STS SOLAR

Project Datesheet

Single structure 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 power plant consists of 360 modules, forming 3 plates of 120 modules with inclination of 16°.

The generated electricity is fed to 6 inverters and to each inverter are connected 5 strings, consisting of 12 serially-connected modules.

For this project were selected SMA Technologies inverters, Sunny Mini Central SMA SMC 10 000 TL model.

These are single-phase inverters without transformers and are designed, so they can work only in parallel with the power supply network. In case of removing or changing the parameters outside the limits of the AC network, to which the inverter output is connected, it will stop working automatically and avoids work in autonomous mode. After a set period of time there will be another attempt for switching on, but if the deviation is critical for the inverter operation, then the switching off remains until the elimination of the cause. The independent network parameter control system „SMA grid guard" takes care about all this.

Both end modules of each string with DC cable RADOX Solarcable single core 1x4мм^2 type are connected to the inverter input. At the inverter input is installed DC switchboard.

In the main switchboard the inverters are connected to the three phases in the so called "star scheme", and to each phase there are two inverters and thus balancing the power.

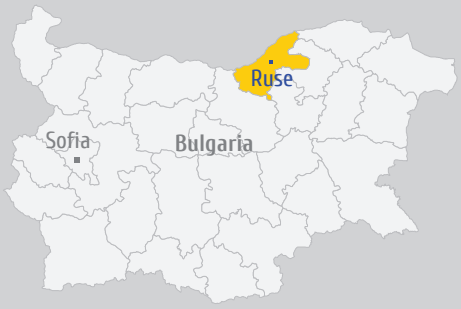
To achieve the necessary parameters of the earthing system are used 12 earthing devices, combined in a common circuit. Each earhing device is a grounding pole of galvanized steel made of L-shaped hot rolled profile with dimensions 50x50x5x 1500 mm., and the grounding circuit consists of a galvanized 40/4 mm steel bar, dug in the ground.

For lightning protection system was chosen early streamer emission lightning conductor SCHIRTEC – A E.S.E and shaft height of 9.00 m. As an option is provided a lightning counter.

The central monitoring and control device is Sunny Web Box. The monitoring and control device is installed in a low voltage switchboard.

Power Plant Specification

Size:	64.80 DC
Commissioned:	2012
Type:	Single construction
Site Area:	910 м^2
Output:	60 kW
CO_2 Displacement:	~ metric tons per year
Module Surface Area:	559 m^2
Modules Used:	Type: SPV 180M-24, Quantity: 360
Angles:	Mounting Tilt: 16° Azimuth: -1°



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