



Ground mounted solar power plant

Features of the plant:

For the construction of the PV power plant are used mono-crystalline modules Solar Swiss SSM-170/24M and modules EQ Solar EQS 170D-24. Both module types are with nominal power of 170Wp and voltage of 24 V.

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 RADOX Solar cable single core 1x4mm² type 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 number of strings and modules in one string are optimized so that the power plant can be built with random modules from any manufacturer, as long as they meet the following requirements: modules are mono-crystalline or poly-crystalline; 72 pieces of serially-connected silicon cells in one module; dimensions of the silicon cell 125x125; dimensions of one module 1585x805x34 +/- 10mm.; DC power of modules 155-170 Wp.

For the current project is selected SMA Technologies inverter, and for the envisaged installed power is responsible the Sunny Boy SB 5000TL HC Multi-String model.

From the inverter exits a CBT-c 3x10mm² cable and goes to a circuit breaker C60N 32 A, unipolar with C-curve in the main switchboard. In the main switchboard is provided overvoltage protection with PRD 20 1P+N cathode surge arrester, type 2, unipolar, equipped with circuit breaker - disconnecter for PRD 20 - C60N 1P+N 25 A, unipolar with C-curve.

The earthing system consists of 3 earthing devices, combined in a common circuit.

The lightning protection system consists of single lightning rod - a horizontal line with cross section of 35mm², at a height of no less than 5.20m. The installation of the supporting shafts is at a safe distance from the solar modules to avoid shading.

The central monitoring and control device is Sunny Web Box

Power Plant Specification

Size:	77.76 DC
Commissioned:	March 2012
Type:	Ground-mounted
Site Area:	7815 m ²
Output:	72 kW
CO ₂ Displacement:	~51 metric tons per year
Module Surface Area:	551.5 m ²
Modules Used:	Type: SSM170/24M EQS170D/24M
Quantity:	29
Angles:	Mounting Tilt: 30° Azimuth: 18°



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