SILFAB SOLAR INC.

SAFETY and INSTALLATION MANUAL

Photovoltaic Modules:

- SLAXXXM3A/SLAXXXM
- SLAXXXP3A/SLAXXXP
- SLGXXXM3G/SLGXXXM
- SLGXXXP3G/SLGXXXP
- SSAXXXM
- SSAXXXP
- SSGXXXM
- SSGXXXP

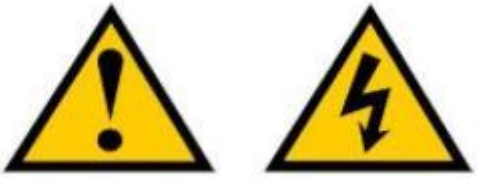
Document Number: MAN-SFO-03

Revision Date: Feb. 16, 2015

CONTENTS

SAFETY NOTICE

This Safety and Installation Manual provides important safety information relating to the installation, maintenance and handling of Silfab SLA/SSA and SLG/SSG modules. Professional installers, operation & maintenance technicians, and system users/owners should read this manual carefully and strictly follow the instructions. Failure to follow these instructions may result in death, injury or property damage, and possible void of warranty.



Warning: All instructions should be read and understood before attempting to install, wire, operate and/or maintain the module. Module interconnects pass direct current (DC) when exposed to sunlight or other light sources. Contact with electrically active parts of the module, such as terminals, can result in injury or death, whether the module is connected or disconnected.

Avertissement : Toutes les instructions devront être lues et comprises avant de procéder à l'installation, le câblage, l'exploitation et/ou l'entretien des panneaux. Les interconnexions des panneaux conduisent du courant continu (CC) lorsque le panneau est exposé à la lumière du soleil ou à d'autres sources lumineuses. Tout contact avec des éléments sous tension du panneau tels que ses bornes de sortie peut entraîner des blessures ou la mort, que le panneau soit connecté ou non.

1. General Information

The photovoltaic (PV) modules Silfab SLAXXXM3A/SLAXXXM, SLAXXXP3A/SLAXXXP ('SLA'); SSAXXXM, SSAXXXP ('SSA'); SLGXXXM3G/ SLGXXXM, SLGXXXP3G/SLGXXXP ('SLG'); and SSGXXXM, SSGXXXP ('SSG') are devices that produce electrical energy by converting the sunlight's radiation reaching their surface, when appropriately exposed, into continuous/direct current (DC).

The rated currents at Standard Test Conditions (STC) of these modules are variable depending on the model and the relative power rating, as indicated in the respective datasheets.

2. Disclaimer of Liability

Since the methods of system design, installation techniques, handling and use of this product are beyond company control; Silfab does not assume responsibility and expressly disclaims liability, for loss, damage or expense resulting from improper installation, handling or use.

3. Product Certification

This product meets or exceeds the requirements set forth by UL 1703 for PV Modules. Dependant on the product markings, this product may also be certified to IEC 61730-1 and IEC 61730-2 for application Class A.
These UL and IEC standards cover flat-plate PV modules and panels intended for installation on buildings or those intended to be freestanding. To satisfy the listing for this product the modules must be mounted with a rack or standoff structure. The UL and IEC listing does not include integration into a building surface because additional requirements may apply. The module is considered to be in compliance with UL 1703 and/or IEC 61730 only when the module is mounted in the manner specified by the mounting instructions contained in this document.

4. Limited Warranty

Please refer to Silfab General Terms and Conditions of Sale for details of the modules' limited warranty. Failure to comply with this Safety and Installation Manual will invalidate SILFAB Warranty for the PV modules as stated in the General Terms and Conditions of Sale.

5. Module Specification

Please refer to the appropriate Silfab SLA, SLG, SSA, or SSG datasheet for electrical performance data and mechanical installation information.

6. Safety Precautions

⚠ ***Installation should be performed only by authorized personnel!***

⚠ Module installation must be performed in compliance with the latest National Electrical Code (NEC) in the USA; with the latest Canadian Electrical Code in Canada; and/or with any applicable local standards and codes.

⚠ Within the modules there are no user serviceable parts. Do not attempt to repair any part of the modules.

⚠ In order to reduce the risk of electric shock, prior to installing the modules, remove metallic jewelry and use insulated tools during installation.

⚠ Modules produce voltage even when not connected to an electrical circuit or load and have no on/off switch. Modules can be rendered inoperative only by removing them

from sunlight, or by fully covering their front surface with cloth, cardboard, or other completely opaque non-marking material, or by working with them face down on a smooth, flat surface.

⚠ Do not expose the modules to artificially concentrated sunlight!

⚠ Do not stand on, drop, scratch, or allow objects to fall on the modules.

⚠ Do not lift the modules by the junction box or junction box cables.

⚠ Do not install or handle the modules when they are wet or during periods of high winds.

⚠ Ensure that junction box cables are provided with strain relief to avoid damage to the junction box, maintaining a minimum bending radius of 50 mm at all locations along the cable.

⚠ Do not leave cable connectors exposed in adverse climatic conditions. Water and dust deposits inside the cable connectors can cause long term damage.

⚠ A module with broken glass, torn or cut backsheet, damaged junction box, connectors or cables present electrical safety hazards and must be removed from service.

⚠ The total voltage of modules connected in series corresponds to the sum of the voltages of the single modules; whereas connecting the modules in parallel results in adding up the currents. Consequently, strings of inter-connected modules can produce high voltages and high currents and constitute an increased risk of electric shock and may cause injury or death.

⚠ For installation, maintenance, or before making any electrical connection or dis-connection, ensure all modules in the PV array are exposed to a light intensity that is less than 400W/m^2 as measured by an accurate solarmeter/pyranometer.

Methods to reduce solar irradiance when making electrical connections or dis-connections include:

- Covering the modules with an opaque cloth or other material in order to shield them from exposure.
- Making the connections during hours of low intensity of solar irradiance (such as early morning or late afternoon).
- Making the connections with the modules tilted perpendicular to the sun.

7. Installation

7a) Module Mounting

⚠ The module is Type 2 fire rated. The fire rating of Silfab modules is valid only when mounted in the manner specified in the mechanical mounting instructions.

⚠ When installing Silfab modules, local building code requirements and regulations must be adhered to at all times. In particular, in case of roof mounting, fire protection must be compatible with the Type 2 fire rating (ie. fire resistant roofing materials). Type 2 rating is to be maintained when mounting the modules at any inclination angle.

⚠ Sufficient ventilation of the module backside is required to maintain the Type 2 fire rating, and therefore the mounting configuration (e.g. sufficient clearance) should be adapted accordingly. The recommended clearance distance is a minimum 10 cm.

⚠ Select a site and configuration that maximizes direct sunlight exposure and eliminates or minimizes shadowing.

⚠ Avoid low tilt angles to prevent the accumulation of dirt/debris along the module edge.

⚠ Modules must be spaced a minimum of 10mm apart on all sides to provide space for thermal expansion and to provide ventilation.

⚠ Do not drill any additional holes into the module frames and do not cover the drainage holes.

⚠ Do not mount Silfab modules in a position where the junction boxes are "upside down" (leads facing upwards).

⚠ Any pre-assembled then transported mounting system will need advanced written approval by Silfab.

Mounting Methods:

Mounting using mounting holes:

- Each module must be securely fastened at a minimum of 4 points.
- Only use the 4 pre-drilled mounting holes (slots, see Fig. 3a/3b) on the PV module frame to bolt the module with M6 (1/4") stainless steel screws and nuts to the mounting framework.
- The distance of the mounting holes has been designed in order to result in a uniform wind and snow load without damaging the module.

⚠ ***Do not drill additional holes in the module frame; doing so will void the Warranty.***

Mounting using clamping method:

- Silfab recommends the use of clamps with a design as shown in Fig. 4a (or equivalent). The use of improper clamps will void the Warranty.
- These modules can be installed in either Portrait (vertical) or Landscape (horizontal) configuration. Refer to Fig. 4b,c,d for an example of attaching the modules to a support structure using mounting clamps. Use stainless steel hardware.
- These modules can be mounted on continuous base structures (inclined or horizontal) such as rails or similar.
- Both base structures must be mounted at the same distance from the symmetrical axis (portrait or landscape) of the module (Fig. 5a/5b).
- Placing the supporting elements as per Fig. 5a/5b is necessary in order to maintain a correct load distribution and achieve the minimum UL1703 design load rating of 30 lb/ft^2 and IEC61215 2400 Pa load rating.
- When clamping the modules on a support structure, the following rules have to be applied in order to maintain the resistance against static loads as certified:
  - If the bars or rails are run parallel to the module's short frames, they have to be placed nearby the mounting holes (±50 mm of the mounting hole) in order to achieve IEC61215 5400 Pa downward load rating (Fig. 5a/5b).
  - If the bars or rails are run parallel to the module's long frames, they have to be placed with a spacing of 500-750 mm in order to achieve the UL1703 design load rating of 30 lb/ft^2 and IEC61215 2400 Pa load rating (Fig. 5a/5b).
- The modules can also be fixed by placing them with their frame on a structure that is supporting the two sides of the frame over their whole length. In this case, the position of the mounting clamps must be in accordance with the above mentioned spacing(s) – refer also to Fig. 5a/5b.

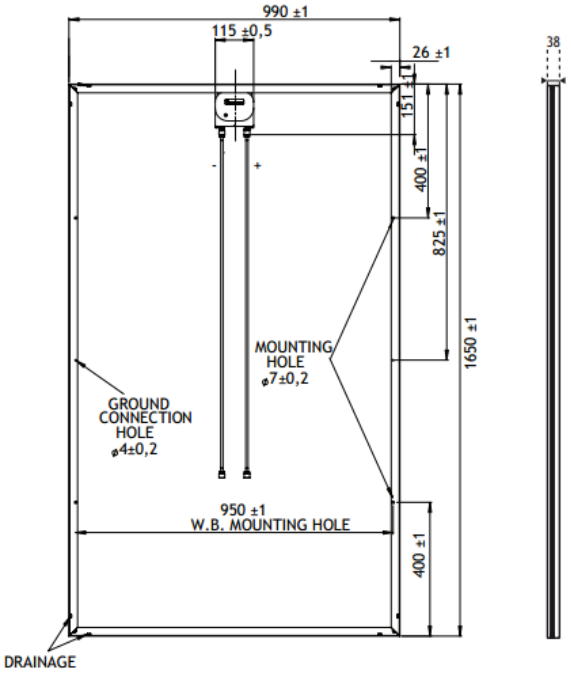


Fig. 3a: *Mechanical drawing of the SLA/SSA module showing the mounting holes, the drainage holes, and the ground connection holes*

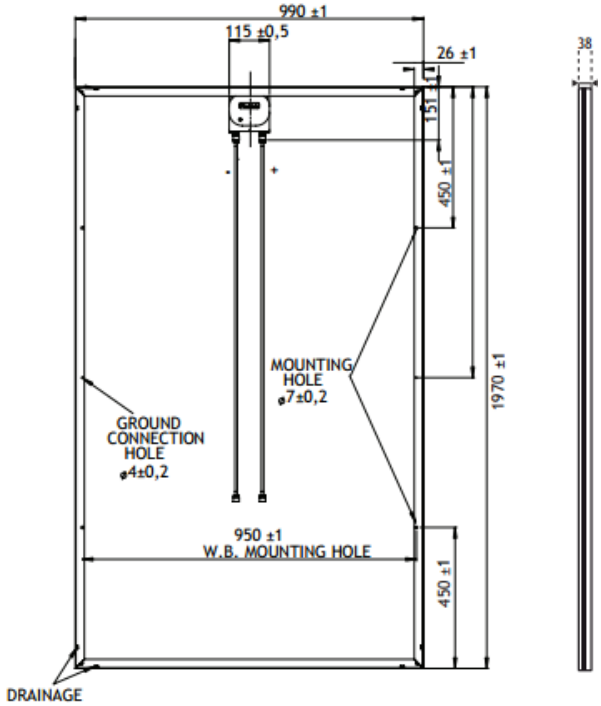


Fig. 3b: *Mechanical drawing of the SLG/SSG module showing the mounting holes, the drainage holes, and the ground connection holes*

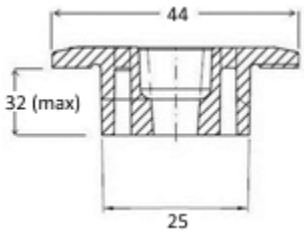


Fig. 4a: *cross section of a mounting clamp to be used for attaching the modules to support structure (minimum length is 40 mm).*

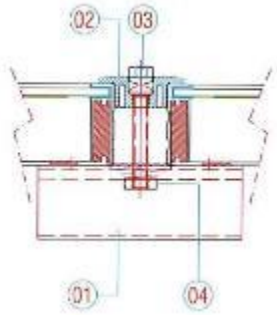


Fig. 4b: *modules attached to supporting structure (rail, item 01) using a clamp (item 02) fixed with a bolt (item 03) and nut (item 04) - view between two modules.*

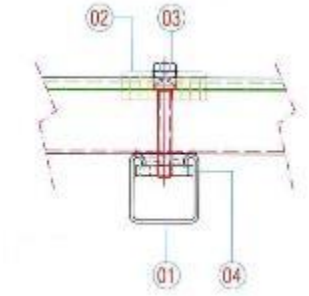


Fig. 4c: *modules attached to supporting structure - side view.*

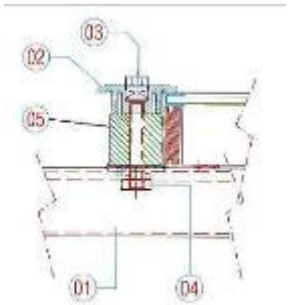


Fig. 4d: *end of module row with additional spacer (item 05: 50mm x 30mm x 24mm)*

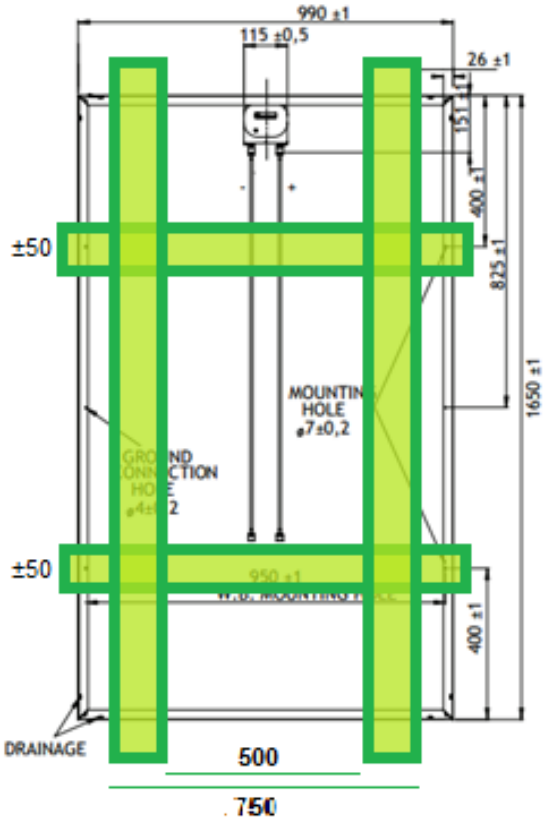


Fig. 5a: *allowed positions for fixing SLA/SSA modules using mounting clamps.*

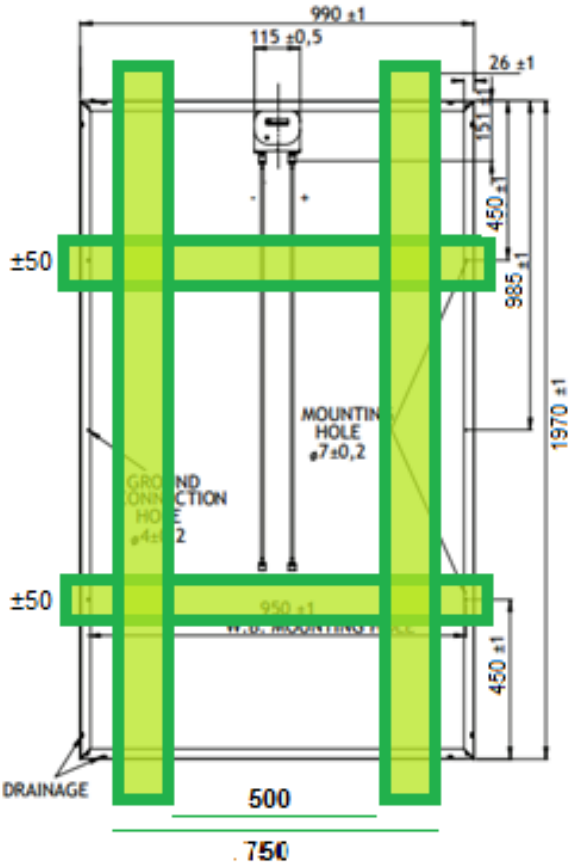
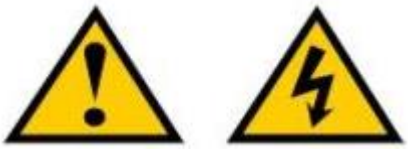


Fig. 5b: *allowed positions for fixing SLG/SSG modules using mounting clamps.*

⚠ **ATTENTION:** in the case of installation with modules in the portrait configuration, install the modules with the junction boxes at the top in their "upright" position. This will reduce the risk of water infiltration into the junction box.

7b) Handling of Modules



⚠ The Silfab modules are robust, but in particular the cells may be subject to damage if the modules are improperly handled or installed.

⚠ Wear protective gloves when handling and installing the modules to protect against cuts and burns.

⚠ Handle the module in a way that avoids breakage or scratching of the glass or backsheet and mechanical damage to any other part of the module.

⚠ Do not carry the module by its cables. Electric shock or damage to the module may result.

⚠ Do not drop sharp or heavy objects on either surfaces of the module.

⚠ Do not subject the modules to any impact, and do not flex them mechanically.

⚠ In the event of any damage to either the front or the back of the module, dangerous electrical hazards may exist, especially if the module is connected in series to a string. Replace the module immediately and take extreme caution when handling.

⚠ Any modifications to the junction box cables or connectors will void the module warranty. Any attempted repairs or other tampering with the junction box will void the warranty.

7c) Electrical Connection

⚠ ***Do not connect or disconnect modules under load! Danger! Risk of serious injury or death from electric shock or electric arc flash!***

⚠ High hazardous voltage (several hundreds of volts) may occur during installation. Consequently, installation and maintenance of the modules, as well as the connection to the main power supply, may only be performed by authorized and qualified persons.

⚠ Under normal conditions, a PV module is likely to experience conditions that produce more current and/or voltage than reported at standard test conditions. Accordingly, the values of Isc and Voc marked on the module should be multiplied by a factor of 1.25 when determining component voltage ratings, conductor ampacities, fuse sizes, and size of controls connected to the module output.

⚠ The maximum system voltage rating is 1000V for TUV/IEC and 1000V for UL.

⚠ The maximum series fuse rating is 15A.

⚠ The bypass diodes are not over-current protection devices. In the event of known or suspected diode failure, installers or maintenance providers should contact Silfab. ***Never attempt to open the junction box!***

⚠ Connect modules using the supplied connectors in series or parallel configurations according to the '+' positive or '-' negative markings on the junction box/connectors.

⚠ The recommended maximum series/parallel configurations (for 1000V Maximum Series Voltage) are as follows:

Product	Modules in Series*	Modules in Parallel
SLA-M	20	1
SSA-M	23	1
SLA-P	20	1
SSA-P	24	1
SLG-M	16	1
SSG-M	19	1
SLG-P	17	1
SSG-P	19	1

*Refer to NEC 690.7 or the relevant local codes and regulations for the correct V_{oc} correction factor according to the respective temperatures. If this information is not available, a 1.25 multiplying factor can be used as default value for correction of V_{oc}.

⚠ Use only the same type of connectors, to ensure reliability of the electrical connection.

⚠ For conductors, utilize suitable "Wet or Dry" type sunlight resistant cable (PV-Wire or USE-2 type) with temperature rating of 90°C or higher and sized 12 AWG or larger.

⚠ Verify the junction box lid is firmly closed before installing the module.

⚠ Before connection of the system to the grid, the PV system must be approved for correct installation, by all appropriate authorities.

⚠ Lightning protection is recommended for PV systems that are to be installed in locations with high probability of lightning strikes.

⚠ The design of the PV system should be done by a qualified person familiar with PV system design. Silfab does not assume any responsibility for how the modules are installed or how the system is designed.

⚠ Refer to the tables at the end of this installation manual for electrical parameters.

7d) Grounding

⚠ A Silfab module with exposed conductive parts is considered to be in compliance with UL 1703 and/or IEC 61730 and 61215 only when it is electrically grounded in accordance with the instructions presented below and the requirements of the US National Electrical Code, Canadian Electrical Code, and/or any applicable local standards and codes.

⚠ The module frame must be grounded before wiring. The grounding connection must penetrate the frame's anodized layer.

⚠ The grounding should be performed by a qualified electrician using grounding methods in accordance with article 250 of NEC or Canadian Electrical Code requirements.

- A ground hole is present on each module, marked with a ground symbol and/or green label.
- Use a 6-12 AWG copper wire only. The bolts, nuts, flat washers, lock washers or other hardware should be made of stainless steel.
- The bolted or screwed ground connection, should include the following:
  - A screw size of M4 (minimum)/#8 imperial (maximum)
  - A star washer under the screw head or serrated screw that must penetrate the frame's anodized layer.
  - A UL-listed grounding lug or UL approved ring terminal.
  - Torque the grounding connections to 25 inch-pounds

- SLA/SLG modules can be grounded using third party grounding devices as long as they are certified for their intended purpose, have been evaluated and tested with the system, and the devices are installed according to the requirements of American NFPA NEC 70, Canadian CSA C22.1 and/or relevant local codes and regulations.

- Ensure that the grounding area for the connection is clean and free from oxides or any debris that could impede the electrical grounding.

⚠ **Always follow safety procedures when installing any grounding/mounting system.**

7e) Silfab Smart Modules

This section of the installation manual is specific to Silfab Smart Modules (SSA and SSG), which use Tigo Energy's integrated junction box.

For residential, commercial and utility scale photovoltaic solar arrays, the Silfab Smart Modules and Tigo Optimizer System optimizes power output per-module. These modules also deliver module-level data for operational management and performance monitoring.

The SSA and SSG modules have also been programmed to a maximum voltage output to allow for longer strings of modules to be connected in series when compared to the standard SLA or SLG modules. The maximum system voltage rating of 1000V for TUV/IEC and 1000V for UL must be maintained in accordance to the US National Electrical Code, Canadian Electrical Code, and/or any applicable local standards and codes.

In addition to the SSA or SSG modules, the Tigo Optimizer System requires Gateways and Management Units (MMU) for proper operation.

For more information on the Tigo Optimizer System please contact Tigo Energy at:

- ***www.TigoEnergy.com***
- ***(USA) 1.888.609.8446***
- ***(outside the US) +1.408.402.0802***
- ***skype: support.tigoenergy***

8. Maintenance

Although PV modules do not require any routine maintenance, periodic (annual) inspection for damage to glass and inspection of the electrical connections and for corrosion as well as the mechanical connection is recommended.

Under normal conditions (sufficient rainfall), cleaning of the module is not required. In extreme climatic conditions, the electrical performance of the module may be affected by accumulation of dirt, dust or debris on the glass front cover.
In this case, the front cover can be washed using water, commercial glass cleaners, or alcohol/ ethanol/methanol and a soft cloth.

Do not use high pressure washers, abrasive brushes, powders, cleaners, polishers, sodium hydroxide, benzene, nitro-thinners, acid or alkali and other chemical substances. Doing so may damage the anti-reflective coating that is present on the glass of the modules.

Do not use water with high mineral content as it may deposit on the glass surface when the water is dries. The pressure of the cleaning water should be less than 690Kpa (100 PSI).

⚠ Exercise extreme caution when applying water on any electrical device!!

Module cleaning should be done in the early morning, in the evening, at night or on rainy days when solar irradiance is low.

Do not attempt to remove ice or frozen snow from modules as damage to the module will result. Snow should be removed with a soft brush.

Application of unapproved third party coatings to Silfab module surfaces will void the module warranty.

9. Packaging, Handling & Storage

9a) Silfab's Packaging

These modules are arranged in a horizontal position with the glass facing downwards as shown in Fig. 6. Transport the module in its original packaging until installation.

Fig. 6: *Module Packaging*

The packaging consists of:

- 1 wooden pallet (Fig. 7)
- 4 plastic protective corner angles per module (Fig. 8)
- Containment straps
- 1 water resistant cover
- Transparent film for containment

Fig. 7: *Wooden pallet*

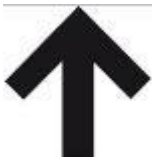
Fig. 8: *Protective corner*

9b) Correct Handling of Module Packaging

Each package has been designed for safe shipment and storage of modules. The following symbols apply to the packing, with the following meanings:

DO NOT STACK: Each pallet of modules is packaged according to the maximum number of modules stackable vertically, in order to avoid or reduce mechanical stress or damage as a result of the pressure exerted by the stacked modules. Therefore, do not stack pallets.

DO NOT EXPOSE TO RAIN, SNOW OR FLOODING: The plactic wrap is intended to prevent temporary contact with dirt, water or other materials but will not protect the modules from damage resulting from rain, snow and flooding. Modules should be stored in a sheltered dry location.



KEEP PACKAGING UPRIGHT: The packaging is only designed to be handled and stored with the modules sitting on the pallet as per Fig. 6. Not following these indicated directions may create forms of mechanical stress on the modules that could cause damage or breakage.

RECYCLE WHERE POSSIBLE: Both modules and packaging contain recyclable materials. Use caution when dealing with damaged modules.

FRAGILE: Any direct impact to the glass or on the corners of the modules should be avoided. Avoid flexing the laminates or applying non-distributed loads and stresses. Avoid scratching the surface of the exterior glass or backsheet. Do not apply any forces to the backsheets. Do not drop the modules or pallets from any height.

HANDLE WITH CARE: during the operation of shipping and storage of the modules use maximum care to ensure the full integrity of the modules. Hidden cell damage can result if care is not taken.

9c) How to Handle the Pallet

During the handling of the pallet make sure to pay the utmost attention. The packaging must be raised/moved exclusively with fork-lift trucks or hand pallet trucks fitted with forks of length appropriate to its size and weight. The pallet which supports the packaging is a "4 ways" type (able to be lifted from any of the short or long sides). For the safe handling of the pallet the forks length should be:

- A minimum of 1800 mm for lifting from the shorter side
- Able to support the total weight of the packaging (>1000 kg)

Fig. 9: *How to handle the packaging*

Verify that the package is positioned on a surface that is either flat or not excessively deformed to a point that would impart an inclination to the pallets which could damage the PV modules. Do not aggressively lift pallets as module damage may occur.

9d) Unpackaging

Observe the following procedures for the unpacking of modules:

- Place the packaging on a stable and flat surface
- Using a knife carefully cut the straps and plastic wrap then remove them.
- Remove the upper cover
- Recover the flash list (for record keeping)
- Remove the PV modules and their protective corners without damaging them
- Collect and store the protective corners and the wooden pallets

Note: Once you have removed the strapping the pallet must no longer be moved as the load will not be secure.
If movement of the pallet is required be sure to re-strap the pallet as per the original packaging strap locations.

9e) Recycling Packaging Materials

Silfab undertakes efforts to treat every aspect of production to minimize the environmental impact. The packaging is made with materials that for the most part are reusable.

In particular, the wooden pallets (Fig.10) and protective corners (Fig.11) should be retained. Arrangements for recovery will be made on a case by case basis.

Fig. 10 & 11: *How to package the pallets and plastic corners, respectively, after unloading, ready to deliver back to Silfab for reuse.*

10. APPENDIX: Electrical Specifications

SLAXXXM	Pmax (W)	Vmp (V)	Imp (A)	Voc (V)	Isc (A)
SLA260M	260	30.8	8.49	37.8	9.04
SLA265M	265	31.0	8.55	38.0	9.11
SLA270M	270	31.2	8.65	38.2	9.22
SLA275M	275	31.4	8.76	38.4	9.32
SLA280M	280	31.7	8.83	38.7	9.40
SLA285M	285	32.0	8.91	39.1	9.47
SLA290M	290	32.4	8.97	39.6	9.54

SSAXXXM	Pmax (W)	Vmp (V)	Imp (A)	Voc (V)	Isc (A)
SSA260M	260	30.8	8.49	34.2	9.04
SSA265M	265	31.0	8.55	34.2	9.11
SSA270M	270	31.2	8.65	34.2	9.22
SSA275M	275	31.4	8.76	34.2	9.32
SSA280M	280	31.7	8.83	34.2	9.40
SSA285M	285	32.0	8.91	34.2	9.47
SSA290M	290	32.4	8.97	34.2	9.54

SLAXXXP	Pmax (W)	Vmp (V)	Imp (A)	Voc (V)	Isc (A)
SLA245P	245	30.2	8.11	37.7	8.65
SLA250P	250	30.4	8.22	37.9	8.76
SLA255P	255	30.6	8.33	38.1	8.88
SLA260P	260	30.8	8.44	38.3	9.01
SLA265P	265	31.0	8.55	38.5	9.12
SLA270P	270	31.2	8.66	38.7	9.24

SSAXXXP	Pmax (W)	Vmp (V)	Imp (A)	Voc (V)	Isc (A)
SSA245P	245	30.2	8.11	32.8	8.65
SSA250P	250	30.4	8.22	32.8	8.76
SSA255P	255	30.6	8.33	32.8	8.88
SSA260P	260	30.8	8.44	32.8	9.01
SSA265P	265	31.0	8.55	32.8	9.12
SSA270P	270	31.2	8.66	32.8	9.24

SLGXXXM	Pmax (W)	Vmp (V)	Imp (A)	Voc (V)	Isc (A)
SLG310M	310	36.9	8.44	45.3	8.99
SLG315M	315	37.1	8.49	45.5	9.05
SLG320M	320	37.3	8.58	45.6	9.15
SLG325M	325	37.5	8.67	45.8	9.25
SLG330M	330	37.8	8.73	46.1	9.32
SLG335M	335	38.1	8.79	46.4	9.37
SLG340M	340	38.4	8.86	46.9	9.45

SSGXXXM	Pmax (W)	Vmp (V)	Imp (A)	Voc (V)	Isc (A)
SSG310M	310	36.9	8.44	40.4	8.99
SSG315M	315	37.1	8.49	40.4	9.05
SSG320M	320	37.3	8.58	40.4	9.15
SSG325M	325	37.5	8.67	40.4	9.25
SSG330M	330	37.8	8.73	40.4	9.32
SSG335M	335	38.1	8.79	40.4	9.37
SSG340M	340	38.4	8.86	40.4	9.45

SLGXXXP	Pmax (W)	Vmp (V)	Imp (A)	Voc (V)	Isc (A)
SLG295P	295	36.5	8.08	45.1	8.58
SLG300P	300	36.7	8.17	45.3	8.68
SLG305P	305	36.9	8.27	45.5	8.78
SLG310P	310	37.1	8.36	45.7	8.86
SLG315P	315	37.3	8.45	45.9	8.94
SLG320P	320	37.5	8.57	46.1	9.06

SSGXXXP	Pmax (W)	Vmp (V)	Imp (A)	Voc (V)	Isc (A)
SSG295P	295	36.5	8.08	40.1	8.58
SSG300P	300	36.7	8.17	40.1	8.68
SSG305P	305	36.9	8.27	40.1	8.78
SSG310P	310	37.1	8.36	40.1	8.86
SSG315P	315	37.3	8.45	40.1	8.94
SSG320P	320	37.5	8.57	40.1	9.06

Standard Test Conditions (Measurement conditions: STC = 1000 W/m², AM 1.5, Temperature 25 °C)
Measurement uncertainty ≤ 3% - Sun simulator calibration with modules calibrated by Fraunhofer Institute
Electrical characteristics may vary by ±5% and power by -0/+5W

11. Revision Log

Revision Level	Section(s) affected	Brief description of changes	Date
MAN-SLA-01 and MAN-SLG-01	ALL	Initial release	14/11/2011
MAN-SFO-02	MULTIPLE	Consoldated SLA & SLG manuals into SFO; added safety note; added more info on shading, diode failure, grounding, load ratings, environmental considerations, cleaning, transport, handling, etc.	04/22/2013
MAN-SFO-03	MULTIPLE	Added SSA/SSG models; clarified/revised information in multiple sections. A full re-read is recommended.	02/17/2015

Please retain a copy of this manual.

To download a copy of this installation manual
scan the QR-Code on the back of a Silfab module,
or go to: http://www.silfab.ca/downloads

Silfab Solar Inc.
240 Courtneypark Drive East,
Mississauga, Ontario, Canada L5T 2Y3
- ***Tel: +1 905 255 2501***
- ***Fax: +1 905 696 0267***
- ***Email: info@Silfab.ca***
- ***Web: www.Silfab.ca***

a Company of Silfab Group
Via Trieste 33, 35121 Padova, Italy
- **Tel.: +39 (0)49 9431374**
- ***Fax: +39 (0)49 9439735***
- ***-E-mail: info@Silfab.eu***
- ***Web: www.Silfab.eu***