



Ground mounted solar power plant

Features of the plant:

The PV power plant consists of 126 mono-crystalline modules type Sinski PV SPV180M-24, forming a static structure with inclination of 30°.

The generated electricity is fed to 3 inverters, Sunny Mini Central SMC 7 000TL. To each inverter are connected 3 strings, and each of them is composed of 14 serially-connected modules. Between the invertors and modules is placed DC switchboard, that provides protection through pair of fuses for each string. In one switchboard are connected 3 strings.

Both end modules of each string are connected to the input of the DC switchboard. The cable is for outdoor installation, resistant to weather conditions and UV radiation.

Inverters have IP65 level of protection against external weather conditions, independent control system of the network parameters „SMA grid guard“, integrated output power balance system “SMA Power balancer”. They are grouped by one for each supply voltage phase and from each exits a CBT-c 2x10 mm² cable and goes to a properly sized circuit breaker into the main switchboard. For main fuse in the main switchboard is provided automatic circuit breaker C60N, 3P, 50A, overvoltage protection with Protec 160/330 (3+1) cathode surge arrester, as well as Power Logic PM9 electrometer, equipped with current transformers TT 50/5A and Phase log controller to monitor the network parameters.

In the implementation of the earthing installation are used 6 earthing devices, combined in a common circuit. The grounding of the PV module frames is guaranteed by their electrical connection with the supporting aluminum profiles. The connection of the supporting aluminum profiles with the grounding circuit is completed with galvanized 40/4 mm bar.

The lightning protection system consists of an early streamer emission lightning conductor E.S.E.S-A1, with advance time of 60 µs and lightning shaft height of 6.70 m.

The monitoring and control system is installed in a low voltage switchboard.

Power Plant Specification

Size:	22.68 DC
Commissioned:	November 2011
Type:	Ground - mounted
Site Area:	740 m ²
Output:	21 kW
CO ₂ Displacement:	~17.3 metric tons per year
Module Surface Area:	161 m ²
Modules Used:	Type: SPV 180M-24
	Quantity: 126
Angles:	Mounting Tilt: 30°
	Azimuth: 3°



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