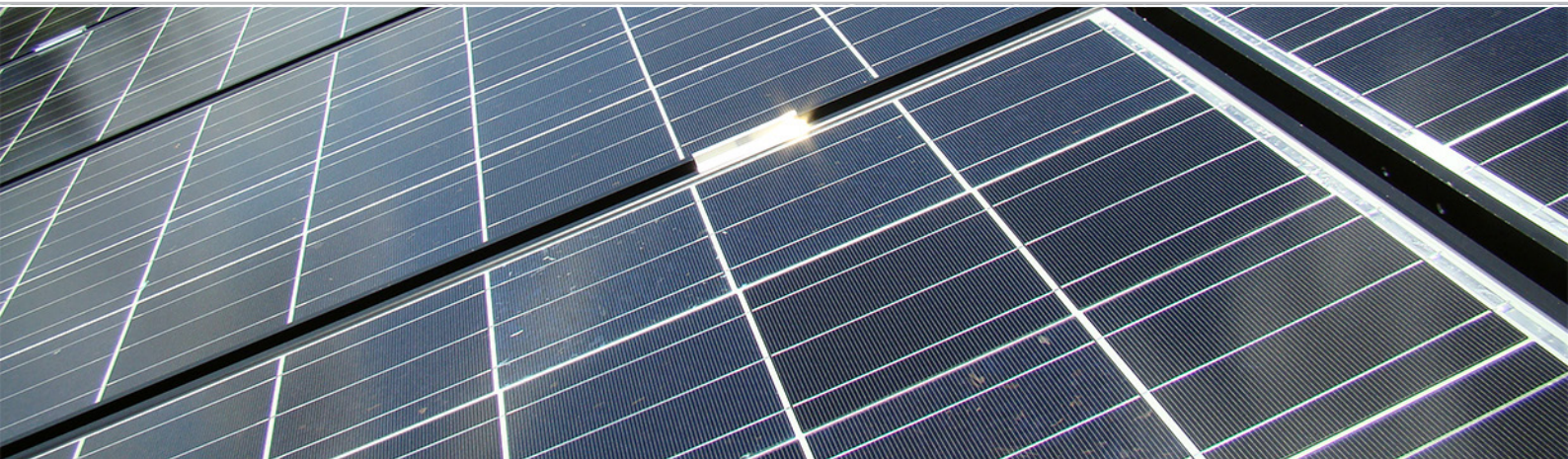




Single structure solar power plant

Features of the plant:

The PV power plant consists of 378 modules type PV 180M-24, with nominal power 180 Wp and voltage of 24 V. Determining the number of modules in one string is performed by Sunny Design software, provided by the inverter manufacturer.

The generated electricity is fed to 9 inverters and to each inverter are connected 3 strings, consisting of 14 serially-connected modules.

For this project were selected SMA Technologies inverters, and for the envisaged installed power is responsible the Sunny Mini Central SMA SMC 7 000 TL model. These are single-phase inverters with inputs for 4 strings.

Both end modules of each string with DC cable RADOX Solarcable single core 1x4mm² type are connected to the inverter input. The cable is for outdoor installation and is weatherproof.

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 the relevant intermediate switchboard.

From each intermediate switchboard exits a CBT c 4x16mm² cable and goes to a tripolar C60N 63A circuit breaker with C-curve into the main switchboard. In the main switchboard is provided overvoltage protection with PRF 1 1x4P cathode surge arrester, type 1 PRD 40 4P type 2. For main fuse is provided automatic circuit breaker NS 160 N, 3P, 160 A, tripole with electronic protection STR22GE set to 125 A, with minimum voltage protection and motor drive. In the main switchboard is installed Power Logic PM9 electrometer equipped with current transformers TT 125/5A and Phase log controller to monitor the network parameters.

The earthing system consists of 8 earthing devices, combined in a common circuit. The earthing circuit consists of a galvanized 40/4 mm steel bar, dug to a depth of minimum 40 cm.

The lightning protection system consists of an early streamer emission lightning conductor Schirtec - A E.S.E. and lightning shaft height of 10.50m.

Power plant monitoring and control is implemented by Sunny Web Box device, powered through UPS.

Power Plant Specification

Size:	68.04 DC
Commissioned:	June 2012
Type:	Single construction
Site Area:	822 m ²
Output:	63 kW
CO ₂ Displacement:	~53.6 metric tons per year
Module Surface Area:	483 m ²
Modules Used:	Type: SPV180M-24
	Quantity: 378
Angles:	Mounting Tilt: 30°
	Azimuth: 3°



Supported by:



5300 Gabrovo, Bulgaria,
Stancionna 14 St.
Phone: +359 (66) 817 404
Fax: +359 (66) 817 407
Email: solar@sts.bg
www.solar.sts.bg

