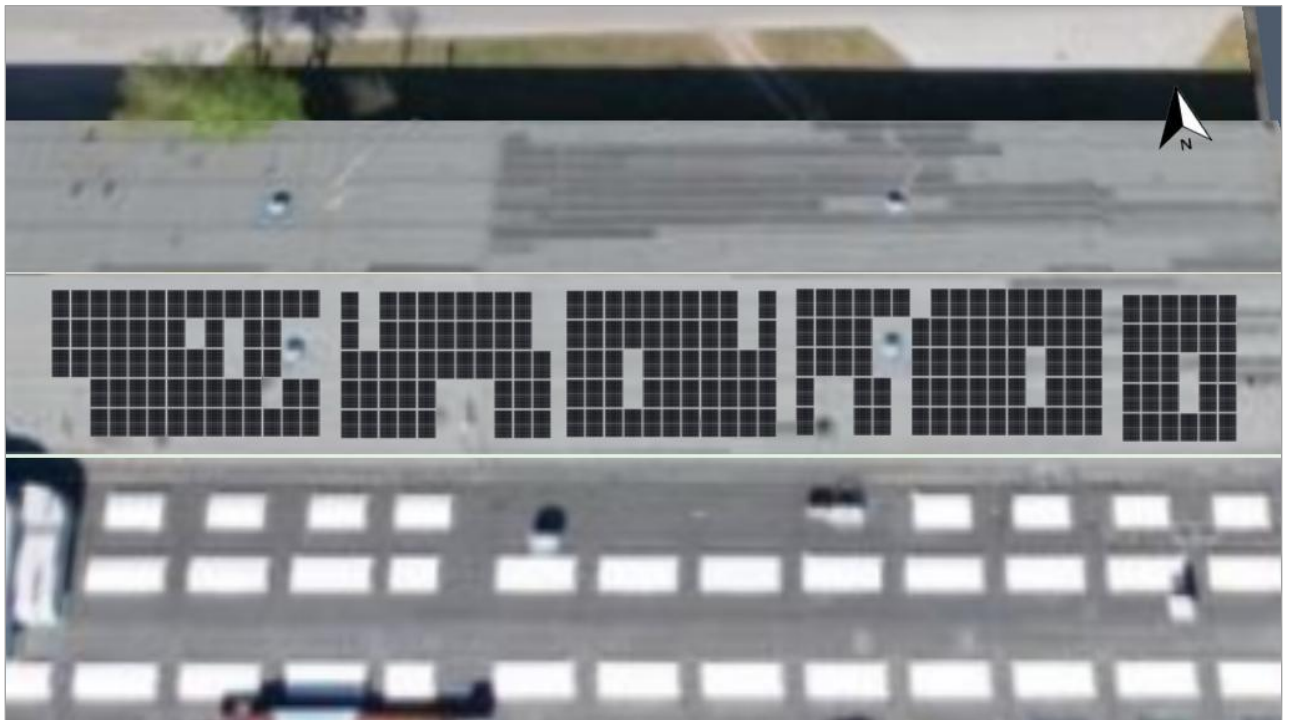


Figure: 2. Module Area - Budynek 05-Powierzchnia dachu Południe

3. Module Area - Budynek 03-Powierzchnia dachu Południe

PV Generator, 3. Module Area - Budynek 03-Powierzchnia dachu Południe

Name	Budynek 03-Powierzchnia dachu Południe
PV Modules	352 x AE455CMER-96BDS-I (v2)
Manufacturer	AE Solar GmbH
Inclination	7 °
Orientation	South 190 °
Installation Type	Roof parallel
PV Generator Surface	702,7 m ²



Figure: 3. Module Area - Budynek 03-Powierzchnia dachu Południe

Inverter configuration

Configuration 1

Module Areas	Budynek 04-Powierzchnia dachu Południe + Budynek 05-Powierzchnia dachu Południe
Inverter 1	
Model	SG125CX-P2 (v18)
Manufacturer	Sungrow Power Supply Co., Ltd.
Quantity	1
Sizing Factor	111,7 %
Configuration	MPP 1: 2 x 16
	MPP 2: 1 x 26
	MPP 3: 2 x 15
	MPP 4: 1 x 26
	MPP 5: 1 x 26
	MPP 6: 1 x 26
	MPP 7: 1 x 26
	MPP 8: 1 x 26
	MPP 9: 1 x 26
	MPP 10: 1 x 21
	MPP 11: 1 x 21
	MPP 12: 1 x 21

Configuration 2

Module Area	Budynek 03-Powierzchnia dachu Południe
Inverter 1	
Model	SG125CX-P2 (v18)
Manufacturer	Sungrow Power Supply Co., Ltd.
Quantity	1
Sizing Factor	128,1 %
Configuration	MPP 1: 2 x 17
	MPP 2: 2 x 16
	MPP 3: 2 x 16
	MPP 4: 2 x 16
	MPP 5: 2 x 16
	MPP 6: 2 x 16
	MPP 7: 2 x 16
	MPP 8: 2 x 16
	MPP 9: 2 x 16
	MPP 10: 2 x 15
	MPP 11: 1 x 16
	MPP 12: 1 x 16

Simulation Results

Results Total System

PV System

PV Generator Output	299,85 kWp
Spec. Annual Yield	1 019,13 kWh/kWp
Performance Ratio (PR)	88,54 %
Yield Reduction due to Shading	1,5 %
PV Generator Energy (AC grid)	305 617 kWh/Year
Clipping at Feed-in Point	0 kWh/Year
CO ₂ Emissions avoided	116 121 kg / year

Appliances

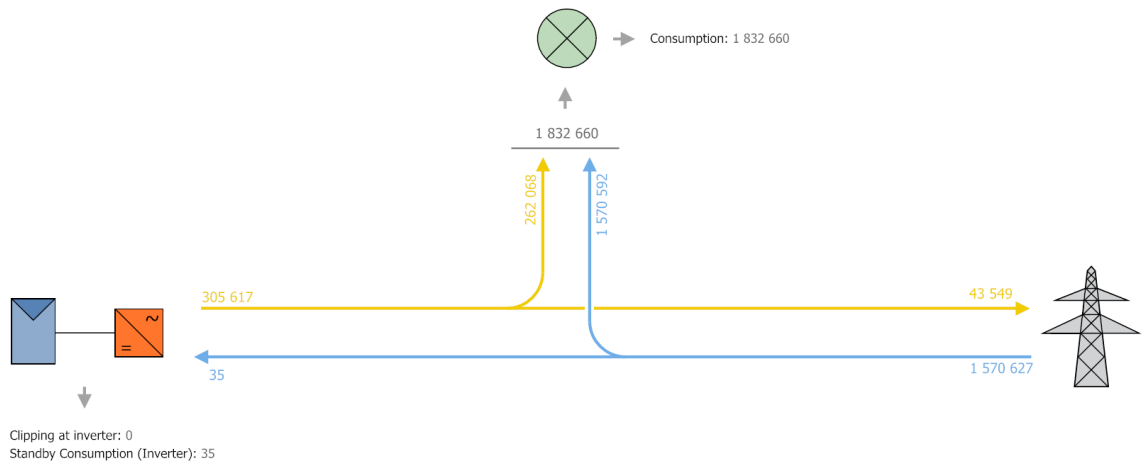
Appliances	1 832 660 kWh/Year
Standby Consumption (Inverter)	35 kWh/Year
Total Consumption	1 832 695 kWh/Year
Energy from Grid	1 527 077,9 kWh
Solar Fraction	16,7 %

Level of Self-sufficiency

Total Consumption	1 832 695 kWh/Year
covered by grid	1 570 627 kWh/Year
Level of Self-sufficiency	14,3 %

Energy Flow Graph

Project: val v5 lz2 300 kwp



All values in kWh
Small deviations in the totals can occur due to rounding
created with PV*SOL

Figure: Energy flow

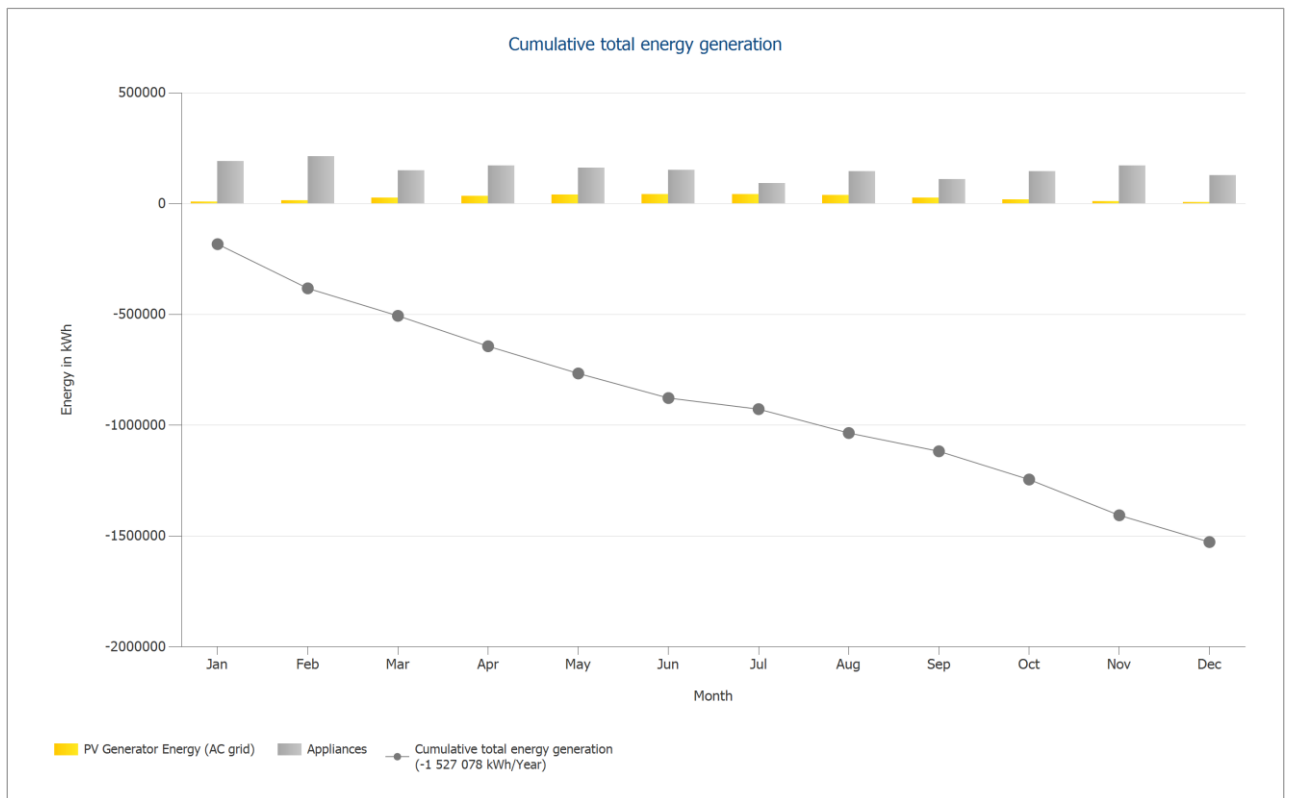


Figure: Cumulative total energy generation

Plans and parts list

Overview plan



Figure: Overview plan

Screenshots, 3D Design Environment



Figure: Zrzut ekranu03



Figure: Zrzut ekranu04