STS SOLAR

Project Datesheet

Ground mounted solar power plant

Features of the plant:

The PV power plant is built of 468 mono-crystalline modules SPV 180M-24, with nominal power of 180 Wp and voltage of 24 V, forming 9 rows of static structures with inclination of 30°.

The generated electricity is fed to 9 inverters and to each inverter are connected 4 strings, and each of them is composed of 13 serially-connected modules.

Both end modules of each string with DC cable RADOX Solarcable single core 1x4мм^2 type are connected to the inverter input. The cable is for outdoor installation and it is resistant to weather conditions, high and low temperatures and UV radiation.

For the power plant are used single-phase inverters without transformers, SMA Technologies Sunny Mini Central SMC 9 000TL. They are grouped into four groups by three and from each exits a CBT c 2x16mm^2 cable and goes to a properly sized circuit breaker into the relevant intermediate switchboard. From each intermediate switchboard exits a CBT-c 4x16мм^2 cable and goes to a NB1-63 63A circuit breaker into the main switchboard. In the main switchboard is provided overvoltage protection with Protec C 120/320 cathode surge arrester.

For main fuse is used automatic circuit breaker NM1 250S, 3P-160A. In the main switchboard is installed VIP electronic multimeter, equipped with current transformers TT 150/5A and EK-RSTB - controller to monitor the network parameters.

To achieve the necessary parameters of the earthing system are used 18 earthing devices, combined in a common circuit, made of galvanized 40/4 mm steel bar 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 earthing device is completed with galvanized 30/3 mm bar. The grounding of inverters, main switchboards and all metal non-current-carrying parts is carried out by welding or bolting them to the grounding circuit.

The lightning shaft with height of 6.45 m and early streamer emission lightning conductor SCHIRTEC - AESE are installed 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:	84.24 DC
Commissioned:	June 2012
Type:	Ground-mounted
Site Area:	7213 м^2
Output:	81 kW
CO_2 Displacement:	~ metric tons per year
Module Surface Area:	579.5 m^2
Modules Used:	Type: SPV180M-24
	Quantity: 468
Angles:	Mounting Tilt: 30°
	Azimuth: 0°

Supported by:

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