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03.02.2023

Your PV system from SC Habsev GRUP SRL

Address of Installation

s. Cîrnateni, r-nul Causeni



Project Overview



Figure: Overview Image, 3D Design

PV System

3D, Grid-connected PV System

Climate Data	Chisinau, MDA (1996 - 2015)
PV Generator Output	374,92 kWp
PV Generator Surface	1 791,0 m ²
Number of PV Modules	824
Number of Inverters	6

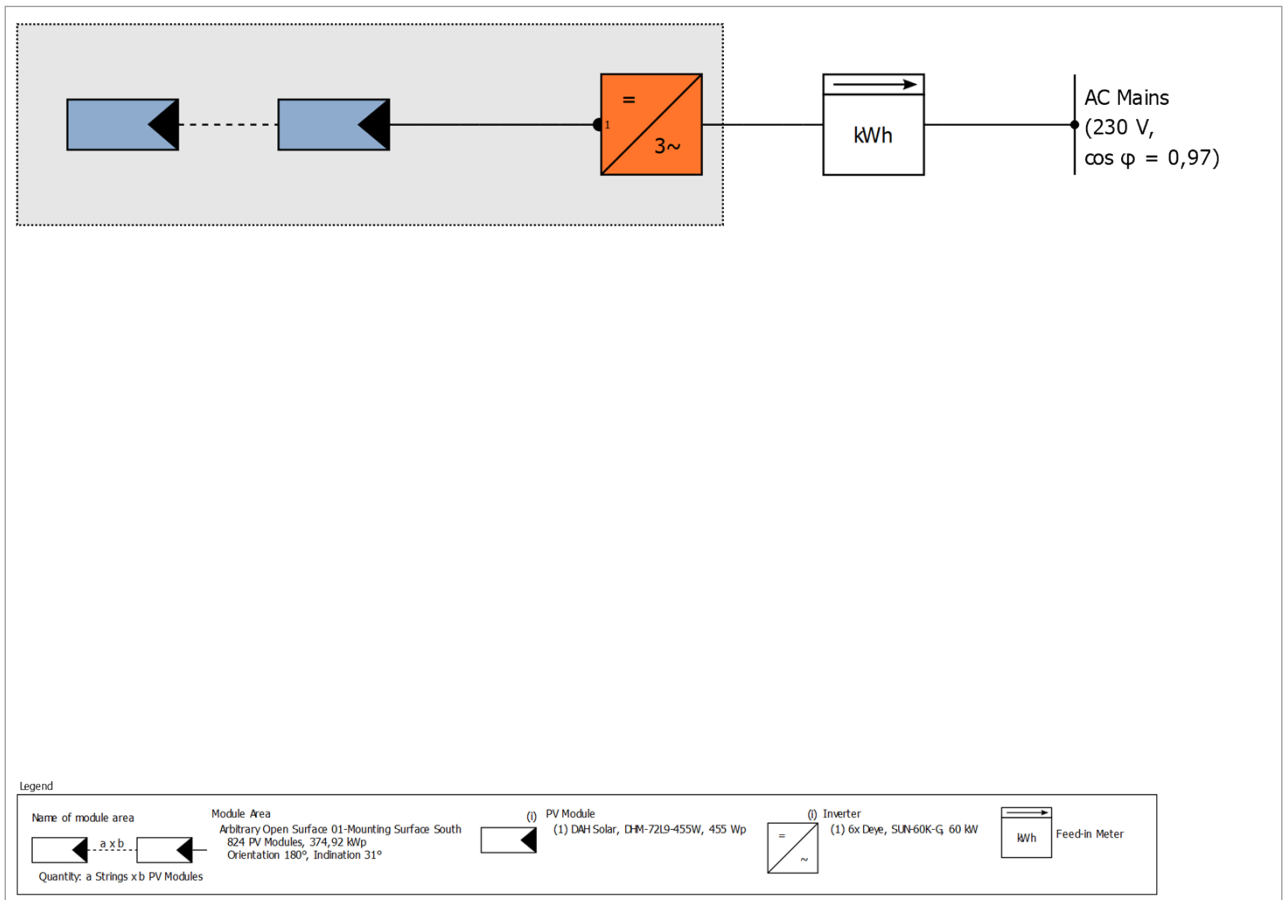


Figure: Schematic diagram

The yield

The yield

PV Generator Energy (AC grid)	450 811 kWh
Grid Feed-in	450 811 kWh
Down-regulation at Feed-in Point	0 kWh
Own Power Consumption	0,0 %
Solar Fraction	0,0 %
Spec. Annual Yield	1 200,69 kWh/kWp
Performance Ratio (PR)	78,8 %
Yield Reduction due to Shading	2,2 %/Year
CO ₂ Emissions avoided	211 576 kg / year

Financial Analysis

Your Gain

Total investment costs	562 380,00 Lei
Return on Assets	0,00 %
Amortization Period	More than 20 Years
Electricity Production Costs	0,07 Lei/kWh
Energy Balance/Feed-in Concept	Full Feed-in

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

Overview

System Data

Type of System	3D, Grid-connected PV System
Start of Operation	02.02.2023

Climate Data

Location	Chisinau, MDA (1996 - 2015)
Resolution of the data	1 h
Simulation models used:	
- Diffuse Irradiation onto Horizontal Plane	Hofmann
- Irradiance onto tilted surface	Hay & Davies

Module Areas

1. Module Area - Arbitrary Open Surface 01-Mounting Surface South

PV Generator, 1. Module Area - Arbitrary Open Surface 01-Mounting Surface South

Name	Arbitrary Open Surface 01-Mounting Surface South
PV Modules	824 x DHM-72L9-455W (v1)
Manufacturer	DAH Solar
Inclination	31 °
Orientation	South 180 °
Installation Type	Mounted - Roof
PV Generator Surface	1 791,0 m ²



Figure: 1. Module Area - Arbitrary Open Surface 01-Mounting Surface South

Degradation of Module, 1. Module Area - Arbitrary Open Surface 01-Mounting Surface South

Remaining power (power output) after 25 years

85 %

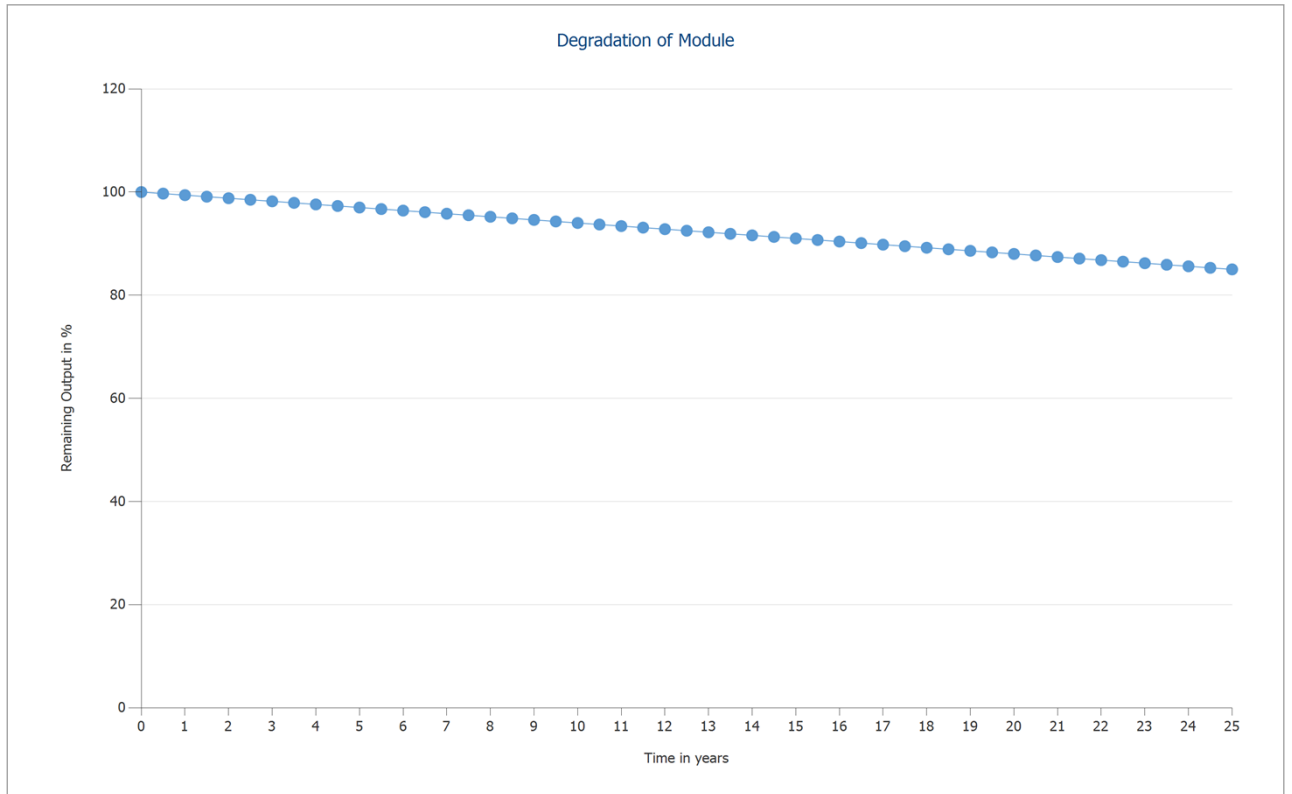


Figure: Degradation of Module, 1. Module Area - Arbitrary Open Surface 01-Mounting Surface South

Horizon Line, 3D Design

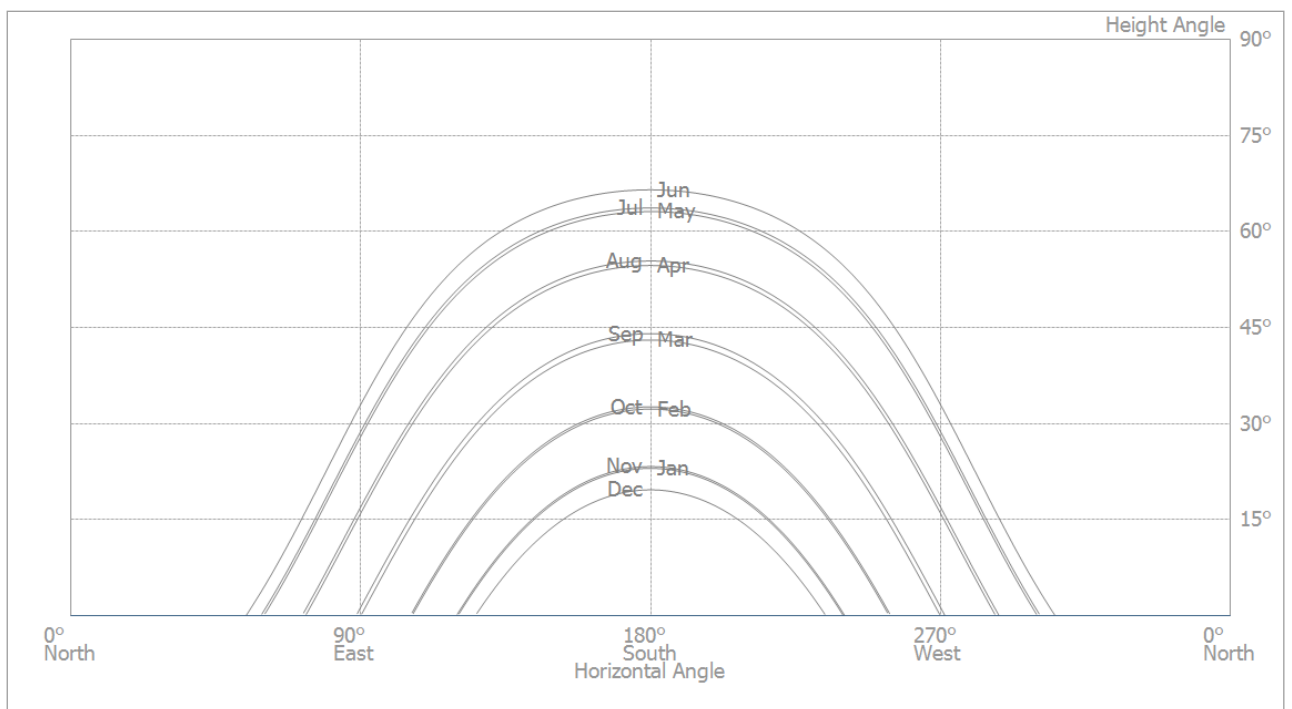


Figure: Horizon (3D Design)

Inverter configuration

Configuration 1

Module Area	Arbitrary Open Surface 01-Mounting Surface South
Inverter 1	
Model	SUN-60K-G (v1)
Manufacturer	Deye
Quantity	4
Sizing Factor	103,9 %
Configuration	MPP 1: 3 x 15
	MPP 2: 2 x 16
	MPP 3: 2 x 15
	MPP 4: 2 x 15
Inverter 2	
Model	SUN-60K-G (v1)
Manufacturer	Deye
Quantity	2
Sizing Factor	104,7 %
Configuration	MPP 1: 3 x 14
	MPP 2: 2 x 18
	MPP 3: 2 x 15
	MPP 4: 2 x 15

AC Mains

AC Mains

Number of Phases	3
Mains Voltage (1-phase)	230 V
Displacement Power Factor (cos phi)	+/- 0,97

Simulation Results

Results Total System

PV System

PV Generator Output	374,9 kWp
Spec. Annual Yield	1 200,69 kWh/kWp
Performance Ratio (PR)	78,8 %
Yield Reduction due to Shading	2,2 %/Year
Grid Feed-in	450 811 kWh/Year
Grid Feed-in in the first year (incl. module degradation)	449 511 kWh/Year
Standby Consumption (Inverter)	649 kWh/Year
CO ₂ Emissions avoided	211 576 kg / year

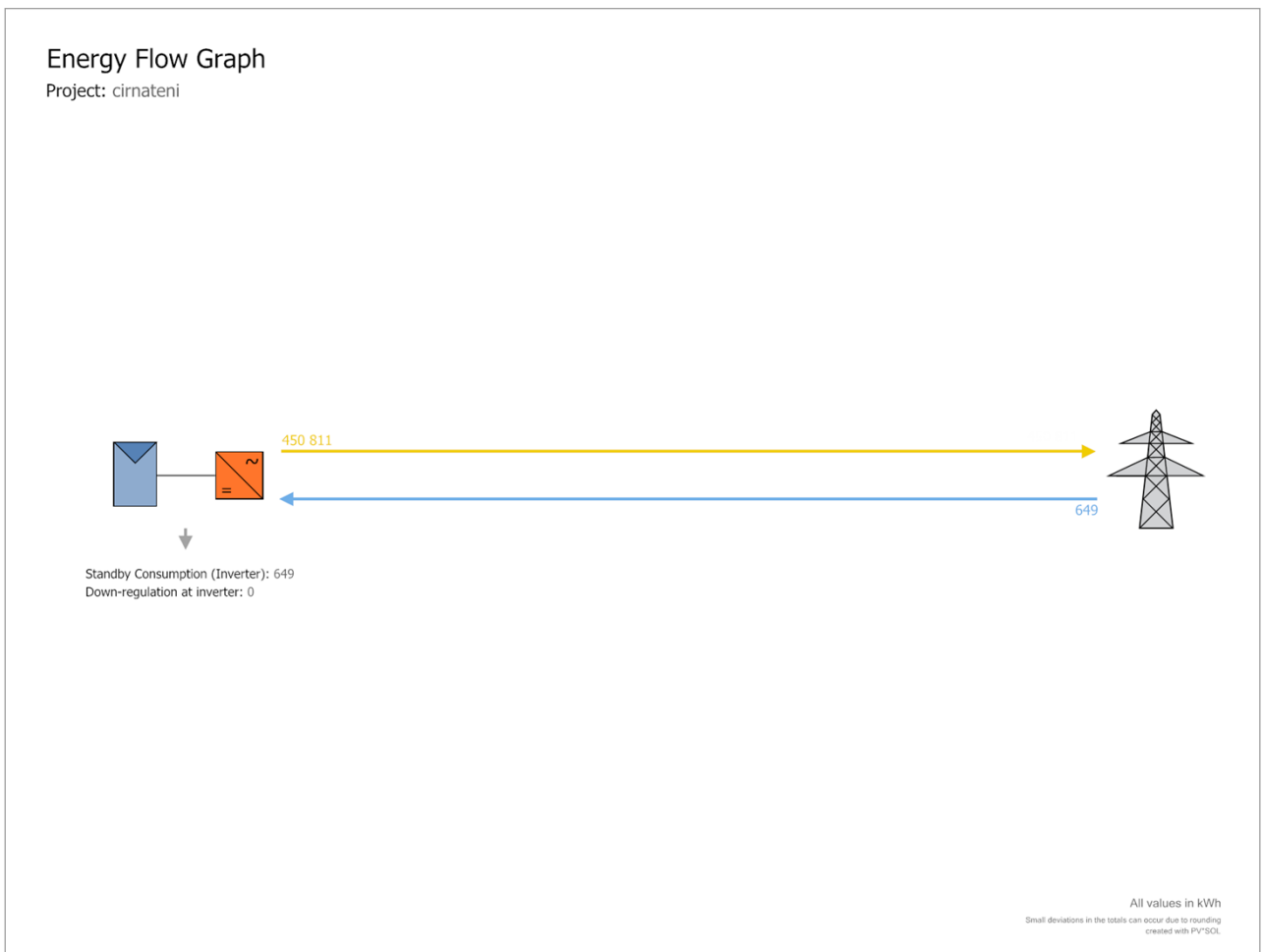


Figure: Energy Flow Graph

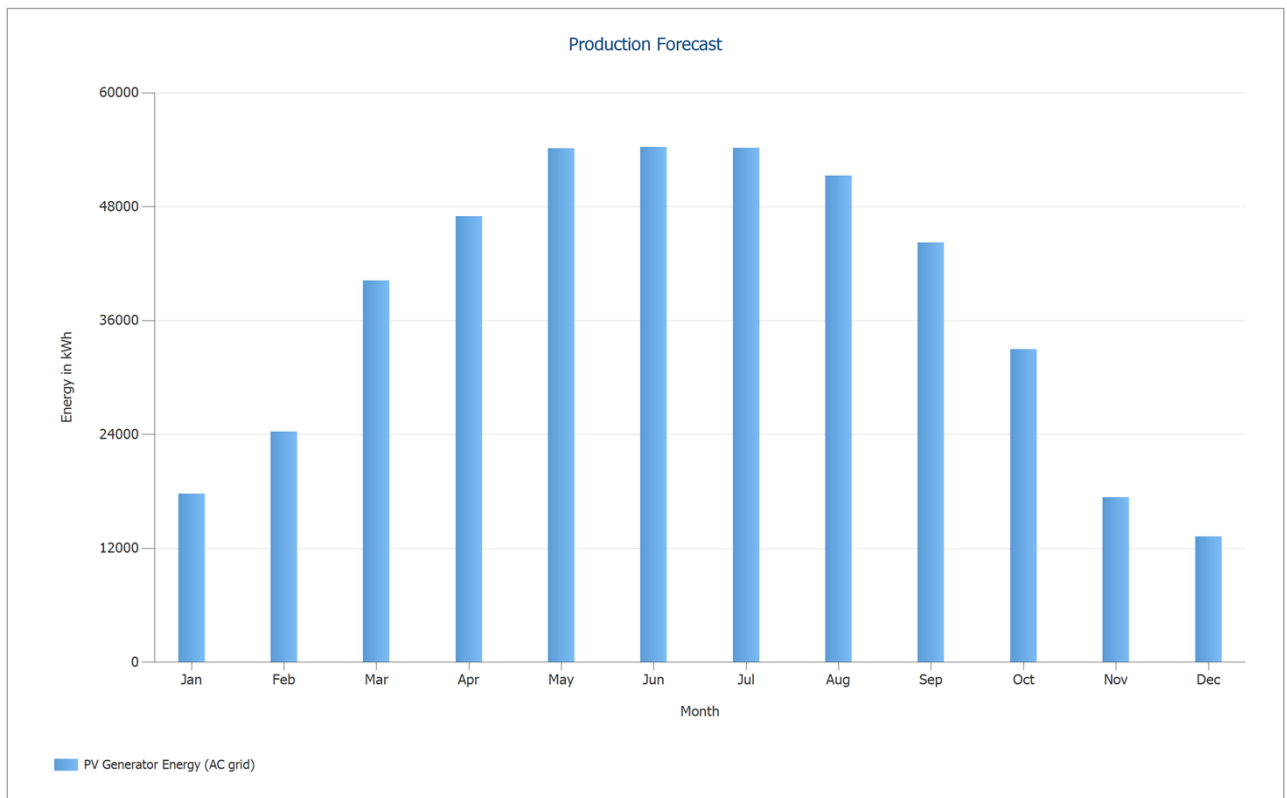


Figure: Production Forecast

Results per Module Area

Arbitrary Open Surface 01-Mounting Surface South

PV Generator Output	374,92 kWp
PV Generator Surface	1 791,02 m ²
Global Radiation at the Module	1510,59 kWh/m ²
Global Radiation on Module without reflection	1524,01 kWh/m ²
Performance Ratio (PR)	78,87 %
PV Generator Energy (AC grid)	450810,79 kWh/Year
Spec. Annual Yield	1202,42 kWh/kWp

Plans and parts list

Circuit Diagram

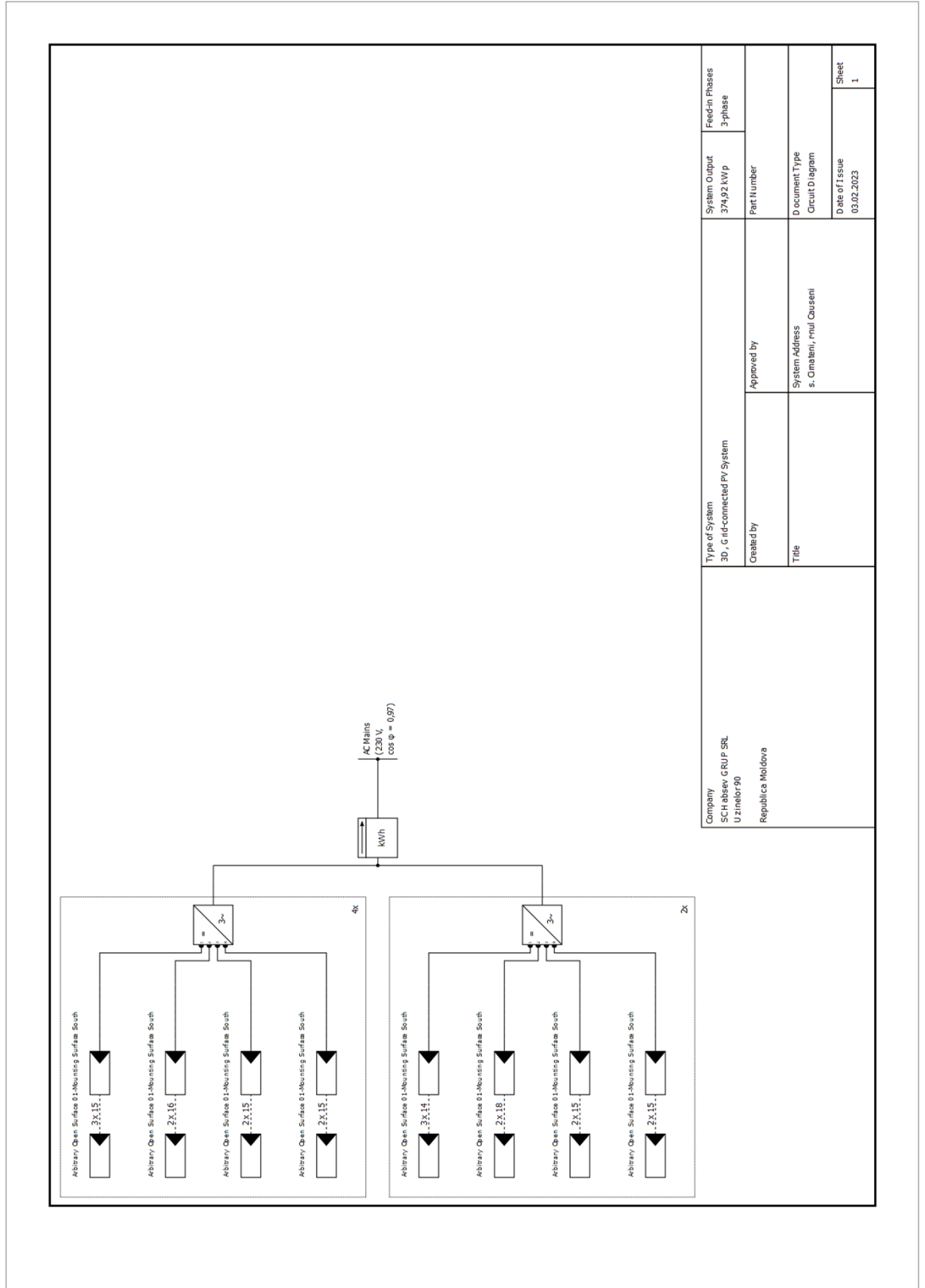


Figure: Circuit Diagram

Parts list

Parts list

#	Type	Item number	Manufacturer	Name	Quantity	Unit
1	PV Module		DAH Solar	DHM-72L9-455W	824	Piece
2	Inverter		Deye	SUN-60K-G	6	Piece
3	Components			Feed-in Meter	1	Piece