

Instruction Manual for BIPV Modules

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1. Introduction

This manual provides information for ML SYSTEM S.A. building integrated photovoltaic modules for UCLH London- Kyotec's project. The modules list covered by this document presented at the end of instruction manual.

ML SYSTEM S.A. does not assume any responsibility, loss, damage or expense resulting from improper installation, handling, maintenance or use of the product.

Should you have doubts about or any further questions regarding this product do not hesitate to contact us at dok@mlsystem.pl.

2. Warranty

Warranty on ML SYSTEM PV modules is presented in a separate document "Warranty Conditions" available at www.mlsystem.pl/download.

3. Maintenance

This section describes the procedures required for correct exploitation of the photovoltaic modules. Please acquaint yourself with the following information and perform the necessary maintenance within the given time intervals.

The owner is obliged to submit written information about the performed maintenance procedures as well as the possible comments and remarks concerning the irregularities in operation. The information should be submitted within 14 days after each 6 month period of the panel field operation to ML SYSTEM S.A.

It is allowed to service the installation by a worker educated and trained by an authorised representative of ML SYSTEM S.A.

3.1. Periodic supervision of photovoltaic installation

Please perform the following inspection periodically, within given time intervals and in accordance with the following instructions:

- At least once a month the user should perform a visual inspection of the module. Any shading (fallen leaves, sheets of paper, natural dirt, mud etc.) should be removed to ensure maximal performance and avoid the risk of hot-spots in the module. After clearing the surface of the modules please perform visual inspection.
- At least every 6 months the user should clean the photovoltaic modules. For details on cleaning the surface of photovoltaic modules please refer to section 3.2.
- At least every 6 months the user should check electrical and mechanical connections to ensure that they are safe and intact.
- During maintenance of the photovoltaic panels please adhere to the local safety regulations and codes in the scope of installation of electrical appliances as well as the regulations concerning the DC installations.

3.2. Cleaning of PV modules

For maximizing the performance of the photovoltaic modules and improving the energy yield we recommend the periodic cleaning of the surface of the modules. Regardless of the general cleanliness of the surface any partial shading should be periodically removed from the surface of the module to avoid the hot-spots.

Please adhere to the following recommendations when cleaning the surfaces of the modules:

1. Apply water and soft cloth without any detergents. Do not utilize high pressure washers.
2. If the modules cannot be cleaned with clean water apply soft glass cleaning detergent. Do not use corrosive cleaning chemicals.
3. Do not use sharp or abrasive objects to clean the surface of the module.
4. Avoid cleaning modules in temperatures above 50°C.
5. Do not clean modules which pose a safety risk.

4. Applicable products

Module type
PGV-P001-01
PGV-P002-01
PGV-P003-01
PGV-P041-01
PGV-P042-01
PGV-P051-01
PGV-P052-01
PGV-P053-01
PGV-P091-01
PGV-P092-01
PHD-P001-01
PHV-P001-01
PHV-P002-01
PHV-P003-01
PHV-P004-01
PHV-P005-01
PHV-P011-01
PHV-P021-01
PHV-P031-01
PHV-P051-01
PHV-P052-01
PHV-P053-01
PHV-P054-01
PHV-P061-01
PHV-P071-01
PHV-P081-01
PSD-P001-01
PSV-P001-01
PSV-P002-01
PHV-P031-01
PHV-P081-01