

# SHARP

NA series

901 W | 851 W

801 W

Microamorphous thin-film photovoltaic modules



say yes to solar power!  
Because it protects the climate.

### Innovation from the photovoltaic pioneer

Sharp, as a solar specialist with 50 years of experience in photovoltaics (PV), makes an essential contribution towards groundbreaking advancements in solar technology.

NA series thin-film photovoltaic modules consist of an amorphous and a microcrystalline silicon film. This microamorphous tandem structure absorbs not only the visible, but also the invisible components of the sun's spectrum, and leads to especially effective utilisation of solar energy.

All the Sharp NA series modules offer optimal system integration – both technically and economically – and are suitable for installation in grid-coupled and grid-independent systems.



### Product features

- Tandem structure comprising an amorphous and a microcrystalline silicon film with stabilised module efficiency of up to 8,5 %.
- The black module creates a harmonious appearance.
- Higher energy yield per Watt both at high temperatures and with diffuse light.
- Use of annealed glass, EVA plastic and weather-protection foil, as well as an anodised aluminium frame with two water drainage holes for prolonged use.
- Output: connection cable with water-protected plug connector.

### Quality from Sharp

Sharp Solar quality sets standards. Permanent monitoring guarantees consistent high quality. Each module is optically, mechanically and electrically tested. You recognise it from the Original Sharp label, the serial number and the Sharp guarantee:

- 2 year product guarantee
- 10 year performance guarantee for a 90 % power output
- min. 20 year performance guarantee for a 80 % power output

The detailed guarantee conditions and further information is available at [www.sharp-world.com](http://www.sharp-world.com).

### Brief information for the installer

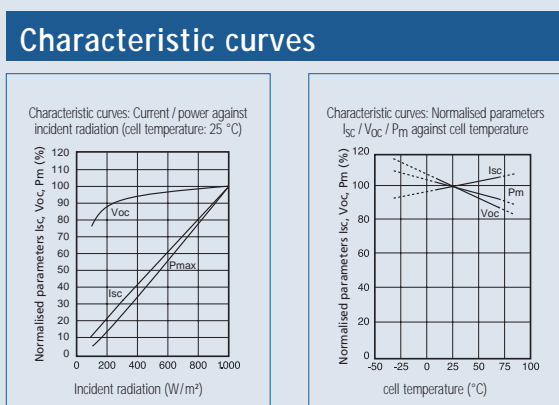
- Tandem construction comprising an amorphous and a microcrystalline silicon film
- 1 bypass diode
- 2,400 N/m<sup>2</sup> mechanical load-bearing capacity (245 kg/m<sup>2</sup>)
- 600V DC maximum system voltage
- CE tested for your safety

Mechanical data	
Cell	Tandem cell made of amorphous ( $\alpha$ -Si) silicon
Connection	2 submodules in parallel
Dimensions	1,129 x 934 x 46 mm (1,05 m <sup>2</sup> )
Weight	18 kg
Connection type	Cable with plug connector (MC-3)
Bypass diodes	1

Limit values		
Storage humidity	up to 90	%
Operating temperature (cell)	-40 to +90	°C
Storage temperature	-40 to +90	°C
Maximum system voltage	600	V DC
Maximum mechanical load	2,400	N/m <sup>2</sup>

Electrical data	Module production in Japan	Initial value			Nominal value			
		NA-901WP	NA-851WP	NA-801WP	NA-901WP	NA-851WP	NA-801WP	
Rated power		105,9 W <sub>p</sub>	100 W <sub>p</sub>	94 W <sub>p</sub>	90 W <sub>p</sub>	85 W <sub>p</sub>	80 W <sub>p</sub>	
Open circuit voltage	V <sub>OC</sub>	66.6	65.0	64.5	65.2	63.8	63.2	V
Short circuit current	I <sub>SC</sub>	2.20	2.20	2.16	2.11	2.11	2.08	A
Voltage at maximum power	V <sub>PM</sub>	53.5	52.0	50.5	49.3	49.0	47.6	V
Current at maximum power	I <sub>PM</sub>	1.98	1.92	1.86	1.83	1.74	1.68	A
Module efficiency	$\eta_m$				8.5	8.1	7.6	%
Temperature coefficient - open circuit voltage	$\alpha_{V_{OC}}$	-0.3	-0.3	-0.3	-0.3	-0.3	-0.3	% / °C
Temperature coefficient - short circuit current	$\alpha_{I_{SC}}$	+0.070	+0.070	+0.070	+0.070	+0.070	+0.070	% / °C
Temperature coefficient - power	$\alpha_{P_m}$	-0.24	-0.24	-0.24	-0.24	-0.24	-0.24	% / °C

The electrical data apply under standard testing conditions (STC): Incident radiation 1,000 W/m<sup>2</sup> with AM 1.5 light spectrum at a cell temperature of 25 °C. The power output is subject to a manufacturing tolerance of  $\pm 5\%$  and  $\pm 10\%$ .

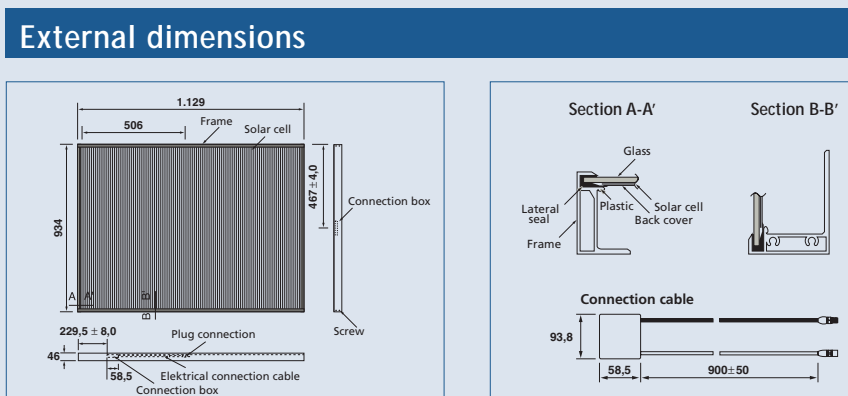


### Applications

- Grid-coupled PV systems
- Grid-independent systems
- On-roof PV systems (roof parallel)
- On-roof PV systems (on stilts)
- Open air PV systems

The instructions in the installation guide must always be observed (e.g. max 7 modules in a row, inverters without transformers are not permitted, 2 parallel lines must be protected with a blocking diode in each case).

A generator cabinet with the approved blocking diodes can be obtained from Sharp Hamburg.



### Note

Modifications to technical data are possible without prior notice. Please request the current datasheets from Sharp before using Sharp products. Sharp assumes no responsibility for damage caused to equipment fitted with Sharp products based on unverified information.

The specifications may deviate slightly and are not guaranteed. Installation and operating instructions are to be obtained from the relevant manuals or can be downloaded from [www.sharp-world.com](http://www.sharp-world.com).

This module should not be connected directly to a load.

**SHARP**

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