



Ground mounted solar power plant

Features of the plant:

The modules used for the construction of the PV system are mono-crystalline SPV 180M-24 type, with nominal power of 180 Wp and voltage of 24 V. The mono-crystalline modules have better temperature coefficient and given the geographic location of the site, it is most appropriate to choose mono-crystalline modules.

The generated electricity is fed to 9 inverters and to each inverter are connected 4 strings, consisting of 13 serially-connected modules. Both end modules of each string with DC cable RADOX Solarcable single core 1 x 4mm² type or equivalent are connected to the inverter input. The cable is for outdoor installation and is weather-proof. At the inverter input is installed a DC switchboard, fitted with fuses for each of the two poles.

The inverters selected for the purpose are from SMA Technologies, Sunny Mini Central SMA SMC 9 000 TL model. They are without transformers, single-phase, with inputs for 4 strings and IP65 level of protection against external weather conditions. The inverter groups are grouped into three groups by three and from each exits a CBT c 2x10 mm² cable and goes to a properly sized circuit breaker into intermediate switchboard. From each inverter exits a 4 x 16 mm² CBT-c cable and goes to a tripolar C60N 63A circuit breaker with C-curve into the main switchboard.

For main fuse is provided automatic circuit breaker NSX 160 F, 3P, 160 A, tripolar with Micro Logic 2-2-G, motor drive and voltage relay. In the switchboard is installed Power Logic PM9 electrometer equipped with current transformers TT 150/5A and Phase log controller.

In the earthing installation are used 14 earthing devices, combined in a common circuit. The earthing circuit consists of a galvanized 40/4 mm steel bar, dug in the ground.

For the implementation of the lightning protection system was chosen early streamer emission lightning conductor SCHIRTEC – A E.S.E., with shaft height of 5.40 meters.

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

Power Plant Specification

Size:	84.24 DC
Commissioned:	2010
Type:	Ground-mounted
Site Area:	3858 m ²
Output:	81 kW
CO ₂ Displacement:	~ 72.9 metric tons per year
Module Surface Area:	597.5 m ²
Modules Used:	Type: SPV180M-24
	Quantity: 468
Angles:	Mounting Tilt: 30°
	Azimuth: 0°



Supported by:



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