

Plug-In Solar Installation Instructions

Ground/Flat Roof Mount Kit with Adjustable Mounts

Plug-In Solar – Power Your Future
www.pluginsolar.co.uk

These installation instructions contain important information on safety matters and the installation of the Plug-In Solar kit. Please read this guide carefully to ensure safe installation and operation.

*Installations are undertaken at the customer's own risk. This Installation manual is to be used as a guide only, and your discretion must be used when installing the Plug-In Solar kit. You **MUST** follow ALL local regulations and consult a professional in the appropriate field if you are in any doubt with any aspect of the installation. Plug-In Solar Ltd takes no responsibility for incorrect installation of our kits.

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TOOL REQUIREMENTS

Please note, this is just a guide, and you may require additional tools than listed here.

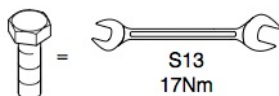
8mm Socket Tool



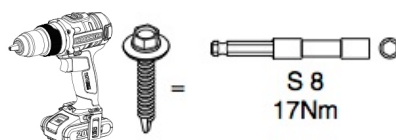
6mm Hex (Allen) Key



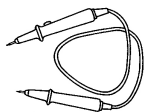
13mm Spanner



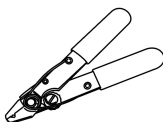
Drill with S8 Masonry Bit



Voltage Tester



Wire Strippers



Flathead Screwdriver



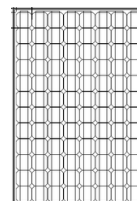
Phillips Screwdriver



COMPONENT GUIDE

The number of components you receive will depend on the type of kit you have purchased. Please unpack all your items, and check you have all the correct components based on your Delivery Note.

Solar Panel



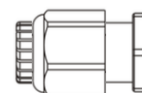
Adjustable Metal Frames (two per panel)
Including all fixings (see page 12 for more information)



Micro-Inverter (with 2M Cable)



Micro-Inverter End Cap



MC4 Sealing Caps
(If required)



Plug-In Solar Connection Unit



SAFETY INSTRUCTIONS

Before installing or using a Plug-In Solar kit, please read all instructions and cautionary markings in this document and on the Micro-Inverters and Solar Panels.

The installation of a Plug-In Solar kit shall be carried out by a competent person with sufficient skills and training to apply safe methods of work, in compliance with G98 Engineering Recommendations.

The installation of a Plug-In Solar kit will be carried out to no lower a standard than that required in the Manufacturer's installation instructions, as provided here.

No parameter relating to the electrical connection and subject to type verification certification will be modified unless previously agreed in writing between the DNO (Distribution Network Operator) and the Customer.

All electrical installations shall be performed in accordance with local electrical codes.

All appropriate health and safety regulations must be observed and required safety precautions taken.

Be aware that installation of this equipment includes the risk of electric shock.

Be aware that the body of the Micro-Inverter is the heat sink and can reach a temperature of 80°C. To reduce risk of burns, do not touch the body of the Micro-Inverter.

DO NOT disconnect the PV module from the Micro-Inverter without first disconnecting the AC power. In no circumstances, connect a DC input when an AC connector is unplugged.

DO NOT attempt to repair a Micro-Inverter. If it fails, contact Hoymiles Customer Support to obtain an RMA number and start the replacement process. Damaging or opening a Micro-Inverter will void the warranty.

CAUTION! The external protective earthing conductor is connected to the micro-inverter protective earthing terminal via an AC connector. When connecting; connect the AC connectors first to ensure the micro-inverter earthing then undertake the DC connections. When disconnecting; disconnect the AC by opening the branch circuit breaker. Whilst maintaining the protective earthing conductor in the branch circuit breaker, connect to the micro-inverter, then disconnect the DC inputs.

You MUST follow the IET Wiring Regulations at all times and consult a professional electrician if you are in any doubt.

WARNINGS

Never disconnect the DC wire connectors under load. Ensure that no current is flowing in the DC wires prior to disconnecting. An opaque covering may be used to cover the module prior to disconnecting the module.

Do not touch any live parts in the system, including the Solar array, when the system has been connected to the electrical grid.

Prior to installing any of the Micro-Inverters, verify that the utility voltage at the point of common connection matches the voltage rating on Micro-Inverter label.

Do not mount the Micro-Inverter in a location that allows exposure to direct sunlight. Allow a minimum of 3/4''(1.5cm.) between the roof and the bottom of the Micro-Inverter to allow proper airflow.

Always disconnect AC power before disconnecting the PV module wires from the Micro-Inverter. The AC connector of the first Micro-Inverter in a branch circuit is suitable, as a disconnecting means, once the AC branch circuit breaker in the load center has been opened.

The Micro-Inverter is powered by PV module DC power. Make sure you disconnect and reconnect the DC connections to watch for the five short flashes.

SOLAR PANEL INSTALLATION

When installing the solar panels included in your Plug-In Solar Kit, you must abide by a number of safety requirements:

Do not operate solar panels near highly flammable gas and vapors (e.g. gas tanks, gas stations).

Do not install solar panels in enclosed space.

Do not install solar panels in locations where they may be submerged in water.

Do not use solar panels as a substitute for normal roofing (solar panels are not watertight).

Do not install solar panels in close proximity to air conditioning systems.

Do not install solar panels above 4000 m (13120 ft) altitude above sea level.

Do not allow any chemical substance (e.g. oil, solvent etc.) to come into contact with any part of the solar panels.

The solar panel operating temperature must be between -40°C to $+85^{\circ}\text{C}$ (-40°F to $+185^{\circ}\text{F}$).

Prevent solar panel shadowing. Optimal solar irradiation leads to maximum energy output. Install the solar panels so that they face the sun.

Avoid shadowing (due to objects such as buildings, chimneys or trees).

Avoid partial shading (for example through overhead lines, dirt, snow).

Ensure you conform to the necessary structural requirements where you are installing the solar panels.

Ensure the solar panels are properly fastened to the ground, the roof, or the facade, using the mounts provided.

Ensure sufficient rear ventilation of the module.

Follow grounding procedures set out in the roof mount installation manual.

Please see the following instructions for further information on how to handle and install your solar panels.

Refer to the Micro-Inverter installation section of this installation manual for information on how to wire your solar panels to the Micro-Inverters.

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- ➔ Ensure that all personnel are aware of and adhere to accident-prevention and safety regulations.
- ➔ While working wear clean gloves.

!

DANGER! Risk of fatal injury due to electric shock!

- ➔ Do not install damaged modules.

!

- ➔ Inspect the packaging for damages.
- ➔ Contact the transport company regarding any damage to the packaging and follow their instructions.
- ➔ Follow any instructions on the packaging.

!

DANGER! Risk of fatal injury due to electric shock!

- ➔ Cover the modules with an opaque material during installation.

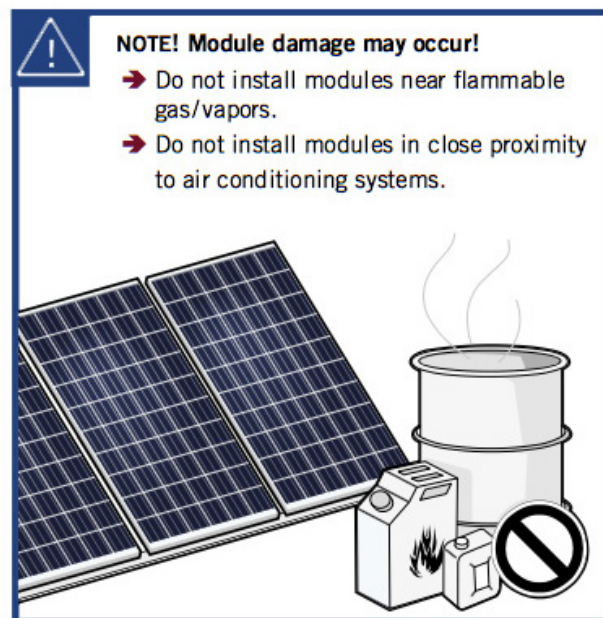
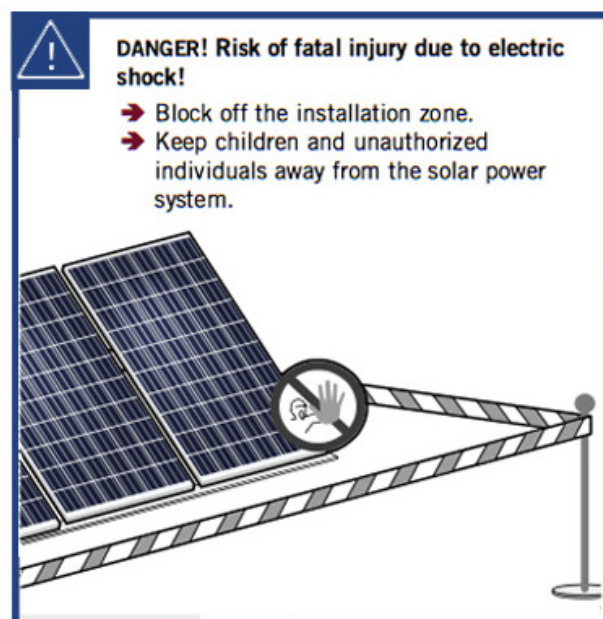
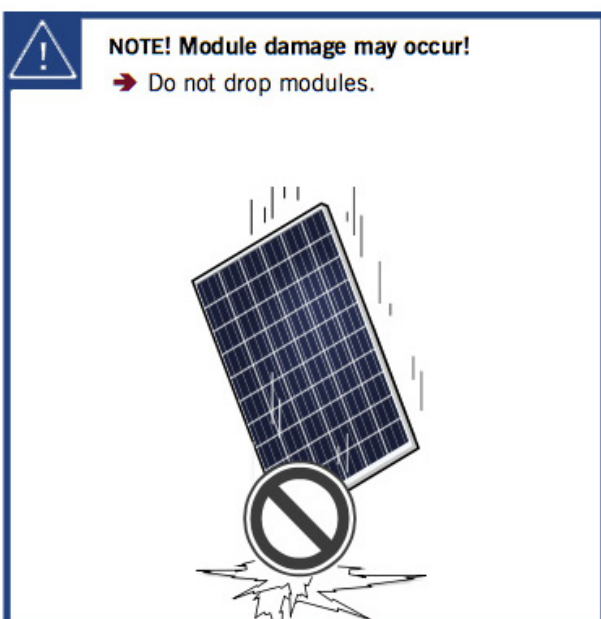
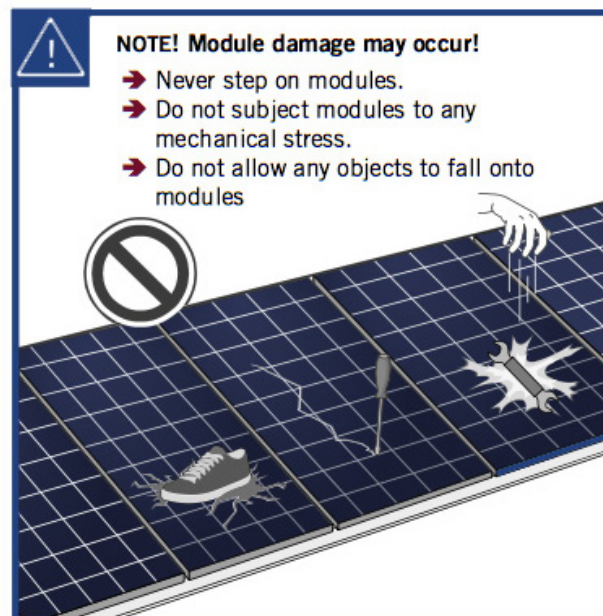
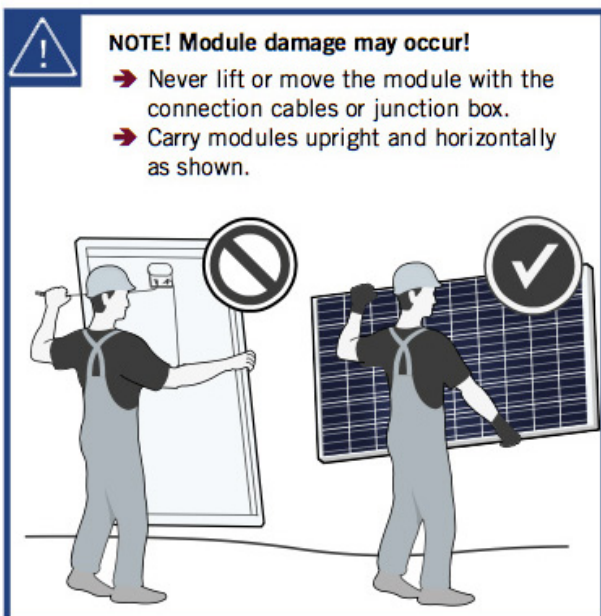
!

- ➔ Leave modules in their original packaging until installation.
- ➔ Store the modules securely in cool and dry rooms. The packaging is not weatherproof.

!

WARNING! Fire Risk!

- ➔ Do not install modules indoors.
- ➔ Do not install modules on moving objects.





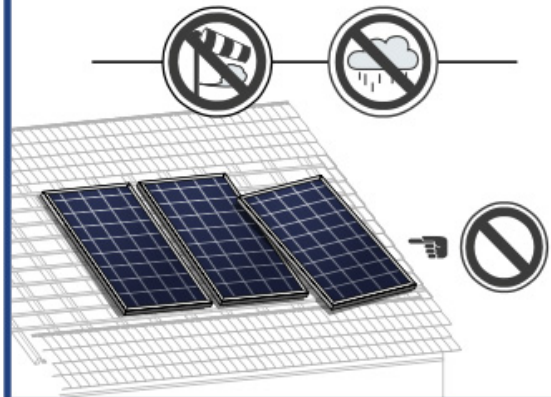
DANGER! Risk of fatal injury due to electric shock!

➔ Only use dry, insulated tools.



WARNING! Risk of injury due to falling modules!

➔ Secure modules during installation.
➔ Do not install modules in windy or wet weather.

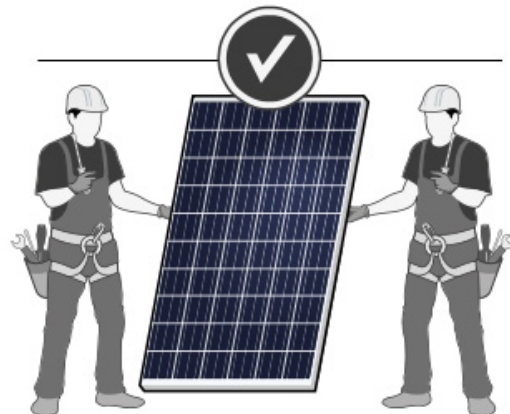


DANGER! Risk of fatal injury due to electric shock!

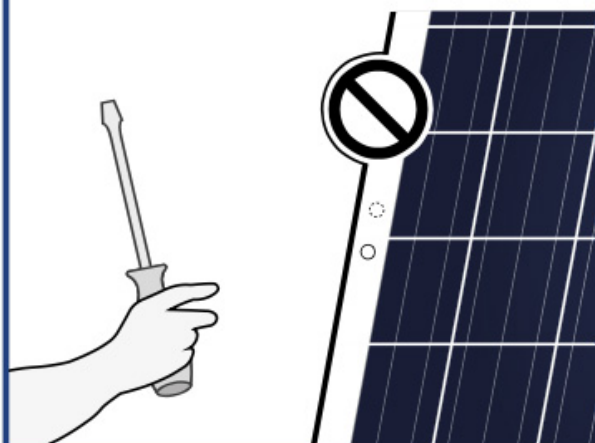
➔ Ensure that modules and tools are not subject to moisture or rain at any time during installation.



➔ Do not carry out the installation alone.

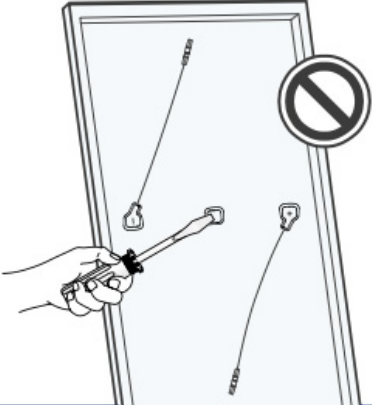


- Only install undamaged modules and components.
- ➔ Do not modify the module (e.g. do not drill any additional holes).



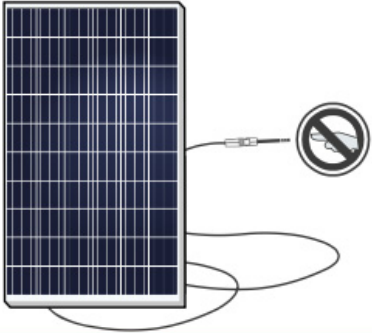
 **DANGER! Risk of fatal injury due to electric shock!**

- ➔ Never open the junction box.
- ➔ Do not remove bypass diodes.



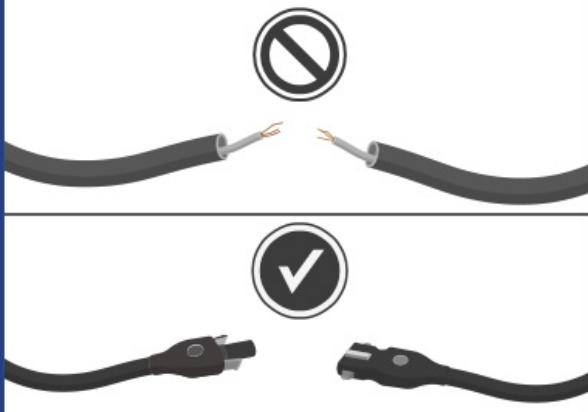
 **DANGER! Risk of fatal injury due to electric shock!**

- ➔ Never touch live contacts with bare hands.
- ➔ Cover connectors by suitable protective caps until installation.



 **DANGER! Risk of fatal injury due to electric shock!**

- ➔ Insulate any exposed cable ends.
- ➔ Only connect cables with plugs.



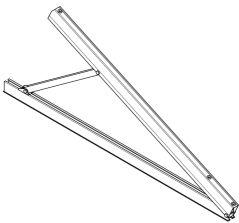
ADJUSTABLE GROUND MOUNT SYSTEM INSTALLATION

Important Notes before the installation of Adjustable Ground Mounts

1. The size of the mounting system (number of mounting triangles) should be specifically calculated for each individual project, following the specified structural engineering standards and regulations.
2. A prerequisite for proper application is a solid mounting base that can accommodate the occurring forces (weight, wind and snow loads).
3. You **MUST** ballast your mounting system, especially in high wind areas. This can be done with sandbags or similar (not supplied). For additional fixings to secure your grounds mounts to concrete/metal or other material please contact us.
4. The installation instructions of the solar panel manufacturers must be adhered to.
5. When installing this product please observe the appropriate health and safety regulations and take required safety precautions. This may include but is not limited to, gloves and goggles.

Plug-In Solar takes no responsibility for the method by which you choose to install your mounting system. This is a guide only. Please consult a roofing expert if you are in any doubt on how to safely and correctly install your system.

Adjustable Ground Mount System Components



Adjustable Metal Mounts



Solar Panel Clamps



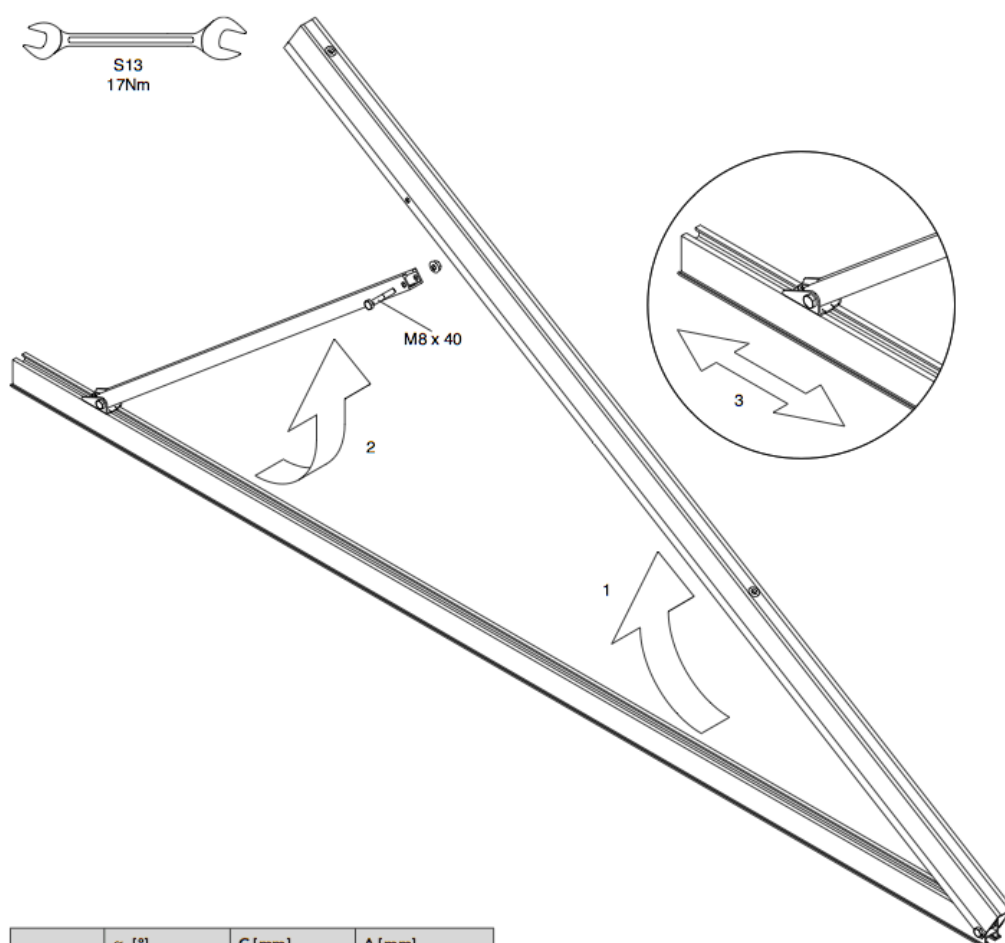
SFS Screws



Bolts

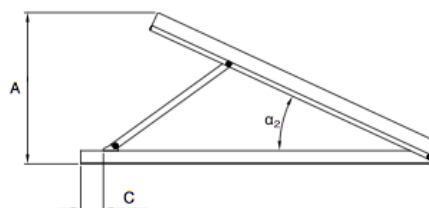
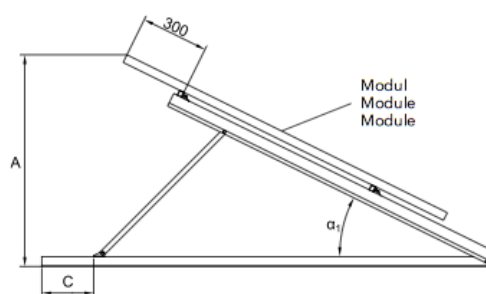
Adjustable Ground Mount Installation

1. Open a mounting triangle, and pull adjustable arm upwards. You can choose the angle at which you install the panels for the best possible efficiency, by adjusting the support arm. You will need your 13mm Spanner at this stage.

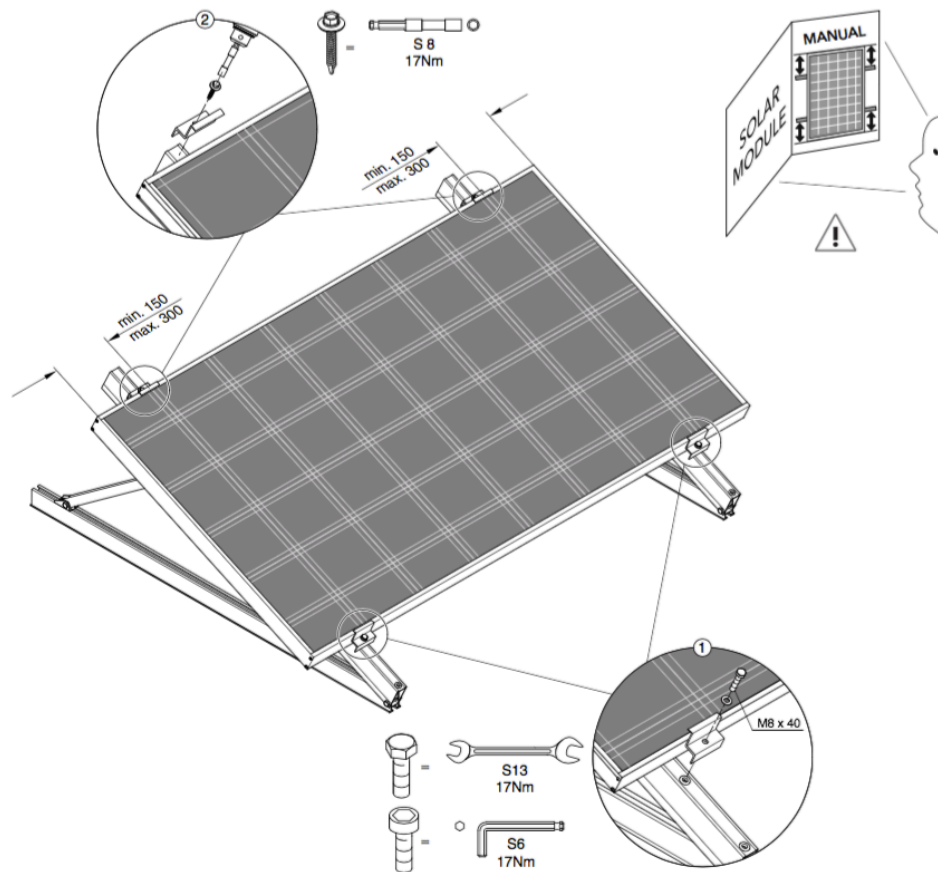


	α_1 [°]	C [mm]	A [mm]
TRIC F 15	10	168	500
	15	271	670
	20	464	820
TRIC F 30	25	105	970
	30	278	1.120
	35	525	1.250
TRIC F 45	40	89	1.378
	45	274	1.493
	50	486	1.597
	55	734	1.689
	60	1.071	1.768

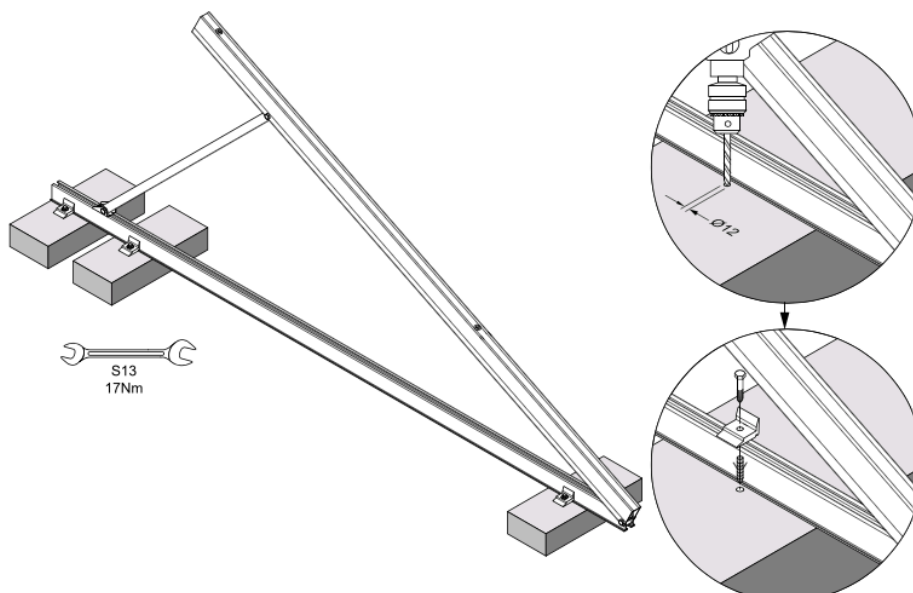
	α_2 [°]	C [mm]	A [mm]
TRIC F Quer	20	16	470
	25	79	550
	30	159	620
	35	261	690
	40	403	760



2. Secure the Solar Panels to the Ground Mount system (using the nuts, bolts and SFS screws provided). You will need your Hex key, Spanner and a drill with a masonry bit at this stage.

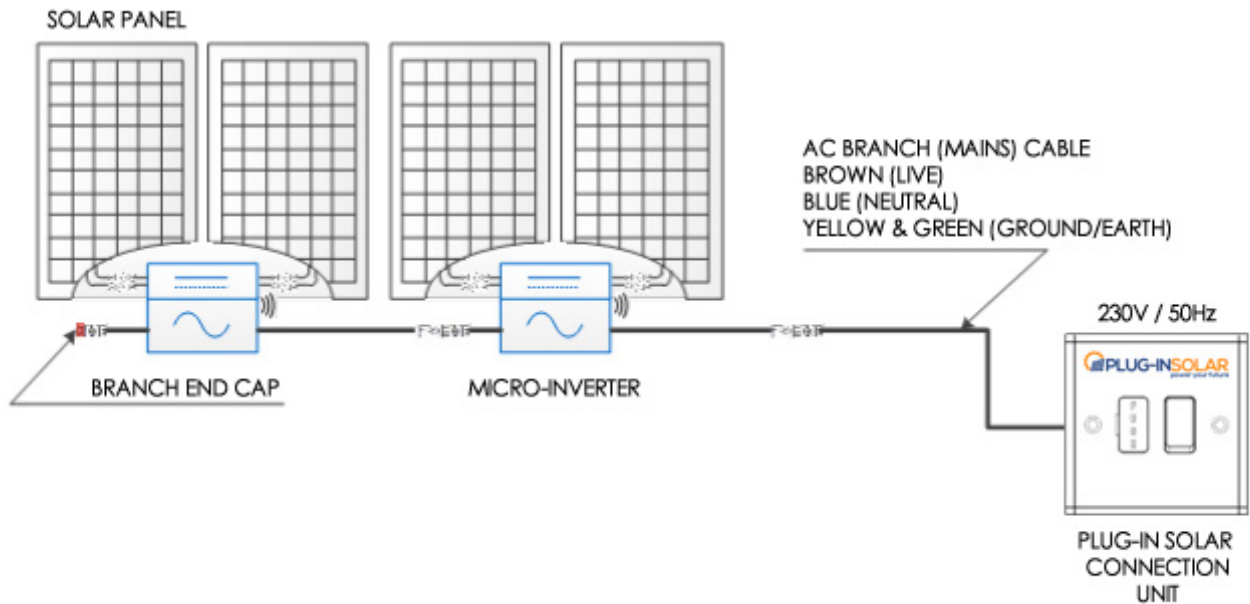


3. Continue this process until you have installed all the solar panels. Ensure all screws and clamps are sufficiently tightened.
4. Remember to ballast your ground mount system accordingly, or use the mounting clips (available on request) shown below to secure the frames to a concrete base. Please contact us if you need any further information on the amount of ballast required.

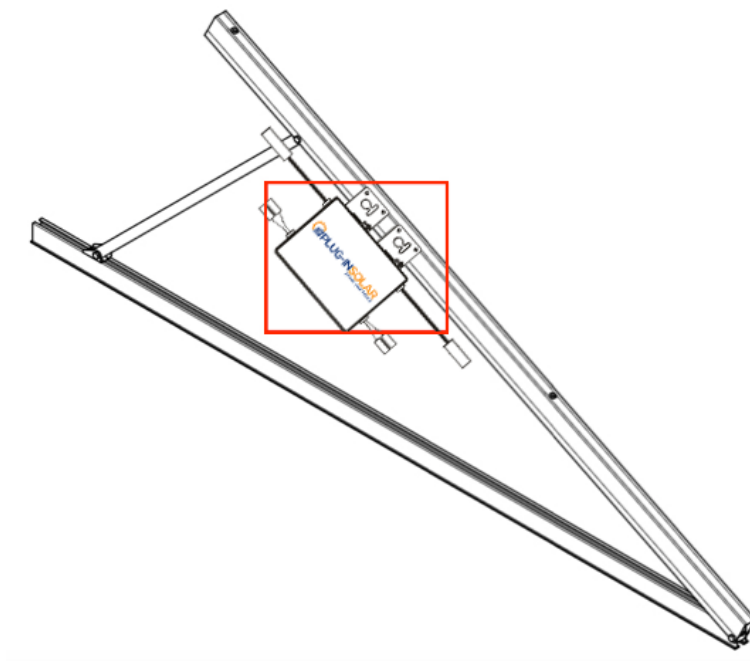


MICRO-INVERTER INSTALLATION

1. System Wiring Diagram



2. Once you have completed installing the Adjustable Metal Mount system, use the SFS (self drilling) screws provided to affix the Micro-Inverter to the upper arm of the Metal Mounts. See image below for guidance.



Each Micro-Inverter has serial number labels affixed. Once the micro-inverters are installed, please peel one label off each micro-inverter and stick them to the warranty card (please refer to the 'Completing Your Warranty Card' section of this installation manual for more information).

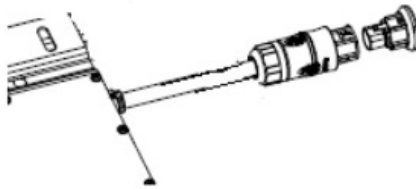
3. Connect the Micro-Inverters to the AC Bus Trunk Cable

Plug the AC connector of the first Micro-Inverter into the connector of the next Micro-Inverter, and so forth, to form a continuous AC branch circuit. Do this for each Micro-Inverter in your system. Ensure a click is heard as connectors engage. Ensure that all connections are properly closed.



WARNING: Do NOT exceed a maximum of (5) five Micro-Inverters in an AC branch circuit when using the Plug-In Solar System.

Install the End Cap on the open AC connector of the last Micro-Inverter in the AC branch circuit. Ensure a click is heard as connectors engage. Ensure that all connections are properly closed.

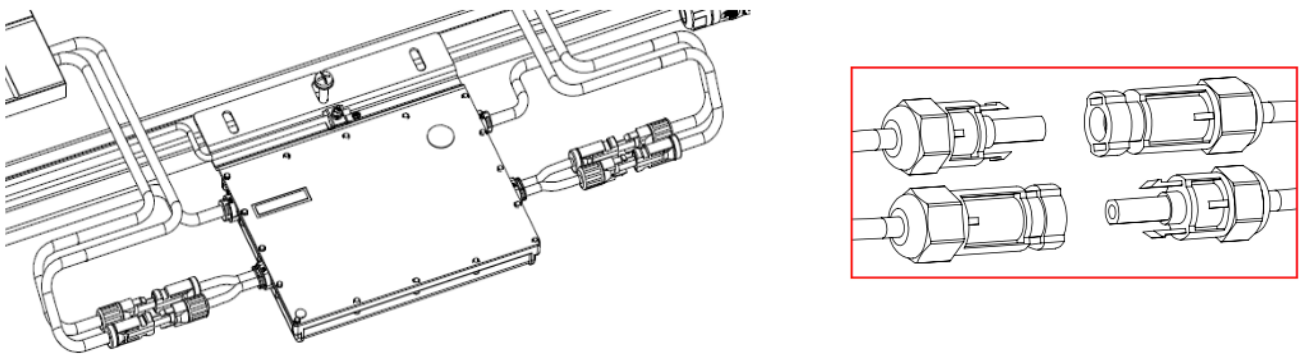


4. Connect Micro Inverters to Solar Panels (PV Modules)

Connect each Solar Panel to the Micro-Inverter DC cables to feed PV power into the Micro inverter, following the polarity direction marked on each Micro inverter. Ensure a click is heard as connectors engage.

When plugging in the DC cables, the Micro-Inverter should immediately blink green three times. This will happen as soon as the cables are plugged in and will show that the Micro-Inverter is functioning correctly. This entire check function will start and end within 5 seconds of plugging in the unit, so pay careful attention to these lights when connecting the DC cables.

WARNING: Ensure that all AC and DC wiring is correct. Ensure that none of the AC and DC wires are pinched or damaged. Ensure that all connections are properly closed.



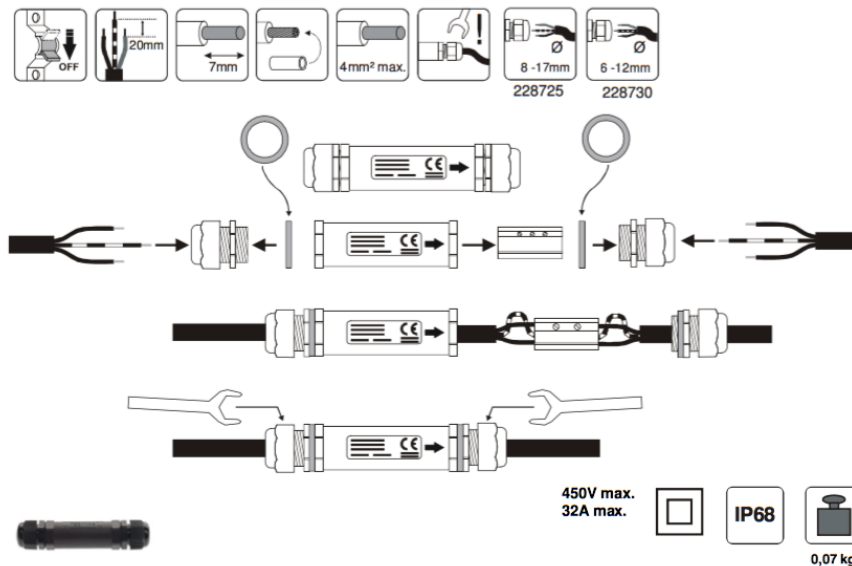
WARNING: If you are installing an odd number of Solar panels, ensure you use the MC4 sealing caps provided with your kit to seal the exposed MC4 connectors on the Micro-Inverter.



5. If you need to extend the length of AC Bus Trunk Cable, we can supply extra lengths on request. If you provide your own cable please be sure to use the correct cable wire size (AWG) depending on distance of the last Micro-Inverter to the connection point and the number of Micro-Inverters in the branch, as shown in the table below. Please be aware, the longer the cable run, the greater the power loss.

	Number of Micro-Inverters in branch							
	2	3	4	5	6	7	8	9
External Wire size(AWG)	Maximum External cable length (ft)							
12	370.7	237.1	167.9	124.3	93.6	70.2	51.4	35.7
10	593.1	379.4	268.6	198.9	149.7	112.3	82.3	57.1
8	926.8	592.9	419.6	310.7	233.9	175.5	128.6	89.3
6	1482.8	948.6	671.4	497.1	374.3	280.8	205.7	142.9

Follow the instructions outlined below to connect the AC Bus Trunk Cable to your extension cable, using a cable connector, or similar (supplied upon request).



WIRING THE SOLAR TO THE EXISTING MAINS CIRCUIT

IMPORTANT SAFETY INFORMATION – FOR YOUR PROTECTION

Before installation please read these instructions carefully and use the Plug-In Solar Connection Unit in accordance with these safety wiring instructions.

In older houses, you may find a variety of old fuse boxes where the mains supply comes in. You may also have wiring and fittings of an older style. These may not be up to the standard required today. If this is the case, have it all checked and tested by a professional electrician BEFORE carrying out any work on it. Some old installations may now be dangerous.

Electricity is dangerous. Always disconnect from mains supply before any inspection or repair to equipment. Safety must always be given top priority. Do not allow children to tamper with electrical devices.

ALWAYS FOLLOW THE IET WIRING REGULATIONS.

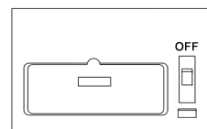
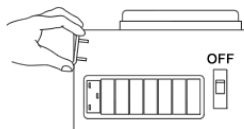
You must NOT install the Plug-In Solar Connection Unit in the following locations as set out by Part P:

- (a) within a room containing a bath or shower, the space surrounding a bath tap or shower head, where the space extends —
 - (i) vertically from the finished floor level to —
 - (aa) a height of 2.25 metres; or
 - (bb) the position of the shower head where it is attached to a wall or ceiling at a point higher than 2.25 metres from that level; and
 - (ii) horizontally —
 - (aa) where there is a bath tub or shower tray, from the edge of the bathtub or shower tray to a distance of 0.6 metres; or
 - (bb) where there is no bath tub or shower tray, from the centre point of the shower head where it is attached to the wall or ceiling to a distance of 1.2 metres; or
- (b) a room containing a swimming pool or sauna heater.

As an additional precaution, wear rubber-soled shoes. This will provide a measure of insulation between you and the ground!

IF YOU ARE NOT ABSOLUTELY CERTAIN ABOUT ANY ASPECT OF ELECTRICAL WORK, SEEK PROFESSIONAL ADVICE

- 1.1. Switch off the power and remove the fuse for the relevant circuit before carrying out any work, or inspecting, either it, or the appliances connected to it. Never inspect, or carry out work on, any part of the system with the power on. Make sure that power cannot be inadvertently restored by someone else.

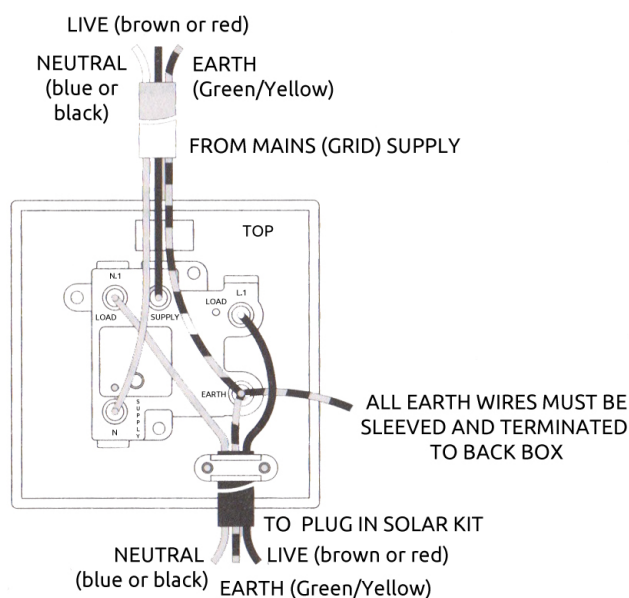


- 1.2. Use a voltage tester to check the power to the wires or connections are off before touching them.

1.3. Once the power is disconnected, wire the Plug-In Solar Connection Unit using the following instructions.

Wire Identification (if in doubt consult a qualified electrician)
EARTH – Green and Yellow Sleaving
LIVE – Red or Brown
NEUTRAL – Blue or Black

- a) If using the Plug-In Solar Connection Unit to replace an old socket (or similar), note the cable connections and wire up the Plug-In Solar Connection Unit the same way as the replaced item, with earthing as stated in these instructions.
- b) Route the cable through the appropriate entry point of the mounting box (this is usually at the rear).
- c) Cables should be prepared so sufficient conductor length reaches the terminals. Strip the ends of the individual conductors so that an adequate length enters the terminals.
- d) Carefully arrange the wiring to lie along the edges of the product or box, keeping the central area clear.
- e) Wire the Plug-In Solar Connection Unit using the following diagram (a larger version can be found in Appendix 1):



- f) When connecting the Plug-In Solar Connection Unit ensure that only the bare end of the wire enters the terminal, and no bare wires are visible. Always tighten the terminal screws, but don't over tighten. An earth connection should always be made between the mounting box earth terminal and the fused connection unit terminal. If the earth wire is bare, it must be sleeved with appropriate green/yellow sleaving.
 - g) If you are in any doubt about connecting this product consult a qualified electrician.
- 1.4. Wiring insulation tests should be completed to avoid misleading instrument readings and possible internal damage to the unit. Check your work thoroughly before restoring power to the circuit. If you are not certain, seek professional advice.
- 1.5. Once power has been restored, after around a two minute initialisation time, your Plug-In Solar kit will be feeding FREE electricity into your mains circuit.

ISOLATION/ISOLATOR REQUIREMENTS

Under G98 requirements, it must be possible to isolate a Plug-In Solar kit from the from the DNO's Distribution System, using a Double Pole Isolator. This is the function of the Plug-In Solar Connection Unit.

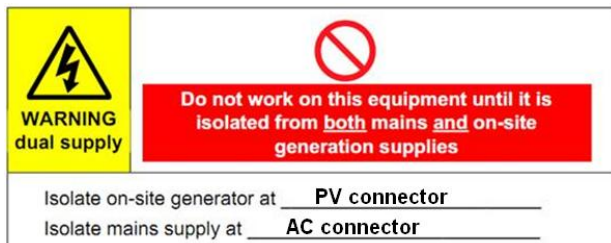
The Plug-In Solar Connection Unit, is a double pole Switched Fused Connection Unit, that adheres to British Standard BS1363-4, and offers on load isolation from the grid.

G98 regulations also state that the Plug-In Solar Connection Unit is lockable in the OFF position only. This ensures isolation under maintenance. The Fuse carrier of the Plug-In Solar Connection Unit can be locked open (the OFF position), as per the image below, in order to meet this requirement (padlock not provided).

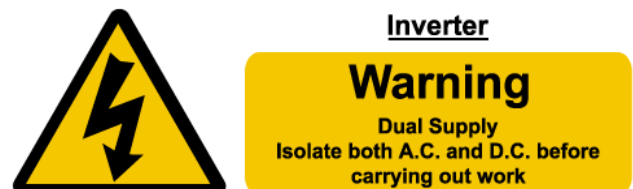


PLACING WARNING LABELS

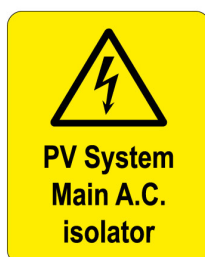
When installing a Plug-In Solar kit you must place labelling at the **Plug-In Solar Connection Unit**, **Existing Consumer Unit** and at all points of isolation between the **Plug-In Solar Connection Unit** and the **Solar Panels** within your premises. This is to indicate the presence of a Small Scale Embedded Generation installation (SSEG). The labelling should be fixed in place to ensure that it remains legible and secure for the lifetime of the installation. The following labels must be used and have been provided with your Plug-In Solar kit.



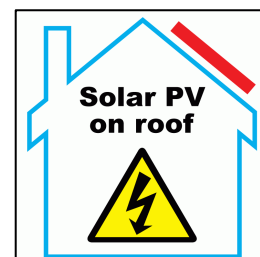
Dual supply labelling should be placed at the Plug-In Solar Connection Unit between the PV system and Existing Consumer Unit to indicate the presence of on-site generation and indicating the position of the main A.C switch disconnector.



A Micro-Inverter should be labelled stating "Inverter - isolate A.C. and D.C. before carrying out work". The Micro-Inverters also have this warning label as standard.



An AC isolator Label should be placed next to the Plug-In Solar Connection Unit and all other AC switches/disconnects (if applicable). ON and OFF positions should be clearly labelled.



To ensure the Fire and Rescue Service are aware that Solar is installed on the roof the following sign shall also be fitted next to the existing consumer unit in the building. You do not need this label for Ground Mount systems.

In addition to this safety labelling, you must also display an electrical schematic diagram next to the existing consumer unit in the property. You will have been provided with an electrical schematic diagram relevant to your kit, but can see an example in Appendix 2. Please note the diagram in Appendix 2 is non-prescriptive and is for illustrative purposes only.

INSPECTING AND TESTING YOUR PLUG-IN SOLAR INSTALLATION

As part of the G98 on-site commissioning tests you shall carry out a functional check of the loss of mains protection, for example by removing the supply to the Plug-In Solar kit during operation and checking that the Plug-In Solar Connection Unit operates to disconnect the Plug-In Solar Kit from the DNO's Distribution System.

In the UK the installation of a Plug-In Solar Kit is considered non-notifiable electrical work under Part P of the Building Regulations 2013, as it is an alteration to an existing installation (the mains grid).

“Regulation 12(6A) sets out electrical installation work that is notifiable. All other electrical installation work is not notifiable – namely additions and alterations to existing installations outside special locations, and replacements, repairs and maintenance anywhere.”

Installation of a non-notifiable Plug-In Solar kit should still be designed, installed, inspected, tested and certificated in accordance with **BS 7671**.

For more information on how to do this, you can find a copy of Part P building regulations here: http://www.planningportal.gov.uk/uploads/br/BR_PDF_AD_P_2013.pdf

COMMISSIONING YOUR PLUG-IN SOLAR INSTALLATION

Once you have installed, inspected and tested your Plug-In Solar kit, it is a requirement that you complete and return a G98 Engineering Recommendation Form to your Distribution Network Operator (DNO) within 28 days.

Distribution Network Operators (DNOs) own and operate the distribution network of towers and cables that bring electricity from the national transmission network to homes and businesses. They don't sell electricity to consumers, this is done by the electricity suppliers. Informing the DNO of your installation allows them to manage the grid more effectively.

There are 9 different DNO's across the UK, so you must make sure you submit your form to the correct DNO in your area. You can find your DNO by entering your postcode using this website: <https://www.ssepd.co.uk/Whoismynetworkoperator/>

Once you have identified your DNO you must download a G98 Engineering Recommendation Form from their website (or request that they e-mail one to you).

Completing G98 Engineering Recommendation Form

An example G98 Engineering Recommendation Form can be found in Appendix 4 of this Installation Manual. Please note G98 forms differ between DNO's, this is an example only.

The G98 Engineering Recommendation Form is relatively self-explanatory, however there are a number of sections that you must complete correctly:

Installation Address Details Section

Installation details	
Address	1 The Road One Place Sussex Found on your electricity bill
Post Code	AB12 3CD
MPAN(s)	17 123456789000

S	01	123	456
	12	1234 5678	345

A Meter Point Administration Number, also (MPAN), is a 21-digit reference used in the UK to uniquely identify electricity supply points. You must correctly fill in your own MPAN in this section of the form.

Your MPAN can be found on your electricity bill and often looks like the image on the left.

SSEG Micro-Generator Details Section

Summary details of Micro-generators - where multiple Micro-generators will exist within one premises.							
Manufacturer	Date of Installation	Technology Type	Manufacturer's Ref No (this number should be registered on the ENA Type Test Verification Report Register as Product ID)	Micro-generator Registered Capacity in kW			Power Factor
				3-Phase Units	Single Phase Units		
				PH1	PH2	PH3	
Hoymiles Converter Technology Co., Ltd	01/01/2021	Solar PV	MI-600		1kW		>0.99
Input kW Size of your Plug-In Solar Kit							

Within the SSEG Details section of the form, fill in the details of your installation. The capacity will be the size of the Plug-In Solar kit you purchased, i.e. 1kW. The Primary Energy Source must always be filled as 'Solar PV'. If you have any existing SSEG's (e.g. wind/solar) you must also declare these here.

SSEG Installer Details Section

Installer Details:	
Installer	Mr No. Body
Accreditation / Qualification	N/A (Self-Installed)
Address	1 The Road One Place Sussex
Post Code	AB12 3CD
Contact person	Mr No. Body
Telephone Number	01234 567891
E-mail address	nobody@gmail.com
Installer signature	

As Plug-In Solar kits are DIY, self installed solar systems you should complete this section as the installer. In the Accreditation/Qualification section you should fill this in as 'N/A (Self-Installed)', unless you have an appropriate accreditation. This section of the form also needs to be signed.

Along with the completed G98 Engineering Recommendation Form, you must also supply the DNO with the following:

1. An electrical schematic diagram for your installation (A relevant electrical schematic diagram will be provided with your Plug-In Solar Kit). An example can be seen in Appendix 3.
2. A copy of the G98 Type Verification Test Report Certificate for the Micro-Inverters (This can be found in Appendix 7)
3. A photograph of your existing electricity meter (be sure to include the make and model of the meter)

Email/Fax/Post the information above to your DNO using the contact supplied on the Commissioning Form. Do not send it to Plug-In Solar, we cannot apply to the DNO on your behalf.

When the DNO has received your form and it has been processed, you will get a confirmation email/letter to say it has been accepted.

Notifying the DNO of changes to a Plug-In Solar kit

If during the lifetime of the Plug-In Solar kit it is necessary to replace a major component of the Plug-In Solar kit, it is only necessary to notify the DNO if the operating characteristics of the Plug-In Solar kit or the Plug-In Solar Connection Unit have been altered when compared against the unit that was originally commissioned.

Notifying the DNO of the decommissioning of a Plug-In Solar kit

In the event that a Plug-In Solar kit is to be decommissioned and will no longer operate as a source of electrical energy in parallel with the DNO's Distribution System, you must notify the DNO by completing a G98 Decommissioning Confirmation Form. Please contact your DNO for a copy of this form.

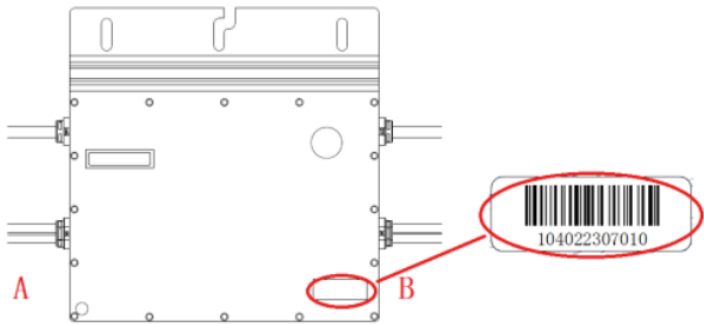
COMPLETING YOUR WARRANTY CARD

In order to fulfill the requirements of the manufacturers, you must complete Warranty Cards for the Micro-Inverters, which provide system information and installation maps to Hoymiles. A Warranty Card can be found in Appendix 6.

Each Micro-Inverter has serial number labels affixed. Once the inverters are installed, please peel one of the labels off each Micro-Inverter and affix them to the warranty card.

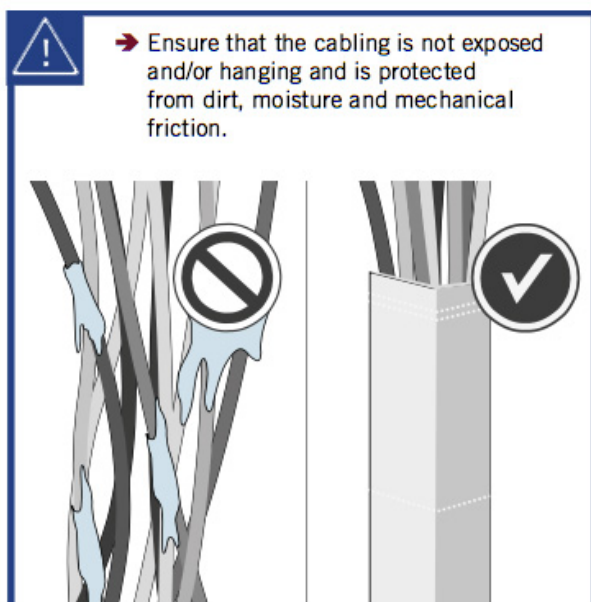
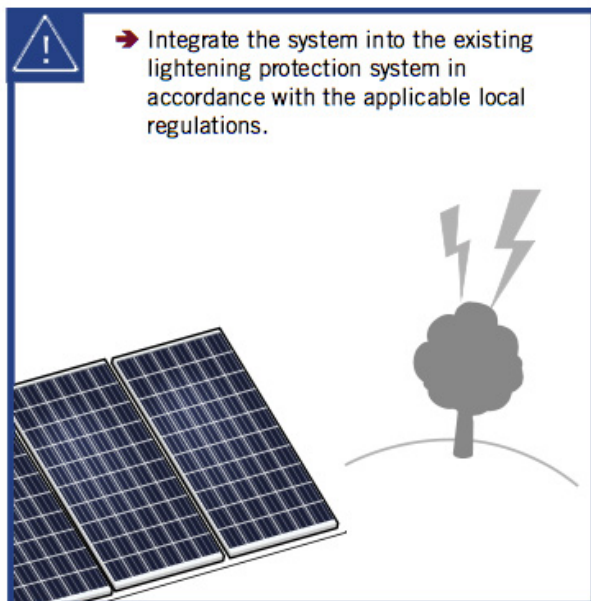
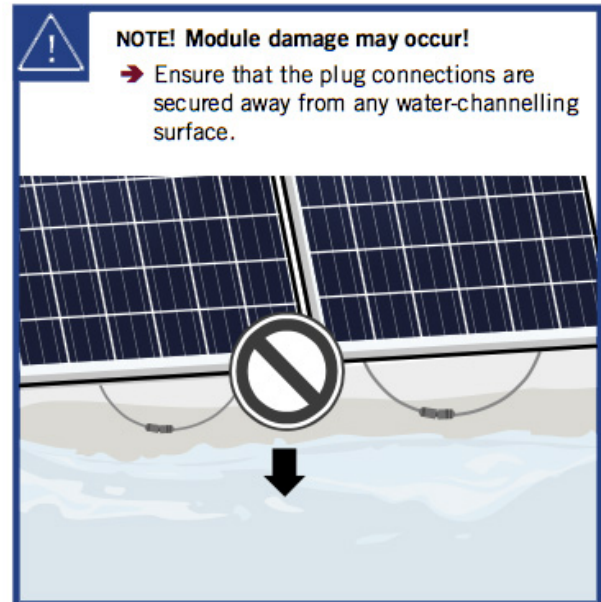
Fill in the warranty card with each of the labels according to the layout on the roof/ground. The DC inputs are identified by A and B. The left input is A and the right one is B, as shown below.

If you have a purchased an online monitoring system, please refer to the User Manual provided with this guide for detailed instructions on how to install it correctly, and use these installation maps to set it up.



N S E W (indicate orientation)		Panel Group: , Azimuth: , Tilt: , Steel: , Al: ,		Customer information: ,				DTU Serial Number: ,							
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
A	A B														
B															
C	A B														
D															

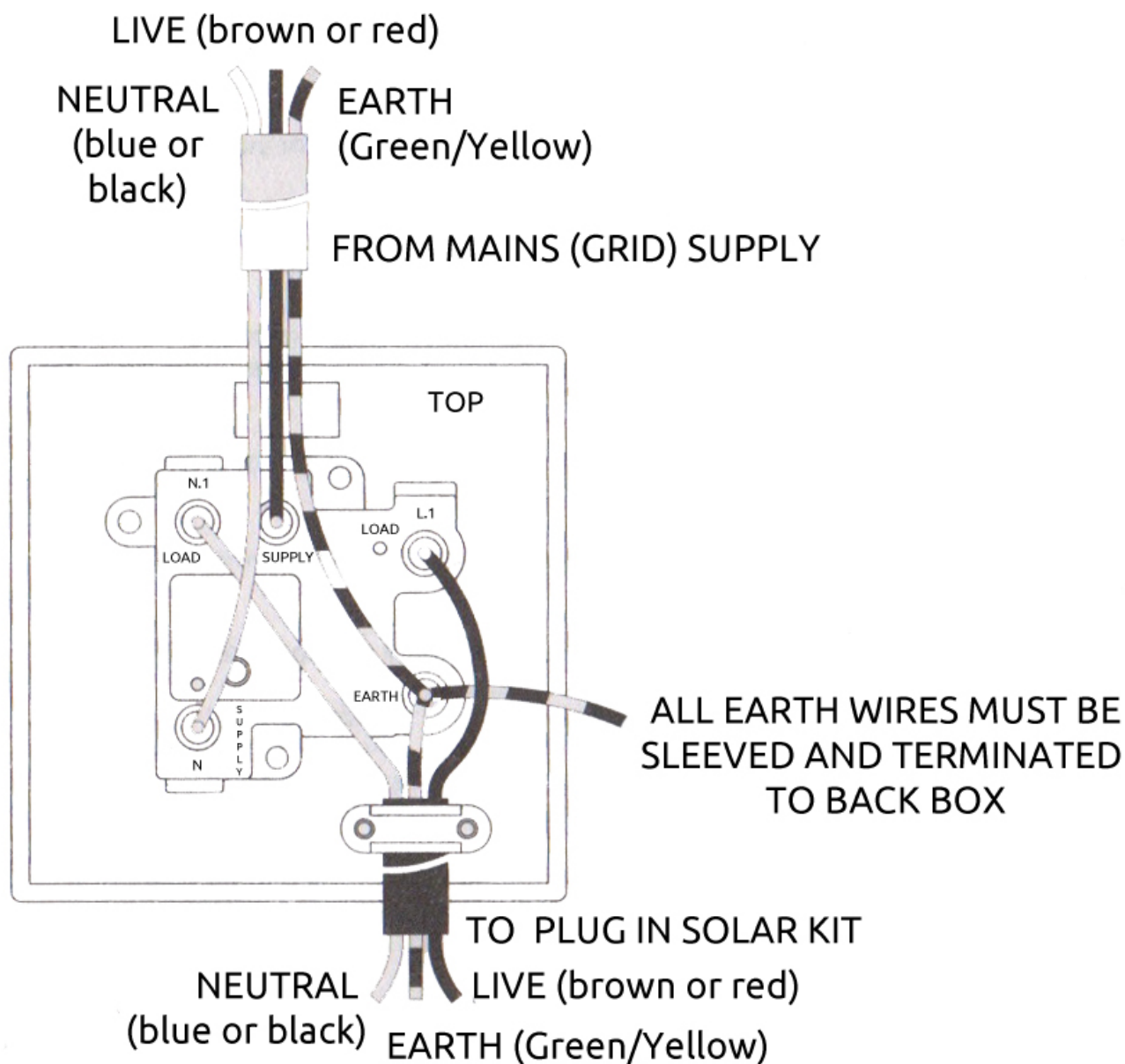
COMPLETING YOUR SOLAR INSTALLTION



APPENDIX 1. PLUG-IN SOLAR CONNECTION UNIT – WIRING DIAGRAM

ALWAYS FOLLOW THE IET WIRING REGULATIONS

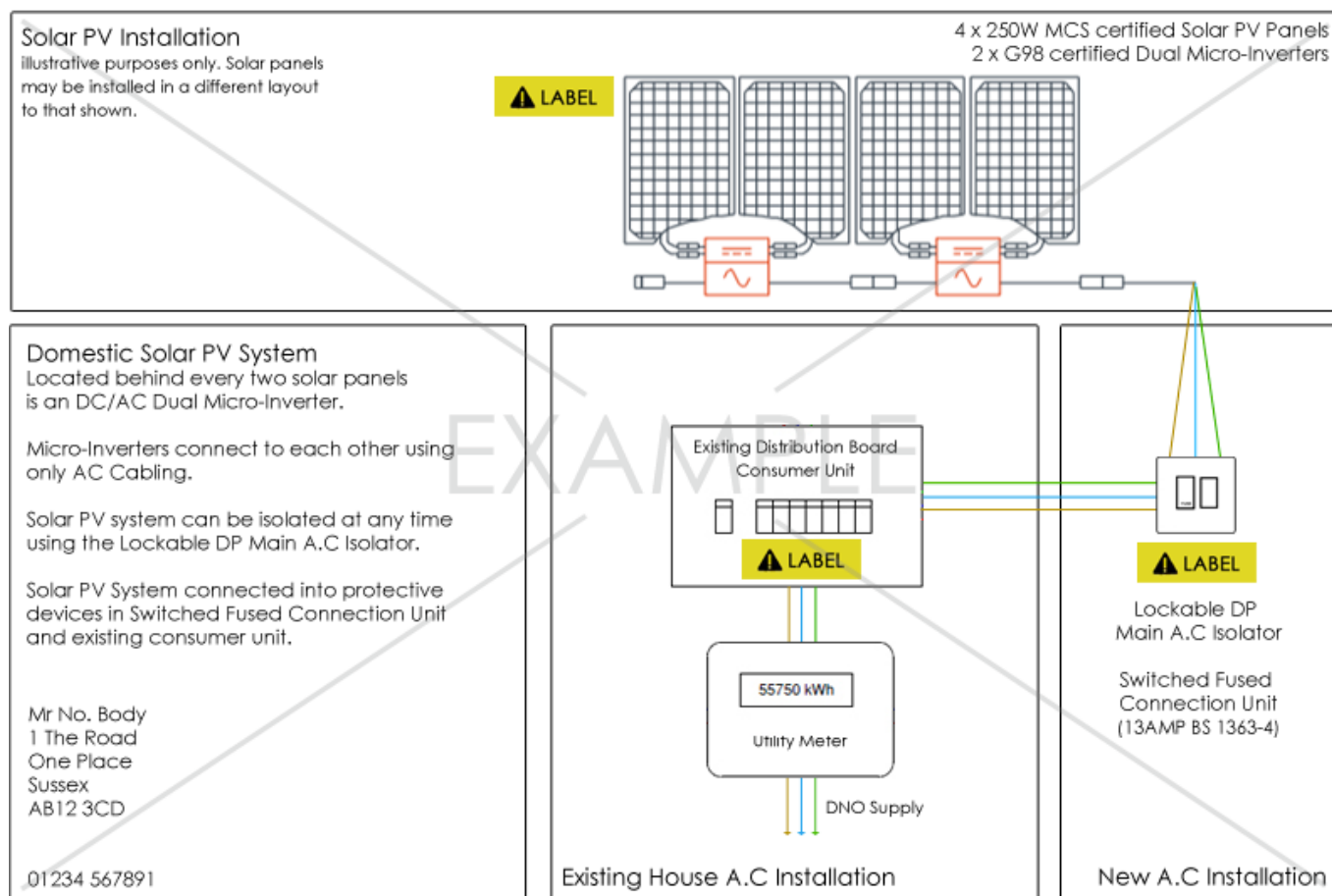
IF YOU ARE NOT ABSOLUTELY CERTAIN ABOUT ANY ASPECT OF ELECTRICAL WORK,
SEEK PROFESSIONAL ADVICE



APPENDIX 2. EXAMPLE ELECTRICAL SCHEMATIC DIAGRAM

This is non-prescriptive and is for illustrative purposes only.

Electrical Schematic Diagram for 1kW (1000W) Domestic Solar PV System



APPENDIX 3. TROUBLESHOOTING MICRO-INVERTERS

Status Indications and Error Reporting

Startup LED

When DC power is first applied to the Micro-Inverter: Five short green blinks indicate a successful Micro-Inverter startup.

Operation LED

Flashing Slow Green (4s gap) - Producing power and communicating with DTU

Flashing Fast Green (2s gap) – Producing power and not communicating with ECU

Flashing Red – Not producing power (AC Grid Invalid – Voltage or Frequency out of range).

GFDI Error

A solid red LED indicates the Micro-Inverter has detected a ground fault (GFDI) error in the PV system. Unless the GFDI error has been cleared, the LED will remain red and the ECU will keep reporting the fault.

After the ground fault error is fixed, follow the instructions in the *ECU Installation and Operation Manual* to clear this GFDI error reporting.

Non-Operating Micro-Inverters

1. To troubleshoot a non-operating Micro-Inverter, follow the steps below in order:
2. Check the connection to the utility grid. Verify utility power is present at the inverter in question by removing AC, then DC power. **Never disconnect the DC wires while the Micro-Inverter is producing power.** Re-connect the DC module connectors and watch for three short green LED flashes.
3. Check the AC branch circuit interconnection between all the Micro-Inverters. Verify each micro-inverter is energised by the utility grid as described in the previous step.
4. Make sure that any AC breakers are functioning properly and are closed.
5. Check the DC connections between the Micro-Inverter and the PV module.
6. If the problem persists, please contact Hoymiles customer support on (+44) 028 2076 9210 or email support_ie@hoymiles.com. DO NOT attempt to repair the Micro-Inverter. If troubleshooting methods fail, please return the Micro-Inverter to your distributor for replacement.

Form B: Installation Document for connection under G98

Please complete and provide this document for each premises, once **Micro-generator** installation is complete.

To ABC electricity distribution **DNO**
99 West St, Imaginary Town, ZZ99 9AA abced@wxyz.com

Customer Details:

Customer (name)	Mr No. Body
Address	1 The Road One Place Sussex
Post Code	AB12 3CD
Contact person (if different from Customer)	
Telephone number	01234 567891
E-mail address	nobody@pmail.com
Customer signature	

Installer Details:

Installer	Mr No. Body
Accreditation / Qualification	N/A (Self-Installed)
Address	1 The Road One Place Sussex
Post Code	AB12 3CD
Contact person	Mr No. Body
Telephone Number	01234 567891
E-mail address	nobody@pmail.com
Installer signature	

Input "N/A (Self-Installed)" here

Installation details			
Address		1 The Road One Place Sussex Found on your electricity bill	
Post Code		AB12 3CD	
MPAN(s)		17 123456789000	
Location within Customer's Installation		Garage	
Location of Lockable Isolation Switch		Utility Room	
Details of Micro-generator			
Manufacturer / Reference		Hoymiles Converter Technology Co., Ltd	
Date of Installation		01/01/2021	
Primary Energy source		Solar PV	
Power Factor		>0.99	
Manufacturer's reference number		MI-600	
Emerging technology classification (if applicable)		Input kW Size of your Plug-In Solar Kit	
Micro-generator Registered Capacity in kW	3-Phase Units		
	Single Phase Units	PH1	1kW
		PH2	
		PH3	
Declaration – to be completed by Installer for Micro-generators Tested to EREC G98			
I declare that the relevant Micro-generators and the installation which together form a Micro-generating Plant within the scope of EREC G98 at the above address, conform to the requirements of EREC G98. This declaration of compliance is confined to Micro-generating Plant tested to EREC G98 or EREC G83 as applicable at the time of commissioning.			
Signature:		Date:	
.....		01/01/2021	

Summary details of Micro-generators - where multiple **Micro-generators** will exist within one premises.

Manufacturer	Date of Installation	Technology Type	Manufacturer's Ref No (this number should be registered on the ENA Type Test Verification Report Register as Product ID)	Micro-generator Registered Capacity in kW				
				3-Phase Units	Single Phase Units			Power Factor
					PH1	PH2	PH3	
Hoymiles Converter Technology Co., Ltd	01/01/2021	Solar PV	MI-600		1kW			>0.99
Input kW Size of your Plug-In Solar Kit								

Use a separate line for new and existing installations and for different Primary Energy sources above.
Use PH 1 column for single phase supply.

Warranty Regulations and Liability

1. Warranty Period

Hoymiles products are designed to withstand normal operating conditions when used for its originally intended purpose in compliance with the Hoymiles User Manual supplied with the originally shipped system. The Hoymiles limited warranty ("Limited Warranty") covers defects in workmanship and materials of the Hoymiles products ("Defective Product"). Hoymiles provide both default warranty and extended warranty as follows which starts from the shipping date.

Model	Standard (extended)
MI-250	12(20/25)
MI-300	12(20/25)
MI-500	12(20/25)
MI-600	12(20/25)
MI-700	12(20/25)
MI-1000	12(20/25)
MI-1200	12(20/25)
DTU	2
Note: Additional fee (based on FOB price) for extended warranty period: 20% for 8 years, or 30% for 13 years.	

During the Warranty Period, if Hoymiles establishes, through inspection, the existence of a defect that covered by the Limited Warranty, Hoymiles will, at its option, either

- 1) Repair or replace the Defective Product free of charge, or
- 2) Issue a credit or refund for the Defective Product to the Warranty Holder in an amount up to its actual value at the time the Warranty Holder notifies Hoymiles of the defect, as determined by Hoymiles.

If Hoymiles elects to repair or replace the Defective Product, Hoymiles will, at its option, use new and/or reconditioned parts in repairing or replacing the Defective Product. Hoymiles reserves the right to use parts or products of original or improved design in the repair or replacement of Defective Product. If Hoymiles repairs or replaces a Defective Product, the Limited Warranty continues on the repaired or replacement product for the remainder of the original Warranty Period or ninety (90) days from the date of Hoymiles' return shipment of the repaired or replacement product, whichever is later.

2. Limited Liability

The Limited Warranty covers both parts and labor necessary to repair the Defective, but does not include labor costs related to un-installing the Defective Product or re-installing the repaired or replacement product. The Limited Warranty also covers the costs of shipping repaired or replacement product from Hoymiles, via a non-expedited freight carrier selected by Hoymiles. The Limited Warranty does not cover, and Hoymiles will not be responsible for, shipping damage or damage caused by mishandling by the freight carrier and any such damage is the responsibility of the freight carrier.

The Limited Warranty does not apply to, and Hoymiles will not be responsible for, any defect in or damage to any Hoymiles product:

- 1) That has been misused, neglected, tampered with, altered, or otherwise damaged, either internally or externally;
- 2) Normal appearance wear out, including discolor and scratch;
- 3) The defective has no impact on the power generation, including LED indicator failure;
- 4) That has been improperly installed, operated, handled or used, including use under conditions for which the product was not designed, use in an unsuitable environment, or use in a manner contrary to the Hoymiles User Manual or applicable laws or regulations;
- 5) That has been subjected to fire, water, generalized corrosion, biological infestations, or input voltage that creates operating conditions beyond the maximum or minimum limits listed in the Hoymiles product specifications, including high input voltage from generators or lightning strikes;
- 6) That has been subjected to incidental or consequential damage caused by defects of other components of the solar system; or
- 7) If the original identification markings (including trademark or serial number) of such product have been defaced, altered, or removed. The Limited Warranty does not cover costs related to the removal, installation or troubleshooting of the customer's electrical systems. The Limited Warranty does not extend beyond the original cost of the Hoymiles product.

3. RMA & Replacement

To obtain repair or replacement service, credit or refund (as applicable) under this Limited Warranty, you must comply with the following policy and procedure:

- All Defective Product must be returned with a Return Merchandise Authorization Number (RMA) which customer must request from Hoymiles. Before requesting the RMA, however, the customer should contact Hoymiles technical support representative to evaluate and troubleshoot the problem while the Hoymiles products in the field, since many problems can be solved in the field.
- If in-field troubleshooting does not solve the problem, Customer may request the RMA number, with following information:
 - Proof-of-purchase of the Defective Product in the form of (1) the dated purchase receipt from the original purchase of the product at point of sale to the end user, or (2) the dated dealer invoice or purchase receipt showing original equipment manufacturer (OEM) status, or (3) the dated invoice or purchase receipt showing the product exchanged under warranty.
 - Model number of the Defective Product
 - Serial number of the Defective Product
 - Detailed description of the defect
 - Shipping address for return of the repaired or replacement product
- Upon issuance of the RMA, Hoymiles will ship the replacement unit to the address where the Hoymiles product is installed.
- All Defective Product authorized for return must be returned in the original shipping container or other packaging that is equally protective of the product.
- The returned Defective Product must not have been disassembled or modified without the prior written authorization of Hoymiles.
- If defective device is replaced by a distributor according to warranty conditions, Hoymiles will compensate labor costs to related distributor by USD50 for 1st unit, USD25 for 2nd unit and USD25 for 3rd unit, total compensation for one residential system less than 30kW up to USD150.
- If the allegedly faulty microinverter is found by Hoymiles to be ineligible for exchange under this policy, the compensation payment will not be made and the distributor/installer will be charged for the repair of the unit. In order to receive the compensation payment, the distributor/installer must provide proof of a valid warranty for the microinverter, a correctly issued and fully completed invoice.

4. Limited Warranty

THE LIMITED WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY GIVEN BY HOYMILES AND, WHERE PERMITTED BY LAW, IS MADE EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, STATUTORY OR OTHERWISE, INCLUDING, WITHOUT LIMITATION, WARRANTIES OF TITLE, QUALITY, MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR NON-INFRINGEMENT OR WARRANTIES AS TO THE ACCURACY, SUFFICIENCY OR SUITABILITY OF ANY TECHNICAL OR OTHER INFORMATION PROVIDED IN MANUALS OR OTHER DOCUMENTATION. IN NO EVENT WILL HOYMILES BE LIABLE FOR ANY SPECIAL, DIRECT, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, LOSSES, COSTS OR EXPENSES HOWEVER ARISING, WHETHER IN CONTRACTOR TORT, INCLUDING WITHOUT LIMITATION ANY ECONOMIC LOSSES OF ANY KIND, ANY LOSS OR DAMAGE TO PROPERTY, OR ANY PERSONAL INJURY.

To the extent any implied warranties are required under applicable law to apply to the Hoymiles products, such implied warranties shall be limited in duration to the Warranty Period, to the extent permitted by applicable law. Some regions do not allow limitations or exclusions on implied warranties or on the duration of an implied warranty or on the limitation or exclusion of incidental or consequential damages, so the above limitation(s) or exclusion(s) may not apply. This Limited Warranty gives the Warranty Holder specific legal rights, and the Warranty Holder may have other rights that may vary from region to region.

To sheet _____

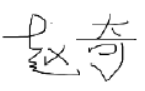
N S E W (circle one) 		Panel Group: Azimuth: Tilt: Sheet ____ of ____		Customer Information:				DTU Serial Number:						
	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A														
B														
C														
D														

To sheet _____

To sheet _____

To sheet _____

G98 Type Verification Test Report

Type Approval and Manufacturer declaration of compliance with the requirements of G98. This form should be used when making a Type Test submission to the Energy Networks Association (ENA). If the Micro-generator is Fully Type Tested and already registered with the ENA Type Test Verification Report Register, the Installation Document should include the Manufacturer's Reference Number (the Product ID), and this form does not need to be submitted. Where the Micro-generator is not registered with the ENA Type Test Verification Report Register this form needs to be completed and provided to the DNO, to confirm that the Microgenerator has been tested to satisfy the requirements of this EREC G98.			
SSEG Type reference number		MI-300, MI-250	
SSEG Type		Photovoltaic Microinverter	
System Supplier name		Hoymiles Converter Technology Co., Ltd.	
Address		No.18 Kangjing road, Hangzhou, Zhejiang Province, P.R. China	
Tel	+86 15088682210	Fax	+86 571 28056137
E:mail	zhangxingyao@hzconverter.com	Web site	www.hoymiles.com
Maximum rated capacity, use separate sheet if more than one connection option.	Connection Option		
	0.3/0.25	kW single phase, single, split or three phase system	
	NA	kW three phase	
	NA	kW two phases in three phase system	
	NA	kW two phases split phase system	
SSEG manufacturer/supplier declaration			
Manufacturer Type Test declaration. - I certify that all products supplied by the company with the above Type Tested reference number will be manufactured and tested to ensure that they perform as stated in this document, prior to shipment to site and that no site modifications are required to ensure that the product meets all the requirements of EREC G98.			
Signed		On behalf of	Hoymiles Converter Technology Co., Ltd

Note that testing can be done by the Manufacturer of an individual component or by an external test house.

Where parts of the testing are carried out by persons or organisations other than the Manufacturer then that person or organisation shall keep copies of all test records and results supplied to them to verify that the testing has been carried out by people with sufficient technical competency to carry out the tests.

Operating Range			
	Test 1	Test 2	Test 3
MI-300	<u>195.5 V,47.5 Hz</u>	<u>253 V,51.5 Hz</u>	<u>253 V,52.0 Hz</u>
MI-250			

Power Quality – Harmonics: These tests should be carried out as specified in BS EN 61000-3-2.						
SSEG rating per phase (rpp)			0.3	kW	NV=MV*3.68/rpp	
Harmo nic	At 45-55% of rated output		100% of rated output			
	Measured Value(MV) in Amps	Normalised Value (NV) In Amps	Measured Value(MV) In Amps	Normalised Value (NV) In Amps	Limit in BS EN 61000-3-2 in Amps	Higher limit for odd harmonics 21 and above
2	0.0045	0.0552	0.0082	0.1006	1.080	
3	0.0063	0.0773	0.0045	0.0552	2.300	
4	0.0018	0.0221	0.003	0.0368	0.430	
5	0.0032	0.0393	0.0089	0.1092	1.140	
6	0.0011	0.0135	0.0016	0.0196	0.300	
7	0.0004	0.0049	0.0048	0.0589	0.770	
8	0.001	0.0123	0.0011	0.0135	0.230	
9	0.0002	0.0025	0.0032	0.0393	0.400	
10	0.0008	0.0098	0.0008	0.0098	0.184	
11	0.0001	0.0012	0.002	0.0245	0.450	
12	0.0006	0.0074	0.0007	0.0086	0.153	
13	0.0006	0.0074	0.0006	0.0074	0.210	

14	0.0006	0.0074	0.0003	0.0037	0.131	
15	0.0006	0.0074	0.0006	0.0074	0.150	
16	0.0006	0.0074	0.0003	0.0037	0.115	
17	0.0008	0.0098	0.0012	0.0147	0.132	
18	0.0003	0.0037	0.0003	0.0037	0.102	
19	0.0008	0.0098	0.0019	0.0233	0.118	
20	0.0008	0.0098	0.0003	0.0037	0.092	
21	0.0009	0.0110	0.0023	0.0282	0.107	
22	0.0004	0.0049	0.0002	0.0025	0.084	
23	0.0015	0.0184	0.003	0.0368	0.098	0.147
24	0.0004	0.0049	0.0000	0.0000	0.077	
25	0.0013	0.0159	0.003	0.0368	0.090	0.135
26	0.0006	0.0074	0.0002	0.0025	0.071	
27	0.0013	0.0159	0.0027	0.0331	0.083	0.124
28	0.0006	0.0074	0.0003	0.0037	0.066	
29	0.0015	0.0184	0.0026	0.0319	0.078	0.117
30	0.0003	0.0037	0.0000	0.0000	0.061	
31	0.0018	0.0221	0.0023	0.0282	0.073	0.109
32	0.0002	0.0025	0.0005	0.0061	0.058	
33	0.0019	0.0233	0.0023	0.0282	0.068	0.102
34	0.0001	0.0012	0.0001	0.0012	0.054	
35	0.0018	0.0221	0.0026	0.0319	0.064	0.096
36	0.0000	0.0000	0.0002	0.0025	0.051	
37	0.0016	0.0196	0.0028	0.0343	0.061	0.091
38	0.0003	0.0037	0.0001	0.0012	0.048	
39	0.0014	0.0172	0.003	0.0368	0.058	0.087
40	0.0001	0.0012	0.0004	0.0049	0.046	

Note the higher limits for odd harmonics 21 and above are only allowable under certain conditions, if these higher limits are utilised please state the exemption used as detailed in part 6.2.3.4 of BS EN 61000-3-2 in the box below.

Power Quality. Voltage fluctuations and Flicker.

	Starting			Stopping			Running	
	dmax [%]	dc [%]	d(t) [%]	dmax [%]	dc [%]	d(t) [%]	Pst	Plt 2 hours
Measured Values	0	0	0	0	0	0	0.064	0.028
Normalised to standard impedance and 3.68kW for multiple units	0	0	0	0	0	0	0.942	0.412
Limits set under BS EN 61000-3-2	4%	3.30%	3.3% 500ms	4%	3.30%	3.3% 500ms	1	0.65
Test start date	2017-08-20			Test end date		2017-08-20		
Test location	No.8 Chunxin East Road, Wuxi, Jiangsu							

Power quality – DC injection: This test should be carried out in accordance with EN 50438 Annex D.3.10

Test power level	20%	50%	75%	100%	
Recorded value(mA)	0.341	1.039	2.114	1.867	
as % of rated AC	0.13%	0.16%	0.21%	0.14%	
Limit	0.25%	0.25%	0.25%	0.25%	

Power Quality – Power factor: This test shall be carried out in accordance with EN 50538 Annex D.3.4.1 but with nominal voltage -6% and +10%. Voltage to be maintained within $\pm 1.5\%$ of the stated level during the test.

	216.2V	230V	253V	
20% of Registered	0.9656	0.9589	0.9511	
50% of Registered	0.9937	0.9923	0.9895	
75% of Registered	0.9966	0.9959	0.9946	
100% of Registered	0.9977	0.9973	0.9965	
Limit	>0.95	>0.95	>0.95	

Protection. Frequency tests These tests should be carried out in accordance with EN 50438 Annex D.2.4 and the notes in EREC G98 Annex A1 A 1.3.2 (Inverter connected) or Annex A2 A.2.2.2 (Synchronous)

Function	Setting		Trip test		"No trip tests"	
	Frequency	Time delay	Frequency	Time delay	Frequency /time	Confirm no trip
U/F stage 1	47.5Hz	20s	47.5Hz	20s	47.7Hz/ 25s	No trip
U/F stage 2	47Hz	0.5s	47Hz	0.52s	47.2Hz/ 19.98s	No trip
					46.8Hz/ 0.48s	No trip
O/F stage 2	52Hz	0.5s	52Hz	0.54s	51.8Hz/ 89.98s	No trip
					52.2Hz/ 0.48s	No trip

Protection. Voltage tests These tests should be carried out in accordance with EN 50438 Annex D.2.3 and the notes in EREC G98 Annex A1 A 1.3.1 (Inverter connected) or Annex A2 A.2.2.1 (Synchronous)

Function	Setting		Trip test		"No trip tests"	
	Voltage	Time delay	Voltage	Time delay	Voltage /time	Confirm no trip
U/V stage 2	184V	2.5s	183.6V	2.52s	188V/3.5s	No trip
					180V/2.48s	No trip
O/V stage 1	262.2V	1.0s	263.4V	1.01s	258.2V/2.0s	No trip
O/V stage 2	273.7V	0.5s	274.6V	0.53s	269.7V/0.98s	No trip

	277.7V/0.48s	No trip
Note for Voltage tests the Voltage required to trip is the setting ± 3.45 V. The time delay can be measured at a larger deviation than the minimum required to operate the protection. The No trip tests need to be carried out at the setting ± 4 V and for the relevant times as shown in the table above to ensure that the protection will not trip in error.		

Protection. Loss of Mains test. For PV Inverters shall be tested in accordance with BS EN62116. Other Inverters should be tested in accordance with EN 50438 Annex D.2.5 at 10%,55% and 100% of rated power.

Note: Inverter tested according to BS EN 62116.

Test Power and imbalance	33% -5% Q	66% -5% Q	100% -5% P	33% +5% Q	66% +5% Q	100% +5% P
Trip time. Limit is 0.5s	83.1ms	161.9ms	254.6ms	83.1ms	161.3ms	254.4ms

Protection. Frequency change, Stability test This test should be carried out in accordance with EREC G98 Annex A1 A 1.3.5 (Inverter connected) or Annex A2 A.2.2.5 (Synchronous).

	Start Frequency	Change	End Frequency	Confirm no trip
Positive Vector Shift	49.5Hz	+50 degrees		No trip
Negative Vector Shift	50.5Hz	- 50degrees		No trip

Protection – Frequency change, RoCoF Stability test: The requirement is specified in section 11.3, test procedure in Annex A 1.3.5 (Inverter connected) or Annex A2 A.2.2.5 (Synchronous).

	Ramp range	Test frequency	Test Duration	Confirm no trip
Positive Frequency drift	49Hz to 51Hz	+0.95Hz/sec	2.1s	No trip
Negative Frequency drift	51Hz to 49Hz	-0.95Hz/sec	2.1s	No trip

Protection – Limited Frequency Sensitive Mode – Overfrequency test: This test should be carried out in accordance with EN 50438 Annex D.3.3 Power response to over- frequency. The test should be carried out using the specific threshold frequency of 50.4 Hz and dro op of 10%.

Test sequence at Registered Capacity >80%	Measured Active Power Output	Frequency	Primary Power Source	Active Power Gradient
Step a) 50.00	304.8W	304.8W 50Hz		-

Hz ±0.01Hz				
Step b) 50.45 Hz ±0.05Hz	303.2W	50.45Hz		-
Step c) 50.70 Hz ±0.10Hz	294.4W	50.7Hz		-
Step d) 51.15 Hz ±0.05 Hz	282.6W	51.15Hz		-
Step e) 50.70 Hz ±0.10Hz	294.3W	50.7Hz		-
Step f) 50.45 Hz ±0.05Hz	303.4W	50.45Hz		-
Step g) 50.00 Hz ±0.10Hz	304.7W	50Hz		-
Test sequence at Registered Capacity 40% - 60%	Measured Active Power Output	Frequency	Primary Power Source	Active Power Gradient
Step a) 50.00 Hz ±0.01Hz	152.9W	50Hz		-
Step b) 50.45 Hz ±0.05Hz	152.6W	50.45Hz		-
Step c) 50.70 Hz ±0.10Hz	148.1W	50.7Hz		-
Step d) 51.15 Hz ±0.05 Hz	140.2W	51.15Hz		-
Step e) 50.70 Hz ±0.10Hz	148.7W	50.7Hz		-
Step f) 50.45 Hz ±0.05Hz	152.4W	50.45Hz		-
Step g) 50.00 Hz ±0.10Hz	152.5W	50Hz		-
Steps as defined in EN 50438				

Protection – Power output with falling frequency test: This test should be carried out in accordance with EN 50438 Annex D.3.2 active power feed -in at under-frequency.

Test sequence	Measured Active Power Output	Frequency	Primary power source
Test a) 50 Hz ± 0.01 Hz	304.7W	50Hz	
Test b) Point between 49.5 Hz and 49.6 Hz	304.7W	49.55Hz	
Test c) Point between 47.5 Hz and 47.6 Hz	304.6W	47.55Hz	
NOTE: The operating point in Test (b) and (c) shall be maintained for at least 5 minutes			

Protection. Re-connection timer.					
Test should prove that the reconnection sequence starts after a minimum delay of 20 s for restoration of voltage and frequency to within the stage 1 settings of Table 2.					
Time delay setting	Measured delay	No reconnection when voltage or frequency is brought to just outside stage 1 limits of table 1.			
40s	40.1s	At 266.2V	At 180V	At 47.4Hz	At 51.6Hz
Confirmation that the SSEG does not re-connect.		No reconnection	No reconnection	No reconnection	No reconnection

Fault level contribution. The requirement is specified in section 5.7, test procedure in Annex A or B 1.4.6					
For a directly coupled SSEG			For a Inverter SSEG		
Parameter	Symbol	Value	Time after fault	Volts	Amps
Peak Short Circuit current	i_p	N/A	20ms	11.8V	0.0572A
Initial Value of aperiodic	A	N/A	100ms	8.24V	0.0446A
Initial symmetrical	I_k	N/A	250ms	7.35V	0.0335A
Decaying (aperiodic)	i_{DC}	N/A	500ms	6.25V	0.0346A
Reactance/Resistance Ratio	X/R	N/A	Time to trip	0.0058s	(in seconds)

Self-Monitoring solid state switching :No specified test requirements. Refer to EREC G98 Annex A1 A 1.4.6 (Inverter connected).	Yes/or NA
It has been verified that in the event of the solid state switching device failing to disconnect the Micro-generator, the voltage on the output side of the switching device is reduced to a value below 50 V within 0.5 s.	N/A

Additional comments

LG ELECTRONICS SOLAR MODULE LIMITED GUARANTEE FOR ALL LGxxxN1C/N1K-V5 AND LGxxxN2W-V5 MODULES



The following limited guarantee (hereinafter "Limited Guarantee") is provided by LG Electronics Inc., Solar Business Division, LG Twin Towers, 20 Yeouido-dong, Yeongdeungpo-gu, Seoul, 150-721, Republic of Korea, Tel. +82 / 2 / 3777-1114 Fax. +82 / 2 / 3777-5140 (hereinafter "LG").

It applies to LG Solar Module models (hereinafter "Module(s)") manufactured by LG and extends only to the original end use purchaser and subsequent owner(s) of the location on which the Module(s) is/are originally installed (all such persons hereinafter referred to as "Customer"). The Limited Guarantee's start date ("Guarantee Start Date") shall be the date of purchase by the original end use purchaser. If the Customer is unable to provide adequate documentation of the original purchase, the Guarantee Start Date shall be ninety (90) days after the Module(s) was manufactured.

1. 25 Years Limited Guarantee for all LGxxxN1C/N1K/N1S-V5 and LGxxxN2W/N2T-V5 Module(s)

LG will, at its sole option, repair or replace the Module within the applicable scope covered under section 3 hereinafter ("How this Limited Guarantee applies"), if it proves to be defective in material or workmanship during a period ending 25 years from the Guarantee Start Date under normal application, installation, use and service conditions.

2. 25 Years Limited Guarantee for Power Output - for all LGxxxN1C/N1K/N1S-V5 and LGxxxN2W/N2T-V5 Module(s)

LG guarantees that for a period of one (1) year from Guarantee Start Date the actual power output of the Module will be no less than 98 %, of the labeled power output. From the second year, the actual power output will decline on an average annual base by no more than 0.35 % for remaining 24 years, so that by the end of the 25th year, an actual output of at least 89.6 %, of the nameplate power output level specified on the Module will be achieved.

If the Module does not reach the guaranteed power output levels set out above when measured by the LG or by an independent measuring institute agreed to prior to testing by LG, under standard test conditions ("STC", IEC 61215) taking into account a $\pm 3\%$ tolerance range, LG will, at its sole and absolute discretion, either (i) repair the Module; (ii) supplement such deficiency in power by either: (a) providing additional module(s) to the Customer, or (b) replacing the Module; or (iii) refund the difference between the guaranteed minimal power output and actual power output (measured under LG's STC) multiplied by the market price of the Module or a comparable model at the time of the Customer's claim.

Repair and replacement are subject to the applicable scope covered under section 3 hereinafter ("How this Limited Guarantee applies").

The power output values shall be those measured under LG's STC as follows: (a) light spectrum of AM 1.5; (b) an irradiation of 1000 W per m^2 and; (c) a cell temperature of 25 degrees centigrade at right angle irradiation.

3. How this Limited Guarantee applies

The remedies set forth in this Limited Guarantee shall be the sole and exclusive remedies and the original Guarantee period in this Limited Guarantee shall not extend beyond the period set forth therein, nor will a new Guarantee period begin, upon repair, replacement or pro-rated refund due to power loss at LG's sole option provided under this Limited Guarantee.

Repair or replacement will be made with new or remanufactured Module or parts and the replaced Module or parts shall become the property of LG. In the event the Module is no longer available, LG reserves the right, at its sole option, to deliver a new or remanufactured Module that may differ in size, color, shape, model number, and/or power output level.

This Limited Guarantee covers the transportation cost for reshipment of any repaired or replaced Module to the Customer site, **but does NOT cover the transportation cost and risk including shipping damage or loss for return of the Module to LG or LG's authorized agent and any other costs associated with installation, removal, or reinstallation of the Module.** If a Module returned to LG is found not to be defective or this Limited Guarantee has expired, the Customer is responsible to pay for return shipping cost.

4. Limited Guarantee exclusions

4.1. This Limited Guarantee does NOT apply to Module(s):

- (a) Sold and/or installed outside the geographic territory of EEA (European Economic Area - the countries of the European Union, Norway, Iceland and Liechtenstein) as well as outside Switzerland;
- (b) Sold AS IS or WITH ALL FAULTS or consumables; or
- (c) That had a serial number or any part thereof altered, defaced or removed.

4.2. This Limited Guarantee also does NOT apply to Module(s) which have been subjected to:

Damage and/or failure caused by

- (a) use on a mobile unit including, but not limited to, vehicles, vessels, etc.;
- (b) non-compliance with national and local electric codes;
- (c) installations not in conformance with the Module(s) specifications, installation instructions, operation manuals, or labels attached to the Module(s);
- (d) improper wiring, installation, or handling;
- (e) devices and/or parts other than the Module(s) or by mounting methods of such devices and/or parts;
- (f) improper or incorrectly performed maintenance, operation or modification;
- (g) removal from the original place of installment;
- (h) repairs not in accordance with LG's instructions;
- (i) inappropriate handling during storage, packaging or transportation;
- (j) external shock such as flying objects or external stress;
- (k) environmental pollution such as soot, salt damage, or acid rain;
- (l) natural forces (earthquakes, tornados, floods, lightning, hurricanes, heavy snow, etc.) and fire, power failures, power surges or other unforeseen circumstances that are beyond LG's control;
- (m) terrorist acts, riots, war or vandalism;
- (n) external stains or scratches that do not affect output;
- (o) sound, vibration, rust, scratching, or discolorations that are the result of normal wear and tear, aging or continuous use; or
- (p) Module(s) installed in a location that exceeds operating conditions.

- (q) Minor colour differences between individual cells of a module or between one module and another module are also not considered as a reason for warranty claims.

5. Limitation of Guarantee Scope

EXCEPT TO THE EXTENT PROHIBITED BY APPLICABLE LAW, ANY IMPLIED GUARANTEE OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ON THE MODULE(S) IS LIMITED IN DURATION OF THIS LIMITED GUARANTEE. UNDER NO CIRCUMSTANCES SHALL LG BE LIABLE FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL DAMAGES INCLUDING, WITHOUT LIMITATION, LOST GOODWILL, LOST REVENUES OR PROFITS, WORK STOPPAGE, MODULE(S) FAILURE, IMPAIRMENT OF OTHER GOODS, COSTS OF REMOVAL AND REINSTALLATION OF THE MODULE(S), LOSS OF USE, ARISING OUT OR RELATED TO THE MODULE(S). LG'S TOTAL LIABILITY, IF ANY, DAMAGES OR OTHERWISE, SHALL NOT EXCEED THE INVOICE VALUE PAID BY THE CUSTOMER FOR THE MODULE(S) OR SERVICE(S) FURNISHED, WHICH IS THE SUBJECT OF A CLAIM OR DISPUTE. SOME COUNTRIES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, OR ALLOW LIMITATIONS ON HOW LONG AN IMPLIED GUARANTEE LASTS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. THIS LIMITED GUARANTEE GIVES THE CUSTOMER SPECIFIC LEGAL RIGHTS; CUSTOMERS MAY ALSO HAVE OTHER RIGHTS OUT OF CONTRACT OR STATUTORY LAW THAT VARY FROM COUNTRY TO COUNTRY.

6. Assertion of Claims

The assertion of claims under this Limited Guarantee presupposes that the Customer has informed the authorized reseller/distributor of our Module(s) in writing of the alleged claim. Any such assertion of claims must be accompanied by the original sales receipt as the proof of purchase and time of purchase of LG Module(s). The assertion of the claim must occur within thirty (30) days from the date that the claim is identified. The return of Module(s) may only occur after the written authorization of LG has been given.

7. Obtaining Guarantee Performance

Customers who believe they have a justified claim covered under this Limited Guarantee must immediately notify in writing the authorized reseller/distributor. If the latter no more exists (e.g. due to discontinuance of business or bankruptcy) the Customer may also contact LG directly by writing to:

LG Electronics Inc.
Solar Business Division
20 Yeouido-dong, Yeongdeungpo-gu,
Seoul 150-721,
Republic of Korea

E-Mail: solarinfo@lge.com

LG Electronics Deutschland GmbH
EU Solar Business Group
Alfred-Herrhausen-Alle 3-5
65760 Eschborn
Germany
Tel.: +49 (0) 6196.5821.620
E-Mail: service-solar@lge.de

Customer may also contact LG via its website at www.lg-solar.com.

8. Force Majeure

LG shall not be responsible or liable to Customer or any third party for any nonperformance or delay in performance of any terms and conditions of sale, including this Limited Guarantee, due to acts of God, war, strikes, riots, unavailability of suitable and sufficient labor, material, capacity, technical, yield failures or any other unforeseen event beyond LG's control, including, without

limitations, any technological, physical event or condition which is not reasonably known or understood at the time of sale of the Module(s) or the claim.

9. Disputes

All actions at law arising out of or relating to this Limited Guarantee shall be submitted to the exclusive jurisdiction of the competent courts in Frankfurt, Germany, regardless of the nature of the claim or the respective dispute.

10. Governing Law

The laws of Germany apply to and govern this Limited Guarantee and all of its terms and conditions, without giving effect to any principles of conflicts of laws.

11. Severability

If a part, provision or section of this Limited Guarantee, or its application to any person or circumstance is held invalid, void or unenforceable, such holding shall not affect this Limited Guarantee and all other parts, provisions, clauses or applications shall remain, and, to this end, such other parts, provisions, clauses or applications of the Limited Guarantee shall be treated as severable.

12. Validity

This Limited Warranty shall apply to all modules with model "LGxxxNxx-V5" sold from January 1st 2019.

LG holds the right to amend the provisions, clauses or applications of this Limited Guarantee from time to time without notice; however such changes would not be retrospective.

In case of conflict with other languages of this Limited Guarantee the German version shall prevail.

Status: December 12th 2018

EU DECLARATION OF CONFORMITY¹



Number²

E_SRD_LG335N1C-A5_DOC_20170512000005

Name and address of the Manufacturer³

LG Electronics Inc.
LG Twin Towers, 128 Yeoui-daero, Yeongdeungpo-gu, Seoul, 07336, Korea

This declaration of conformity is issued under the sole responsibility of the manufacturer.⁴

Object of the declaration⁵

Product information⁶

Product Name

Crystalline silicon terrestrial photovoltaic modules

Model Name

LG335N1C-A5

Serial number

This declaration applies to serial numbers from 702xxxxxxxx ('x' can be any alphanumeric characters or blank) onwards for models placed on the market after DoC issue date.

Additional information⁷

N/A

The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:⁸

- References to the relevant harmonised standards used or references to the technical specifications in relation to which conformity is declared⁹

Low Voltage Directive 2014/35/EU

EN 61215:2005

EN 61730-1:2007+A1:2012+A2:2013+A11:2014

EN 61730-2:2007+A1:2012

The notified body¹⁰

and issued the certificate

N/A

performed

Additional information⁷

N/A

Signed for and on behalf of:¹¹ LG Electronics Inc.

Authorized Representative:

LG Electronics European Shared Service Center B.V.
Krijgsman 1, 1186 DM Amstelveen, The Netherlands

Date of issue:

23rd. February. 2017

Name and Surname / Function:

Jeong Won Lee / Director

- 1 (EN)EU Declaration of Conformity (BG)ДЕКЛАРАЦИЯ ЗА СЪОТВЕТСТВИЕ С ИЗИСКВАНИЯТА НА ЕС (ES)Declaración UE de Conformidad (CS)EU Prohlášení o shodě (DA)EU-Overensstemmelseserklæring (DE)EU-Konformitätserklärung (ET)Eli Vastavusdeklaratsioon (EL)ΔΗΛΩΣΗ ΣΥΜΜΟΡΦΩΣΗΣ ΕΕ (FR)Déclaration UE de Conformité (GA)Dearbhú Comhréachtachta an AE (IT)Dichiarazione UE di Conformità (LV)ES Atbilstības Deklarācija (LT)ES Atitikties Deklaracija (HU)EU-Megfelelősségi Nyilatkozatok (MT)Dikjarazzjoni Tal-Konformità Tal-UE (NL)EU-Conformiteitsverklaring (PL)Deklaracja Zgodności UE (PT)Declaração de Conformidade UE (RO)Declarația de Conformitate UE (SK)Vyhľadanie o Zhode EÚ (SL)Izjava EU o Skladnosti (FI)EU-Vaatimustenmukaisuusvakuutus (SV)EU-Försäkran om Överensstämmelse (TR)Uygunluk Beyanı (NO)EU Samsvarserklæring (HR)EZ izjava o skladnosti (IS)ESB Samræmisfyrirlysing
- 2 (EN)Number (BG)№ (ES)Nº (CS)Č. (DA)Nr. (DE)Nr. (ET)Nr (EL)Αριθ. (FR)Nº (GA)Uimhir (IT)N. (LV)Nr. (LT)Nr. (HU)Szám (MT)Numru (NL)Nr. (PL)Nr (PT)N.º (RO)Nr / (SK)Číslo (SL)Št. (FI)N:o (SV)Nr (TR)Sayısı (NO)Nr. (HR)Broj (IS)Númer
- 3 (EN)Name and address of the Manufacturer (BG)Наименование и адрес на производителя (ES)Nombre y dirección del fabricante (CS)Obchodní jméno a adresa výrobce (DA)Fabrikantens navn og adresse (DE)Name und Anschrift des Herstellers (ET)Valmistaja nimi ja aadress (EL)Όνομα και διεύθυνση κατασκευαστή (FR)Nom et adresse du fabricant (GA)Ainm agus seoladh an Mónaróra (IT)Nome e indirizzo del fabbricante (LV)Ražotāja nosaukums un adrese (LT)Gamintojo pavadinimas ir adresas (HU)Gyártó neve és címe (MT)Isem u indirizz tal-manifattur (NL)Naam en adres van de fabrikant (PL)Nazwa i adres producenta (PT)Nome e endereço do fabricante (RO)Numele și adresa Producătorului (SK)Obchodné meno a adresa výrobcu (SL)Ime in naslov proizvajalca (FI)Valmistajan nimi ja osoite (SV)Tillverkarens namn och adress (TR)İmalatçının adı ve adresi (NO)Navn på og adresse til produsenten (HR)Naziv i adresa proizvođača (IS)Nafn og heimilisfang framleiðanda
- 4 (EN)This declaration of conformity is issued under the sole responsibility of the manufacturer (BG)За настоящата декларация за съответствие отговорност носи единствено производителят (ES)La presente declaración de conformidad se expide bajo la exclusiva responsabilidad del fabricante (CS)Toto prohlášení o shodě vydal na vlastní odpovědnost výrobce (DA)Denne overensstemmelseserklæring udstedes på fabrikantens ansvar (DE)Diese Konformitätserklärung wird unter der alleinigen Verantwortung des Herstellers abgegeben (ET)Käesolev vastavusdeklaratsioon on välja antud valmistaja ainuvastutusele (EL)Η παρούσα δήλωση συμμόρφωσης εκδίδεται με αποκλειστική ευθύνη του κατασκευαστή (FR)La présente déclaration de conformité est établie sous la seule responsabilité du fabricant (GA)Eisítear an dearbhú comhréachtachta faoi fheargracht aonair an mhonaróra (IT)La presente dichiarazione di conformità è rilasciata sotto la responsabilità esclusiva del fabbricante (LV)Št atbilstības deklarācija ir izdota vienīgi uz šāda ražotāja atbildību (LT)Ši atitikties deklaracija išduota tik gamintojo atsakomybe (HU)E megfelelősségi nyilatkozat a gyártó kizárólagos felelősségére kerül kibocsátásra (MT)Din id-dikjarazzjoni tal-konformità tinnharg taht ir-responsabbiltà unika tal-manifattur (NL)Deze conformiteitsverklaring wordt verstrekt onder volledige verantwoordelijkheid van de fabrikant (PL)Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta (PT)A presente declaração de conformidade é emitida sob a exclusiva responsabilidade do fabricante (RO)Prezenta declarație de conformitate este emisă pe răspunderea exclusivă a producătorului (SK)Toto vyhlásenie o zhode sa vydáva na výhradnú zodpovednosť výrobcu (SL)Ta izjava o skladnosti se izda na lastno odgovornost proizvajalca (FI)Tämä vaatimustenmukaisuusvakuutus on annettu valmistajan yksinomaista vastuulla (SV)Denna försäkran om överensstämmelse utfärdas på tillverkarens eget ansvar (TR)Bu uygunluk beyanı, imalatçının sorumluluğu altında verilir (NO)Denne samsvarserklæringen er utstedt på produsentens eneansvar (HR)Za izdavanje ove izjave o skladnosti isključivo je odgovoran proizvođač (IS)Þessi samræmisfyrirlysing er gefin út eingöngu á ábyrgð framleiðanda
- 5 (EN)Object of the declaration (BG)Обект на декларацията (ES)Objeto de la declaración (CS)Předmět prohlášení (DA)Erklæringens genstand (DE)Gegenstand der Erklärung (ET)Deklaareeritav ese (EL)Σκοπός της δήλωσης (FR)Objet de la déclaration (GA)Cuspóir an dearbhaite (IT)Oggetto della dichiarazione (LV)Deklarācijas priekšmets (LT)Deklaracijos objektas (HU)A nyilatkozat tárgya (MT)L-ghan tad-dikjarazzjoni (NL)Woorwerp van de verklaring (PL)Przedmiot deklaracji (PT)Objecto da declaração (RO)Obiectul declarației (SK)Predmet vyhlásenia (SL)Predmet izjave (FI)Vakuutuksen kohde (SV)Föremål för försäkran (TR)Beyanın nesne (NO)Erklæringens gjenstand (HR)Predmet izjave (IS)Hlutur til yfirlýsingar
- 6 (EN)Product information; Product Name; Model Name (BG)Информация за продукта, името на продукта, името на модела (ES)Información del producto; nombre del producto; nombre del modelo (CS)Informace o výrobku; Název výrobku; Název modelu (DA)Produkt information; Produktnavn; Modelnavn (DE)Produktinformation; Produktname; Modellname (ET)Toote kirjeldus; Toote nimetus; Mudeli nimi (EL)Πληροφορίες για το προϊόν, όνομα προϊόντος, όνομα μοντέλου (FR)Information sur le produit; Nom du produit; Nom du modèle (GA)Faisnéis Táirge; Ainm Táirge; Ainm Múlna (IT)Informazioni sul prodotto; denominazione del prodotto; Nome del modello (LV)Informācija par izstrādājumu; Izstrādājuma nosaukums; modeļa nosaukums (LT)Informacija apie produktą; produkto pavadinimas; modelio pavadinimas (HU)Termékinformáció; a termék neve; típusnév (MT)Informazzjoni tal-prodott; isem tal-prodott; isem tal-modell (NL)Product informatie; Product naam; Model naam (PL)Informacje o produkcie; nazwa produktu; nazwa modelu (PT)Informação sobre o produto; Nome do Produto; Designação do Modelo (RO)Informații despre Produs; Denumire Produs; Nume Model (SK)Informácie o výrobku; Názov výrobku; Názov modelu (SL)Podatki o izdelku; ime izdelka; ime modela (FI)Tuotetiedot; tuotteen nimi; malli nimi (SV)Produktinformation; produktnamn; modellnamn (TR)Ürün bilgileri; Ürün Adı; Model Adı (NO)Produktinformasjon; Produktnavn, Modellnavn (HR)Podatci o proizvodu; Naziv proizvoda; Naziv modela (IS)Vörupplýsingar; Nafn vöru; Nafn gerðar
- 7 (EN)Additional information (BG)Допълнителна информация (ES)Información adicional (CS)Další informace (DA)Supplerende oplysninger (DE)Zusätzliche Angaben (ET)Lisateave (EL)Συμπληρωματικές πληροφορίες (FR)Informations supplémentaires (GA)Faisnéis bheise (IT)Ulteriori informazioni (LV)Papildu informācija (LT)Papildoma informacija (HU)Kiegészítő információk (MT)Informazzjoni addizzjonali (NL)Aanvullende informatie (PL)Informacje dodatkowe (PT)Informações complementares (RO)Informații suplimentare (SK)Dodatočné informácie (SL)Dodatni podatki (FI)Lisätietoja (SV)Ytterligare information (TR)Ek bilgi (NO)Tilleggsopplysninger (HR)Dodatne informacije (IS)Viðbótarupplýsingar
- 8 (EN)The object of the declaration described above is in conformity with the relevant Union harmonisation legislation (BG) Предметът на декларацията, описан по-горе, отговаря на съответното законодателство на Съюза за хармонизация (ES) El objeto de la declaración descrita anteriormente es conforme con la legislación de armonización pertinente de la Unión (CS) Vyše popsaný předmět prohlášení je ve shodě s příslušnými harmonizačními právními předpisy Unie / (DA) Genstanden for erklæringen, som beskrevet ovenfor, er i overensstemmelse med den relevante EU-harmoniseringslovgivning / (DE) Der oben beschriebene Gegenstand der Erklärung erfüllt die einschlägigen Harmonisierungsrechtsvorschriften der Union / (EL) Ο στόχος της δήλωσης που περιγράφεται παραπάνω είναι σύμφωνα με τη σχετική ενωσιακή νομοθεσία εναρμόνισης / (FR) L'objet de la déclaration décrit ci-dessus est conforme à la législation d'harmonisation de l'Union applicable / (GA) Tá cuspóir an dearbhaite a thuairiscítear thuas i gcomhréir le reachtaíocht ábhartha um chomhchuibhiú de chuid an Aontais / (IT) L'oggetto della dichiarazione di cui sopra è conforme alla pertinente normativa di armonizzazione dell'Unione / (LV) Iepriekš aprakstītais deklarācijas priekšmets atbilst attiecīgajām Savienības saskaņošanas tiesību aktam / (LT) Pirmiau aprašytas deklaracijos objektas atitinka sąjungos derinamuosius Sąjungos teisės aktus / (HU) A fent ismertetett nyilatkozat tárgya megfelel a vonatkozó uniós harmonizációs jogszabályoknak / (MT) L-ghan tad-dikjarazzjoni deskritt hawn fuq huwa konformi mal-legislazzjoni ta' armonizzazzjoni rilevanti tal-Unjoni / (NL) Het hierboven beschreven voorwerp is in overeenstemming met de desbetreffende harmonisatiewetgeving van de Unie / (PL) Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odpowiednimi wymaganiami unijnego prawodawstwa harmonizacyjnego / (PT) O objeto da declaração acima descrito está em conformidade com a legislação de harmonização da União aplicável / (RO) Obiectul declarației descris mai sus este în conformitate cu legislația relevantă de armonizare a Uniunii / (SK) Uvedený predmet vyhlásenia je v zhode s príslušnými harmonizačnými právnymi predpismi Unie / (SL) Predmet navedene izjave u skladu je s mjerodavnim zakonodavstvom Unije o usklađivanju / (FI) Edellä kuvattu vakuutuksen kohde on asiaa koskevan unionin yhdenmukaistamislainsäädännön vaatimusten mukainen / (SV) Föremålet för försäkran ovan överensstämmer med den relevanta harmoniserade unionslagstiftningen / (TR) Yukarıda açıklanan bildirinin nesnesi ilgili Topluklu uyum mevzuatına uygundur / (NO) Formålet med erklæringen beskrevet ovenfor er i samsvar med den aktuelle harmoniseringslovgivningen i unionen / (HR) A fent ismertetett nyilatkozat tárgya megfelel a vonatkozó uniós harmonizációs jogszabályoknak / (IS) Efni ofangreindrar yfirlýsingar er í samræmi við hlutaðeigandi staðlaða löggjöf Evrópusambandsins
- 9 (EN)References to the relevant harmonised standards used or references to the technical specifications in relation to which conformity is declared (BG)наименованията на използваните хармонизирани стандарти или техническите спецификации, спрямо които се декларира съответствието (ES)Referencias a las normas armonizadas pertinentes utilizadas, o referencias a las especificaciones técnicas respecto a las cuales se declara la conformidad (CS)Případné odkazy na příslušné harmonizované normy, které byly použity, nebo na technické specifikace, na jejichž základě se shoda prohlašuje (DA)Referencer til de relevante anvendte harmoniserede standarder eller referencer til de tekniske specifikationer, som der erklæres overensstemmelse med (DE)Angabe der einschlägigen harmonisierten Normen, die zugrunde gelegt wurden, oder Angabe der technischen Spezifikationen, für die die Konformität erklärt wird (ET)Viited kasutatud asjakohastele ühtlustatud standarditele või viited tehnilistele spetsifikatsioonidele, millega seoses vastavust kinnitati (EL)Η ένδειξη των σχετικών εναρμονισμένων προτύπων που χρησιμοποιήθηκαν ή των τεχνικών προδιαγραφών με βάση τις οποίες δηλώνεται η συμμόρφωση (FR)Références des normes harmonisées pertinentes appliquées ou des spécifications techniques par rapport auxquelles la conformité est déclarée (GA)Tagairtí do na caighdeán chomhchuibhithe ábhartha a úsáidtear nó tagairtí do na sonraíochtaí teicniúla i ndáil leis an gcomhréireacht a dhearbhaítear (IT)Riferimenti alle pertinenti norme armonizzate utilizzate o riferimenti alle specifiche tecniche in relazione alle quali è dichiarata la conformità (LV)Norādes uz attiecīgajiem saskaņotajiem standartiem vai norādes uz tehniskām specifikācijām, attiecībā uz ko tiek deklarēta atbilstība (LT)Taikytų darinių standartų nuorodos arba techninių specifikacijų, pagal kurias buvo deklaruota atitikties, nuorodos (HU)Adott esetben hivatkozás az alkalmazásra került vonatkozó harmonizált szabványokra, illetőleg azokra a műszaki leírásokra, amelyekre nézve a megfelelésről nyilatkoznak (MT)Referenzi għall-istandards armonizzati rilevanti li ntuzaw, jew referenzi għall-ispeċifikazzjonijiet li b'relazzjoni għalihom qed tiġi ddikjarata l-konformità (NL)Vermelding van de toegepaste geharmoniseerde normen of van de technische specificaties waarop de conformiteitsverklaring betrekking heeft (PL)Odwołania do odpowiednich norm zharmonizowanych, które zastosowano, lub do specyfikacji technicznych, w odniesieniu do których deklarowana jest zgodność (PT)Referências às normas harmonizadas aplicáveis utilizadas ou às especificações técnicas em relação às quais é declarada a conformidade (RO)Trimiteri la standardele armonizate relevante folosite sau trimiteri la specificațiile tehnice în legătură cu care se declară conformitatea (SK)Případné odkazy na příslušné použité harmonizované normy alebo odkazy na technické špecifikácie, na základe ktorých sa vyhlasuje zhoda (SL)Napotila na uporabljenе usklajene standarde ali napotila na tehnične specifikacije za skladnost, ki so navedene na izjavi (FI)Viittaus niihin asiaankuuluihin yhdenmukaistettuihin standardeihin, joita on käytetty, tai viittaus teknisiin eritelmiin, joiden perusteella vaatimustenmukaisuusvakuutus on annettu (SV)Hänvisningar till de relevanta harmoniserade standarder som använts eller hänvisningar till de tekniska specifikationerna enligt vilka överensstämmelsen försäkras (TR)İlgili uyumlaştırılmış kullanılan standartlar veya uygunluk beyanı ile ilgili olarak teknik referanslar referanslar (NO)Henvisninger til de relevante harmoniserte standardene som er brukt eller henvisninger til de spesifikasjonene det erklæres samsvar med (HR)Upućivanje na mjerodavne usklađene norme ili upućivanje na tehničke specifikacije na temelju kojih se izjavljuje skladnost (IS)Tilvísanir í viðeigandi samhæfingarstaðla sem eru notaðir eða tilvísanir í þær tækniforskriftir sem tengjast samræmisfyrirlysingunni
- 10 (EN)The notified body; performed; and issued the certificate (BG)нотифицираният орган; извърши; и издаде сертификата (ES)El organismo notificado; ha efectuado; y expide el certificado (CS)Oznámený subjekt; provedl; a vydal osvědčení (DA)Det bemyndigede organ; der har foretaget; og udstedt attesten (DE)Die notifizierte Stelle; hat; und folgende Bescheinigung ausgestellt (ET)Teavitatud asutus; teostas; ja andis välja tõendi (EL)ο κοινοποιημένος οργανισμός; η προμητοποίησης; και εξέδωσε τη βεβαίωση (FR)L'organisme notifié; a effectué; et a établi l'attestation (GA)Rinne an comhlach dá dtugtar fógra... agus d'eisigh sé an deimhníocht (IT)l'organismo notificato; ha effettuato; e rilasciò il certificato (LV)Plinvarotā iestāde; ir veikusi; un izsniegusi sertifikātu (LT)Notifikuotoji įstaiga; atliko; ir išdavė sertifikātą (HU)A bejelentett szervezet; elvégzte a ; és a következő tanúsítványt adta ki (MT)Il-korp notifikat; wettaq; u hareġ iċ-certifikat (NL)De aangemelde instantie; heeft een; uitgevoerd en het certificaat verstrekt (PL)jednostka notyfikowana; przeprowadziła; i wydała certyfikat (PT)o organismo notificado; efectuou; e emitiu o certificado (RO)Organismul notificat ; a efectuat; și a emis certificatul (SK)notifikovaný orgán; vykonal; a vydal osvědčení (SL)je priglasiłen organ; izvedel; in izdal certifikat (FI)ilmoitettu laitos; suoritti; ja antoi todistuksen (SV)Det anmälda organet ; har utfört ; och utfärdat intyget (TR)Kurulusa bildirmiş; yapilan ve sertifikta verir (NO)Det meldte organ; utførte; som også inkluderer test resultat og utstedelse av sertifikat (HR)Obavijesteno tijelo; provelo je; uključujući izvješće o ispitivanju i izdao je certifikat (IS)Hinn tilkynni aðili... framkvæmdi... þar með talið prófunarskýrslurnar og gaf út vottorðið
- 11 (EN)Signed for and on behalf of (BG)Подпис за или от името на (ES)Firmado por y en nombre de (CS)Podepsáno za a jménem (DA)Underskrevet for og på vegne af (DE) Unterzeichnet für und im Namen von (ET)Kelle nimel ja poolt (ALL)kirjutatud (EL)Υπογραφή για λογαριασμό και εξ ονόματος (FR)Signé par et au nom de (GA)Sínithe le haghaidh agus thar ceann an (IT)Firmato in vece e per conto di (LV)Parakstīts (LT)Už ką ir kieno vardu pasirašyta (HU)Cégszerű aláírás (MT)Iffirmata għal u f'isem (NL)Ondertekend voor en namens (PL)Podpisano w imieniu (PT)Assinado por e em nome de (RO)Semnat pentru și în numele (SK)Podpísané za a v mene (SL)Podpisane za in imenu (FI)puolesta allekirjoittanut (SV)Undertecknat för (TR)Ve adına imzalanmıştır (NO)Undertegnet for og på vegne av (HR)Potpisano za i u ime (IS)Undirritað fyrir og fyrir hönd

Functional Warranty TRIC Racking Systems



Material and Workmanship

Wagner & Co guarantees functionality and durability of the TRIC racking system components as well as that they are free of material and production faults, provided they were installed, used and maintained according to the prescribed conditions and instructions.

Wagner & Co grants this warranty for a period of ten years after the date of sale to a retailer or installer.

Entitlements

The value of potential warranty entitlements is limited to the net purchase price of the products.

In a warranty case Wagner & Co will decide on either replacing or repairing the faulty product or reimbursing the purchase price.

There are no additional liabilities or warranty entitlements. In particular Wagner & Co is not liable for:

- Costs of new installations and extensions,
- Appraisal and testing costs,
- Packaging and shipping costs as well as
- Foregone profits

All liability is excluded for damage caused by severe weather or force majeure.

Limitations and Conditions

Potential warranty entitlements are limited to the prescribed period of this guarantee. In order to secure potential warranty entitlements the following conditions apply:

- The mounting racks were thoroughly installed observing the installation manuals, layout plans and structural calculations.
- For the design and installation of the system the codes, regulations and technical standards applicable at the time of the installation have been observed.

- No damages occurred during transportation, storage and operation.

Any warranty entitlements granted will not extend the overall guarantee period of 10 years. Replaced parts or products will become property of Wagner & Co.

Warranty Claim

For any potential warranty claim you immediately have to contact the retailer or installer where you obtained the racking systems. The retailer/installer will explain the required further steps.

You have to make your warranty claim in writing and send it in together with a proof of purchase and a description of the fault.

Otherwise our current general business conditions apply.

Cölbe, Germany, February 2012