



Ground mounted solar power plant

Features of the plant:

For the implementation of the PV power plant were used mono-crystalline modules type Suntech STP 190S-24 with nominal power of 190 Wp and module voltage of VMPP=36V. The power plant consists of 960 modules, forming 15 plates, all with inclination of 30°.

Determining the number of modules in one string is performed by the Sunny Design software

The generated electricity is fed to 10 inverters and to each inverter are connected 6 strings, consisting of 16 serially-connected modules.

For the current project are selected SMA Technologies inverters, model Sunny Tripower STP 17 000TL-10. These are 3-phase inverters with two MPP trackers and inputs for up to 5 strings for MPP tracker A and 1 for MPP tracker B.

The successive connection of the modules in string is carried out by installed factory cables and both end modules of each string with DC cable RADOX Solarcable single core 1 x 4 mm² are connected to the relevant inverter input.

The inverters are grouped into two groups: 5 inverters are connected to intermediate switchboard via a CBT-c 4 x 16 mm² cable and 5 inverters to a main switchboard via a CBT-c 4 x 16 mm² cable.

The intermediate switchboard is connected with CBT-c 4 x 25 mm² cable to a circuit breaker in the main switchboard.

The earthing system is built from a common grounding circuit, composed of galvanized steel bar 40/4mm, laid under the ground. The galvanized steel poles Ø20mm, L=1500mm are connected by bar using welding or brackets, stuck in the designated places. The connection of the grounding circuit with the structures is carried out using "U"-shaped bracket, which serves as a connection of the bar, structures and the aluminum supporting panel profiles. The connection of the supporting aluminum profiles with the grounding circuit is completed with aluminum wire Ø 8mm.

For lightning protection system was chosen early streamer emission lightning conductor SCHIRTEC – A.E.S.E. The shaft height is 5.4 m.

The central monitoring and control device is Sunny Web Box. The monitoring and control device is installed in a low voltage switchboard.

Power Plant Specification

Size:	182,40 DC
Commissioned:	April 2012
Type:	Ground - mounted
Site Area:	3100 m ²
Output:	170 kW
CO ₂ Displacement:	~212 metric tons per year
Module Surface Area:	1226 m ²
Modules Used:	Type: STP 190S - 24
	Quantity: 960
Angles:	Mounting Tilt: 30°
	Azimuth: 18°



Supported by:



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