



Single structure solar power plant

Features of the plant:

For the implementation of the project were used 360 mono-crystalline modules Sinski PV SPV180M-24, forming a static structure with inclination of 10°.

The generated electricity is fed to 6 inverters, Sunny Mini Central SMC 10 000TL. To each inverter are connected 5 strings, and each of them is composed of 12 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 5 strings.

Both end modules of each string with DC cable RADOX Solarcable single core 1 x 4 mm² type are connected to the inverter input.

For the PV system are used 6 SMA Technologies inverters, Sunny Mini Central SMC 10 000TL model. They 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”.

The inverters are grouped into two groups by three and from each exits a CBT-c 2 x 6 mm² cable and goes to a properly sized circuit breaker into the main switchboard. In the main switchboard is provided overvoltage protection with Protec 160/330 (3+1) cathode surge arrester. For main fuse in the main switchboard is provided automatic circuit breaker NSX 160 N, 3P, 125A, as well as Power Logic PM9 electrometer, fitted with current transformers TT 125/5A and Phase log - controller for monitoring 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 10.20 m.

The monitoring and control devices are mounted in low voltage switchboard.

Power Plant Specification

Size:	64,80 DC
Commissioned:	May 2011
Type:	Single Construction
Site Area:	1000 m ²
Output:	60 kW
CO ₂ Displacement:	~46.4 metric tons per year
Module Surface Area:	460 m ²
Modules Used:	Type: SPV 180M-24
Quantity:	360
Angles:	Mounting Tilt: 10°
	Azimuth: -14.5°



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