



Ground mounted solar power plant

## Features of the plant:

In the construction of the photovoltaic system are used 1056 mono-crystalline modules type Sinski PV SPV 190M-24 with nominal power of 190 Wp, forming 21 two line structures with inclination of 25°. The modules are mounted on metal supporting frames on single structures.

The generated electricity is fed to 11 inverters and to each inverter are connected 6 strings, consisting of 16 serially-connected modules. For the current project are selected SMA Technologies inverters, Sunny Tripower STP 17 000TL model. These are 3-phase inverters without transformers with two MPP trackers and inputs for up to 5 strings for MPP tracker A and 1 for MPP tracker B. They are mounted on the panel construction and each is connected via CBT-c 4x 10mm<sup>2</sup> cable to properly sized circuit breaker in intermediate switchboards. The connection of the intermediate switchboard to low-voltage switchboard is performed with CABT cables 3x90+50 mm<sup>2</sup>, laid in underground trench. The recording of the generated electricity is performed using 3-phase electrometer for indirect measuring, installed in a power meter cartridge on the facade of a newly built Concrete complete transformer substation (CCTS).

The monitoring and control system performs data recording in the energy independent memory and send it over Internet to the central server of SMA – Germany.

The earthing installation is built from a common grounding circuit, composed of galvanized steel bar 40/4mm, laid in the ground to a depth of 0.6 m. The connection of the earthing circuit with the structures is carried out using "U"-shaped bracket, which serves as a connection of the bars, structures and the aluminum supporting panel profiles. The grounding of inverters, intermediate switchboards and all metal non-current-carrying parts is carried out by welding or bolting them to the grounding circuit.

Due to the fact that in the adjacent properties are built two more PV power plants, in order to reduce shading, a common lightning protection is carried out for all three power plants.

## Power Plant Specification

Size:	200.64 DC
Commissioned:	June 2011
Type:	Ground mounted
Site Area:	3344 m <sup>2</sup>
Output:	187 kW
CO <sub>2</sub> Displacement:	~150.5 metric tons per year
Module Surface Area:	1348 m <sup>2</sup>
Modules Used:	Type: SPV 190M-24
	Quantity: 1056
Angles:	Mounting Tilt: 25°
	Azimuth: -1°



## Supported by:



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