



Ground mounted solar power plant

Features of the plant:

In the construction of the photovoltaic system are used 252 mono-crystalline modules type SPV 180M-24, forming 6 plates of 42 modules with inclination of 30°. Each plate consists of 2 rows with 21 modules. The generated electricity is fed to 6 inverters and to each inverter are connected 3 strings, consisting of 14 serially-connected modules. The successive connection of the modules in string is carried out by installed factory cables with standard MC3 connectors. Both end modules of each string with DC cable IBC Flexy Sun Sun 1x4mm² type or equivalent are connected to the inverter input. The cable is for outdoor, mobile or fixed installation and resistant to weather conditions, high and low temperatures and UV radiation.

The inverters used for this site are Sunny Mini Central SMC 7 000TL from SMA Technologies. From each inverter exits a CBT c 2x10mm² cable and goes to a properly sized circuit breaker into a main switchboard. In the main switchboard is provided overvoltage protection with PRF 1 3P + N cathode surge arrester, type 1, circuit breaker - disconnecter for PRF 1 C 120 D, 3P, 125 A, tripole with D-curve and cathode surge arrester, PRD 40r 3P + N fitted with circuit breaker - disconnecter for PRD 40, C60 N, 3P + N, 40 A, tripole with C-curve.

The main switchboard and the inverters are installed on the north side of the relevant construction. The measuring of the output electricity is carried out by three-phase static electrometer, programmed to measure the energy in both directions, installed in electrometer board.

To achieve the necessary parameters of the earthing system are used 18 earthing devices, combined in a common circuit. Each earthing device is a grounding pole of galvanized steel, which are durable and with low level of corrosion, made of L-shaped hot rolled profile and stuck below the foundation level. Directly next to the last step of the eastern and western section of each supporting structure, above the foundation level is installed a control disconnecting terminal for connection to the grounding circuit.

In the lightning protection system is used early streamer emission lightning conductor SCHIRTEC – AESE, and in the low voltage switchboard is installed central „Sunny Web Box” device for monitoring and control.

Power Plant Specification

Size:	45.36 DC
Commissioned:	June 2011
Type:	Ground-mounted
Site Area:	2417 m ²
Output:	42 kW
CO ₂ Displacement:	~39.1 metric tons per year
Module Surface Area:	322 m ²
Modules Used:	Type: SPV180M-24
Quantity:	252
Angles:	Mounting Tilt: 30°
	Azimuth: 0°



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