



63kW Single structure solar power plant

Features of the plant:

The photovoltaic system is built of mono-crystalline modules SPV 180M-24, with nominal power of 180 Wp and 24 V voltage. Determining the number of modules in one string is performed by Sunny Design software, provided by the inverter manufacturer. The entire power plant consists of 369 modules, forming static structure with inclination of 30°.

The generated electricity is fed to 9 inverters, Sunny Mini Central SMC 7 000TL. To each inverter are connected 3 strings, and each of them is composed of 14 serially-connected modules for PV1-PV6 and 13 serially-connected modules for PV7-PV9.

Both end modules of each string with DC cable RADOX Solarcable single core 1x4mm² type are connected to the inverter input.

The inverters are grouped into three groups by three and from each exits a CBT-c 2x10mm² cable and goes to a properly sized circuit breaker into intermediate switchboard. The main switchboard and the inverters are installed on the north side of the relevant construction.

From the inverter exits a CBT-c 2x10mm² cable and goes to a circuit breaker NB1-63 50A, unipolar with C-curve in the main switchboard. In the main switchboard is provided overvoltage protection with Protec 120/320 (3+0) cathode surge arrester, equipped with circuit breaker – disconnecter DZ 158-125, tripole.

For main fuse in the main switchboard is used automatic circuit breaker NM1-250S/3300, tripole with EMC protection 125 A, as well as electronic multimeter VIP, fitted with current transformers TT 125/5A and Elmark EK-RSTB – controller for monitoring the network parameters.

To achieve the necessary parameters of the earthing system are used 6 earthing devices, combined in a common circuit. 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 protection system is fitted with early streamer emission lightning conductor SCHIRTEC – A.E.S.E., with shaft height of 9.20 meters.

The central monitoring and control device is „Sunny Web Box”.

Power Plant Specification

Size:	66.42 DC
Commissioned:	June 2012
Type:	Single construction
Site Area:	791 m ²
Output:	63 kW
CO ₂ Displacement:	~ metric tons per year
Module Surface Area:	471 m ²
Modules Used:	Type: SPV180M-24
	Quantity: 369
Angles:	Mounting Tilt: 30°
	Azimuth: -15°



Supported by:



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