

# INSTALLATION AND GENERAL RECOMMENDATION FOR SPSYSTEM STANDARD SERIES

## Introduction

- Before installation read carefully the following instructions and be sure to use SPSistem modules safely.
- All applicable national and local electrical codes should be followed during the installation.
- Failure to observe the following instructions may result in death or personal injury, and property damage.
- SPSistem warranty do not apply if the instructions indicated below are not observed.

## General recommendations

- Do not use the PV module where failure could result in death, personal injury or damage to property.
- Ensure that modules comply with specifications required for the total system.
- Handle the PV modules with care.
- Do not disassemble bend or deform the photovoltaic modules.
- Do not stand or walk on them to avoid personal injury and damages to the module.
- Do not impact on front or rear surface of the PV module.
- Do not throw objects at them.
- Do not allow modules to fall. Do not throw or drop them.
- Do not touch live parts of wires, cables ,connectors, or junction boxes. Be sure that the circuit breaker is off if it's applicable. Always use appropriate safety equipment ( insulated tools, insulating gloves, etc.)

## Installation

### Warning

- Follow all local electrical regulations when installing.
- Installers should be qualified personnel who are experienced with electrical work and with the installation of PV systems.
- Do not use damaged PV modules.
- Cover the front surface of the PV module with an opaque cloth or other material when installing and repairing. The PV module exposed to sunlight generates high voltage and current. Contact with the module output wiring may cause a fire or an electrical shock.
- Fasten the PV modules to the mounting framework firmly so that they will not be affected by wind and snow loads. The framework should meet local building standard.
- Ground securely the PV modules and the mounting framework. Install the PV modules securely and properly to avoid accidents with personal injury or even death and damage to property by accumulated snow.
- Connect a circuit breaker or some equipment to detect the leakage current and then break the circuit.

### Climate conditions.

Install the PV module within the following conditions :

- Ambient temperature: da -20 °C a 45 °C.
- Operating temperature: da -20 °C a 85 °C.
- PV modules shall not be immersed in water and shall not be continually exposed to water from a sprinkler, mountain etc.

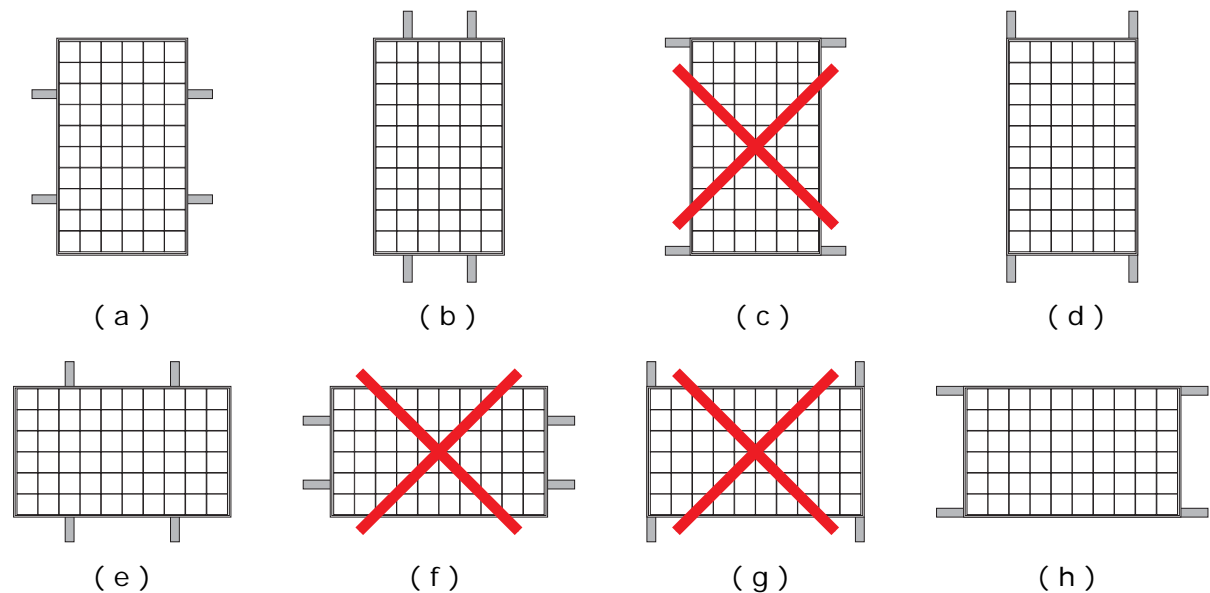
- PV modules shall not be installed in corrosive areas ( salty or sulfurous areas ).

### Orientation

- The best possible orientation for PV modules is one facing south in Northern hemisphere, and one facing north in Southern hemisphere, with a slope of approximately 30°. PV modules connected in series should be installed at the same orientation and angle.
- Position the PV module as free as possible from shades due to buildings, trees or any other object.

### Mounting

- All applicable electrical codes should be followed during the installation.
- SPSistem modules are supplied without fixing holes in order to allow maximum flexibility to installers.
- Pls see possible configurations for vertical and horizontal mounting in picture number 1. In configurations (a) and (e) spacing between the two axis should be between 800 and 1000mm. In configuration (h) fixing holes should be positioned on the longest side.
- Fixing holes must be minimum 4 and shall respect configurations in fig.1.
- Screws with two nuts plus washer and grover shall be used when mounting and fastening to the fixing holes.



- Be careful to ground the system following applicable national and local electrical codes.

### Wiring

- This module is supplied with Tyco junction box with plug connector, inclusive of a cable pre-connected to the negative connector (colour blu) and to the negative pole (sign-) of the junction box.
- Connect the positive connector (colour red) of the cable to the positive pole (sign +) of the subsequent module's junction box;
- Do not connect the positive connector (colour red) of the cable to the positive pole (sign +) of the same module junction box. This will cause a short circuit.



*SPS istem Srl*  
*Italian producer of photovoltaic modules*

Via della Meccanica 3/B 37139 Verona  
 Tel.: +39 0456090302 Fax: +39 0456090302  
 Site: [www.spsistem.com](http://www.spsistem.com) E-mail: [info@spsistem.com](mailto:info@spsistem.com)