



Ground mounted solar power plant

Features of the plant:

The project is implemented with Sinski PV SPV 195M-24 type mono-crystalline modules, with nominal power of 195 Wp and module voltage of VMPP = 36.8V. The PV power plant consists of 1014 modules – 324 forming 1 plate with inclination of 8° to the horizon, located on the roof of an existing building and 690 modules, located on 18 static structures on the ground with inclination of 20° to the horizon.

The generated electricity is fed to 10 inverters.

For the current project are selected SMA Technologies inverters, model Sunny Tripower 17 000TL. 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. They are mounted on the relevant panel structure and each is connected in the intermediate switchboard. 7 inverters to intermediate switchboard 1 and 3 inverters to the intermediate switchboard. Intermediate switchboards 1 and 2 are connected to a properly sized circuit breaker in a low-voltage switchboard of newly built CCTS.

The earthing system is built from a common grounding circuit, composed of galvanized steel bar 40/4mm, laid on the existing concrete surface, so after placing the supporting structure legs it can be cast-in by the new layer of concrete. The earthing devices are composed of two galvanized steel poles with dimensions of 50/50/5mm, L=1500mm connected with the bar. 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 earthing device is implemented with aluminum wire Ø 8mm.

The lightning protection system consists of an early streamer emission lightning conductor E.S.E.S-A1p, with advance time of 60 µs and lightning shaft height of 3 m above the highest point on the protected site.

The central monitoring and control device is Sunny Web Box. The device power is implemented via UPS, located in a main switchboard. The monitoring and control devices are installed in a low voltage switchboard.

Power Plant Specification

Size:	197,73 DC
Commissioned:	2012
Type:	Ground & Roof- mounted
Site Area:	7985 m ²
Output:	170 kW
CO ₂ Displacement:	~163.3 metric tons per year
Module Surface Area:	1294.5 m ²
Modules Used:	Type: SPV 195M-24
	Quantity: 1014
Angles:	Mounting Tilt: 8°, 20°
	Azimuth: -57°, -29°



Supported by:



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