



# open

RENEWABLES

## User's Manual



### Open Renewables® PV modules

Applicable only in European Union  
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IEC 61215  
IEC 61730

www.tuv.com  
ID 000024674



Certificate No: MCS PV 0075  
Technology: Solar Photovoltaic Modules

**PV systems must be installed and commissioned by licensed and qualified professionals.**

**Use only electrical and mechanical components suitable and qualified for PV systems. Follow the instructions from the suppliers of these components.**

**Open Renewables® PV modules are designed to be used in grid-tied PV systems.**

## User's Manual

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## 1.0 General Information

We wish to thank you for the preference on Open Renewables® High Quality Photovoltaic Modules.

This manual provides important informations to end users and system owners, how to operate with Open Renewables® High Quality Photovoltaic Modules.

Please read carefully these instructions and follow them strictly.

The products are not intended to be used in any purpose different then the purpose stated on this handbook. Please contact your installer for further information.





This manual applies for the following products:

<b>Open 1XX-ME48</b>	195-ME48, 200-ME48, 205-ME48, 210-ME48
<b>Open 2XX-ME60</b>	220-ME60, 225-ME60, 230-ME60, 235-ME60, 240-ME60, 245-ME60, 250-ME60, 255-ME60, 260-ME60
<b>Open 2XX-PQ60</b>	220-PQ60, 225-PQ60, 230-PQ60, 235-PQ60, 240-PQ60, 245-PQ60, 250-PQ60, 255-PQ60, 260-PQ60
<b>Open 2XX-PM60</b>	240-PM60, 245-PM60, 250-PM60, 255-PM60, 260-PM60, 265-PM60
<b>Open 1XX-MM36</b>	90-MM36, 95-MM36, 100-MM36, 105-MM36, 110-MM36

This manual does not cover old and / or discontinued products such as Open 2XX-PE, Open 2XX-PC, Open 2XX-PS besides other discontinued product families. This manual is not an installation guide.

## 2.0 Safety Precautions

Please read carefully the following instructions. Do not attempt to service the product or the system installation where the product is installed unless you are a qualified and trained professional.

	<b>WARNING ! ELECTRICAL EQUIPMENT</b>		<b>WARNING ! HAZARD OF FALLING FROM ROOFS !</b>
	<b>WARNING ! POTENTIAL LETHAL SHOCK FROM ELECTRICALLY LIVE PARTS !</b>		<b>WARNING ! FIRE HAZARD IN CASE OF INCORRECT INSTALLATION !</b>

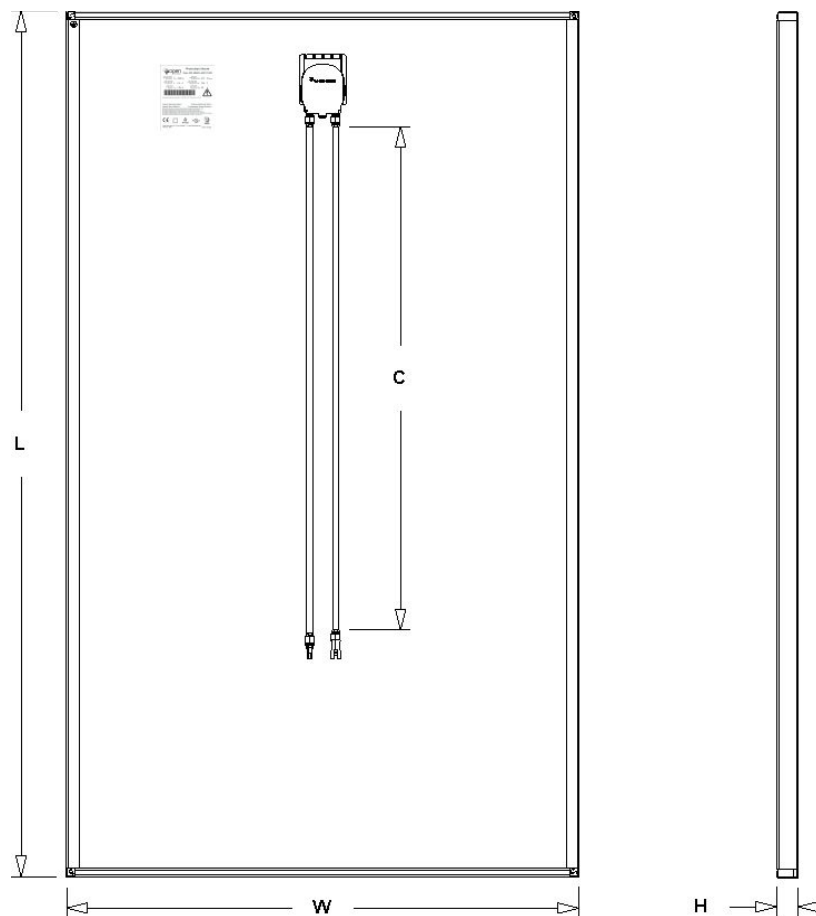
## 3.0 Product specification

### 3.1 Application

- Do not direct artificially concentrated light on Open Renewables® PV modules.
- Open Renewables® PV modules must not be used on vehicles.
- Open Renewables® PV modules must not be mounted on locations where aggressive substances could harm them (particularly salt or salt water).
- Open Renewables® PV modules must not become submerged in water.
- Open Renewables® PV modules must not be disassembled or modified. Any unauthorized modification of the product will void the warranty.

### 3.2 Dimensions and weight

Model	C [mm]	L [mm]	W [mm]	H [mm]	Weight [Kg]
ME48	1000 ±3	1343 ±3	988 ±3	40 ±1	18 ±5%
PQ60 / PM60 / ME60	1000 ±3	1659.5 ±3	988 ±3	40 ±1	22 ±5%
MM36	Optional	1202 ±2	539 ±2	35 ±0,3	8 ±5%



Drawing 1: Open Renewables® PV modules

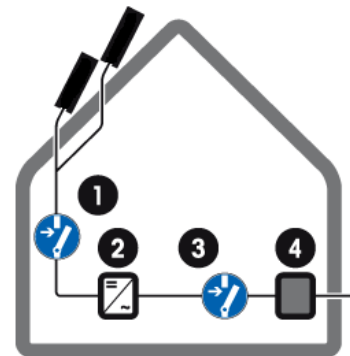
## 4.0 Safety Instructions

### 4.1 Product Safety

- When exposed to light (even under low light conditions), PV modules produce almost full voltage. Current and power increase with light intensity.
- Never disconnect electrical connections under load, because direct current can arc across gaps.
- There are no user serviceable parts within the module. Do not attempt to repair any part of the module.
- If you find a broken or defective module contact your installer and follow their instructions. Only a professional can repair the installation and bring it back to function.
- Keep unauthorized people away from the installation specially children.
- Block access of animals to the installation.
- Do not attempt to service the installation on your own. Always contact a qualified professional.

### 4.2 Fire Safety

- Follow all applicable standards and requirements for fire safety.
- The installation of a PV system on a building may affect fire safety. For roof application, the PV system must be mounted over fire resistant roof covering rated for the application.
- Do not install or use PV modules near hazardous locations with flammable gases.
- In case of fire the PV modules will continue to produce a potentially lethal voltage, even if :
  - Cable isolation is destroyed or compromised
  - Low irradiation
  - Modules disconnected from the inverter
  - Modules partially or completely destroyed



- ❶ DC Switch
- ❷ Inverter
- ❸ AC Switch
- ❹ Grid

**During a fire stay away from all elements of the PV system, until the area is safe .  
 Informe firefighters about the existence of a photovoltaic system in the building.  
 Ask your installer to undertake all necessary steps to restore the operating and safety conditions of the PV system.**

## 5.0 Operation

- Before connecting a PV system to the grid the entire system must be checked and tested according to the applicable regulations for low voltage electrical systems and for grid-connected power generators.
- Depending on local utility policies the connection to the grid and start-up of the PV system may only be performed by an authorized installer.

## 6.0 Maintenance

### **Your installer will provide detailed information.**

- Open Renewables® recommends that PV systems are checked periodically - at least once a year - and any significant changes are reported immediately. Pay special attention to loose or corroded mechanical and electrical connections.
- The performance of the PV modules might be affected by dust, dirt or other deposits on the surface. In this case Open Renewables® recommends cleaning the surface of the modules with cold water and a sponge. Do not use harsh cleaning materials such as scouring powder, steel wool, scrapers, blades or other sharp instruments to clean the glass surface of the module. Use of such materials will void the product warranty.

## 7.0 Decommissioning and Disposal

Open Renewables® is strongly committed with environment protection. Your Open Renewables® PV modules will last for decades and were built using non-dangerous materials. When this product reaches end of life we will assist you to recycle it. Please contact your installer who will provide you with detailed instructions. Please note that transportation, de-installation and any other cost associated remain customer responsibility.

## 8.0 Customer Support

Technical support shall be provided by the installer to final customers. Open Renewables® provides technical support through the distributor to Installer. End customers can visit Open Renewables® website, [www.openrenewables.com](http://www.openrenewables.com) to obtain technical support or additional information.

### 8.1 Contacts

Open Renewables, SA  
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7002-506 Évora  
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[www.openrenewables.com](http://www.openrenewables.com)

### 8.2 Disclaimer of Liability

Because the use of this Safety, Installation and Operation Manual and the methods and conditions of handling, installation, operation and maintenance of the PV modules are beyond Open Renewables® control, Open Renewables® does not assume responsibility and disclaims liability for loss, damage, injury or expense arising out of or in any way connected with such handling, installation, operation or maintenance of the Open Renewables® PV modules. Open Renewables® assumes no responsibility for any infringement of patents or other rights of other parties that may result from use of the PV modules. No license is granted implicitly or otherwise under any patent or patent rights. The information provided in this Safety, Installation and Operation Manual including suggestions do not constitute a warranty, expressed or implied. Open Renewables® reserves the right to make changes to the product, specifications or this manual without prior notice. This document may be provided in several languages. In case of a conflict among versions, the English language version prevails.

**Keep this document for future reference use.**