

Stud Solar Instruction Manual

<u>General warnings</u>	Pag. 2
<u>Warnings about the battery use</u>	Pag. 3
<u>Cleaning the panel</u>	Pag. 3
<u>Installation instructions</u>	Pag. 4
<u>Installation instructions in case of grid connection</u>	Pag. 5
<u>Overall dimensions</u>	Pag. 6
<u>Electronic circuit board</u>	Pag. 7
<u>Functions of the LEDs in the electronic circuit board</u>	Pag. 8
<u>Settings of the electronic circuit board</u>	Pag. 9



Use and maintenance instructions

STUD SOLAR

Fixed general purpose luminaire, for installation on adapter Ø60mm

TECHNICAL DETAILS: please refer to the product label



The UE declaration of conformity can be downloaded from our website www.marecoluce.it

IP65 Protection degree against dust ingress, solid particles, moisture



The lighting source of this luminaire must be replaced by the Manufacturer only
In case of grid connection: Risk of electrocution, pay attention!



This product must not be disposed as a normal household waste



Do not stare at the light source while the luminaire is on

WARNINGS:

- THE SAFETY OF THIS PRODUCT IS GUARANTEED ONLY WITH THE RESPECT OF THE EXISTING RULES FOR THE ELECTRICAL SYSTEMS AND WITH THE APPROPRIATE USE OF THESE INSTALLATION INSTRUCTIONS, THEREFORE IT IS NECESSARY TO KEEP THEM.
- THE IMPROPER USE OF THIS PRODUCT IS FORBIDDEN; ANY TAMPERING WITH THE PRODUCT OR MODIFICATION OF THE PRODUCT THAT IS NOT AUTHORIZED BY MARECO LUCE CAN CAUSE DAMAGE TO PEOPLE, ANIMALS OR THINGS AND WILL VOID ANY WARRANTY OR LIABILITY.
- SWITCH OFF THE ELECTRICITY BEFORE CONDUCTING ANY KIND OF MAINTENANCE.
- THE PRODUCT MUST BE INSTALLED IN ACCORDANCE WITH BEST PRACTICE.
- THE LIGHTING SOURCE OF THIS LUMINAIRE MUST BE REPLACED BY THE MANUFACTURER ONLY.
- DAMAGED COMPONENTS MUST BE REPLACED WITH MARECOLUCE ORIGINAL SPARE PARTS.
- DO NOT INSTALL THE LUMINAIRE AT A HEIGHT OF LESS THAN 3 METERS.
- DO NOT STARE THE LIGHT SOURCE AT A DISTANCE LOWER THAN 40 CM.
- FOR MAXIMUM EFFICIENCY, INSTALL THE LUMINAIRE IN DIRECT SUNLIGHT, AND DON'T INSTALL IT UNDER TREES, TOO CLOSE TO BUILDINGS AND GENERALLY IN SHADOWED AREAS.
- AVOID TO INSTALL THE LUMINAIRE NEAR ARTIFICIAL LIGHT SOURCES AS THEY COULD INTERFERE IN THE CORRECT ON AND OFF CYCLES.

GENERAL MAINTENANCE RECOMMENDATIONS:

- CLEAN THE LUMINAIRE PERIODICALLY TO REMOVE POSSIBLE DIRT/GROUND DEPOSITS. (TWICE PER YEAR AT LEAST)
- DO NOT USE HARSH DETERGENTS TO CLEAN THE DIFFUSER.
- CHECK THAT THE SCREWS THAT SECURE THE PANEL AND THOSE THAT SECURE THE LUMINAIRE TO THE POLE ARE DULY TIGHTENED.
- CHECK THE INTEGRITY OF THE LUMINAIRE COMPONENTS: REPLACE THEM IN CASE OF DAMAGE BY USING ONLY ORIGINAL MARECO LUCE PARTS.
- CHECK PERIODICALLY THE INTEGRITY OF THE BATTERY PACK.



BATTERY PACK HANDLING PRECAUTIONS.

- DO NOT DISASSEMBLE OR MODIFY THE BATTERY PACK. THE BATTERY PACK IS EQUIPPED WITH BUILT-IN SAFETY/PROTECTION FEATURES. SHOULD THESE FEATURES BE DISABLED, THE BATTERY PACK MAY LEAK CORROSIVE CHEMICALS, OVERHEAT, EMIT SMOKE, BURST AND/OR IGNITE.
- DO NOT CONNECT POSITIVE (+) AND NEGATIVE (-) TERMINALS TO METAL OBJECTS.
- DO NOT TRANSPORT OR STORE THE BATTERY PACK TOGETHER WITH METAL OBJECTS.
- KEEP THE BATTERY PACK AWAY FROM FIRE OR HEAT SOURCES.
- THE WORKING TEMPERATURE RANGE OF THE BATTERY PACK MUST BE BETWEEN -20°C AND $+60^{\circ}\text{C}$; THE BATTERY PACK STORAGE MUST BE DONE AT A TEMPERATURE LOWER THAN 80°C .
- DO NOT IMMERSE THE BATTERY PACK IN FLUIDS, WATER OR SEAWATER AND DO NOT ALLOW IT TO GET WET.
- DO NOT RECHARGE THE BATTERY OUTSIDE THE CHARGE CYCLE INSIDE THE LUMINAIRE; IN CASE OF PROBLEMS OR MALFUNCTIONS CONTACT MARECO LUCE.
- DO NOT PIERCE THE BATTERY PACK WITH POINTED OR SHARP OBJECTS; DO NOT STRIKE IT, STEP ON IT OR THROW IT.
- DO NOT USE AN APPARENTLY DAMAGED OR DEFORMED BATTERY PACK; IN THIS CASE CONTACT MARECO LUCE.
- FOR BATTERY PACK CONNECTION USE THE PROPER CONNECTOR (INCLUDED) AND RESPECT THE POLARITIES. DO NOT REVERSE THE POSITIVE (+) AND NEGATIVE (-) TERMINALS.
- DO NOT USE THE BATTERY PACK FOR OTHER PURPOSES OTHER THAN THOSE SPECIFIED.
- CHECK PERIODICALLY THAT THERE IS NO LIQUID OR SMOKE LEAKING FROM THE BATTERY PACK; IN THIS CASE REMOVE IT IMMEDIATELY AVOIDING CONTACT WITH LIQUIDS AND WITHOUT BREATHING FUMES.
- IF ELECTROLYTE LEAKING FROM THE BATTERY PACK CONTACTS YOUR SKIN OR CLOTHING, IMMEDIATELY WASH IT AWAY WITH RUNNING WATER. FAILURE TO DO THIS MAY RESULT IN SKIN INFLAMMATION.
- STORE THE BATTERY PACK IN A LOCATION WHERE CHILDREN CANNOT REACH IT.



Flammable



Corrosive



Toxic



Dangerous for the environment



Harmful



Explosive

CLEANING THE PANEL:

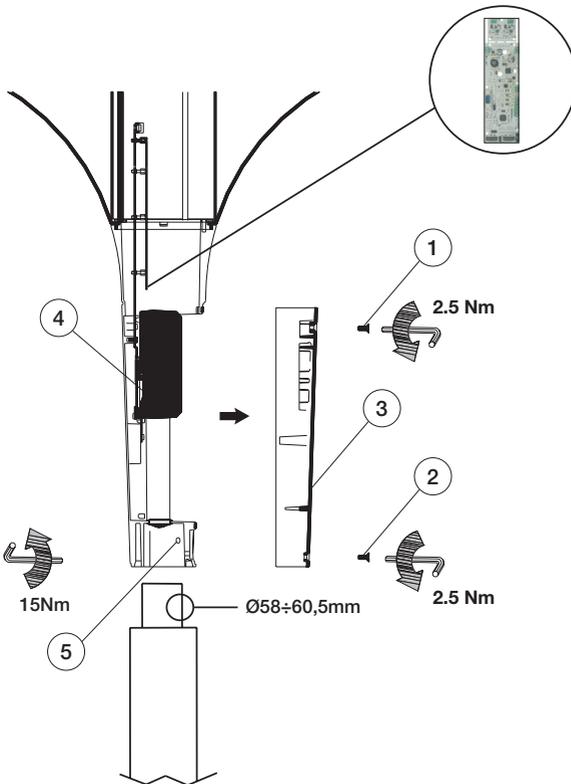
- THE ACCUMULATION OF DIRT ON THE TRANSPARENT COVER OF THE PANEL REDUCES THE EFFICIENCY: THE FREQUENCY OF THE CLEANING DEPENDS DIRECTLY ON HOW QUICKLY DIRT IS ACCUMULATED; WE RECOMMEND TO CLEAN THE PANEL AT LEAST 2 TIMES PER YEAR.
- CLEANING CONSISTS IN WASHING THE PANELS WITH WATER AND GENTLE DETERGENTS (NON-ABRASIVE) BY TAKING CARE TO AVOID STRONG CHEMICALS.
- DO NOT USE HIGH-PRESSURE HOSES.
- AFTER WASHING, DRY THE PANEL BY USING A NON-ABRASIVE CLOTH.



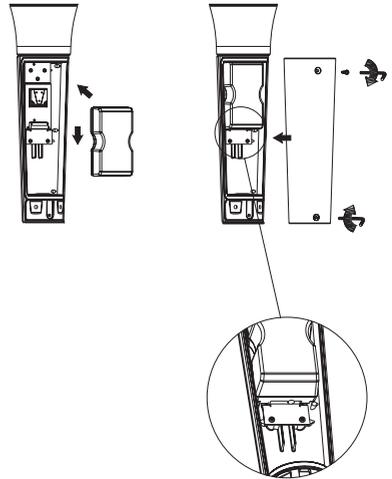
INSTALLATION INSTRUCTIONS:

1. Loosen the screw (1) in order to deactivate the locking system, and unscrew the screw (2) to open the door of the wiring compartment (3).
2. Place the luminaire on the pole and tighten the dowels (5) by applying 15 Nm.
3. Place the battery (4) into the compartment by placing the connectors in the correct position.
4. Close the wiring compartment (3).
5. Tighten the screws (1) and (2) paying attention that the gasket is well compressed.

Pict.1



Electronic circuit board pre-installed and factory set (for programming modes see pag.8-9)



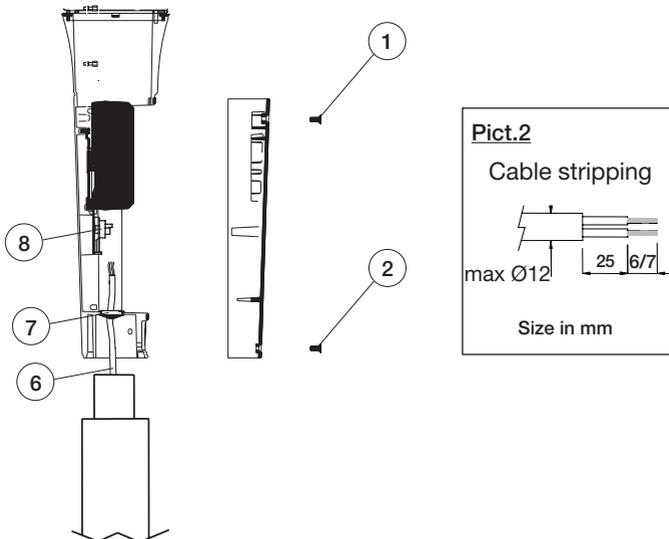
INSTALLATION INSTRUCTIONS OF THE LUMINAIRE COMPLETE WITH GRID CONNECTION (REF. CS160001)

PLEASE NOTE: The grid connection (optional accessory) when required, it is supplied mounted on the luminaire from the factory.

1. Loosen the screw (1) in order to deactivate the locking system, and unscrew the screw (2) to open the door of the wiring compartment (3) as shown in Pict.1 on pag.4.
2. Make a hole on the grommet (7) smaller than the diameter of the power supply cable (6) used. Insert the power supply cable (6) into the grommet (7). Connect the power supply cable (6) to the terminal-block of the disconnecting switch (8) paying attention to respect the polarities.

WARNING: use only a flexible double insulation sheath (type HAR or suitable for outdoor use). The outer cable diameter must be between 1 and 2,5 sqmm (see Pict.2 on pag.5).

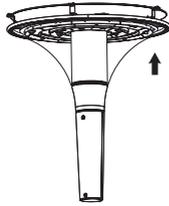
3. Tighten the cord-block of the disconnecting switch (8) on the external sheath of the power supply cable (6) without letting the single insulation cables come out.
4. Continue from point 2 of the installation instructions.



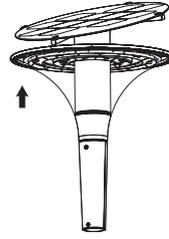
Overall dimensions

STUD SOLAR

Pict.3

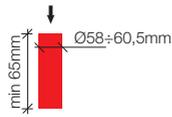
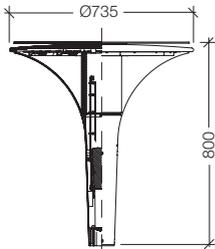


Stud Solar 1

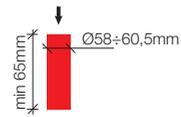
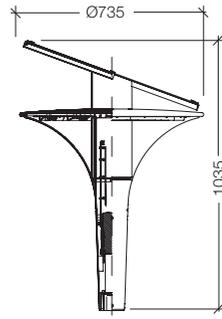


Stud Solar 2

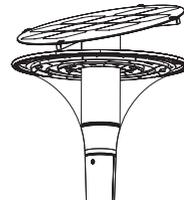
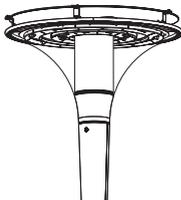
LEDs position in case
of grid connection
(see pag.5)



Stud Solar 1



Stud Solar 2



Electronic circuit board

Factory standard programming: SMART MODE operating mode with on at sunset for 8 hours and a battery duration of 3 nights; in case of grid connection the luminosity is not set at 100%.

The electronic circuit board allows to select two operating modes:

1. NORMAL:

In this mode the luminosity of the LEDs is fixed at a constant 50% (175mA). Everything is dependent on the panel: if the battery is recharged with the same quantity of energy it consumed the previous night, then the luminaire is in energy balance and will guarantee light every night, otherwise, it will use the battery's energy reserve until it runs out (the battery will shut off when only 20% storage remains).

The possible running modes are:

- on at sunset for 8 hours
- on at sunset for 10 hours
- on at sunset for 4 hours, then shutting off internal LED ring and reducing outer ring to 50%, then 2 hours before sunrise back to 100%*
- on from sunset to sunrise*

Grid connection (optional): the switch over occurs automatically when the battery is no longer capable of supplying the LEDs the fixed current (175mA that corresponds to the 50% of the luminosity). It is possible to set the DIP switch for 100% and if/when the luminaire connects to the grid the LEDs run at 100% of their nominal power (350mA). A coloured LED signals that the product is connected to the grid (see Pict.3 on pag.6).

Motion sensor (optional, not supplied from the manufacturer): it is possible to equip the luminaire with a motion sensor. In this case, for any operating setting and for the duration of the lighting, the luminaire will be on with the outer LED ring running at 50%. Using the DIP switches it is possible to select the duration of the lighting after no movement is detected: 1,2 or 3 minutes (see the operating settings on pag.9).

2. SMART:

In this mode the luminosity of the LEDs is variable. Priority is given to battery charge; this is calculated each night based on the energy transferred from the panel. The energy to be supplied to the LEDs is determined based on reference tables, and it is divided according to the nightly duration and the operating mode.

If the panel manages to recharge the battery with the same quantity of energy it consumed the previous night, then the luminaire is in energy balance and will guarantee light every night, otherwise, it will use the battery's energy reserve until it runs out (the battery will shut off when only 20% storage remains).

Through a DIP switch it is possible to choose between 2 or 3 nights of operation, allocating the 40% (2 nights) or the 30% (3 nights) of the battery charge to the LEDs. The battery is assumed to be fully charged.

The possible running modes are:

- on at sunset for 8 hours
- on at sunset for 10 hours
- on at sunset for 4 hours, then shutting off internal LED ring and reducing outer ring to 50%, then 2 hours before sunrise back to 100%*
- on from sunset to sunrise*

Grid connection (optional): the switch over occurs when the battery is no longer capable of running the LEDs at 50% luminosity from this moment the luminosity remains constant.

It is possible to set the dip switch for 100% and if/when the luminaire connects to the grid the LEDs run at 100% of their nominal power (350mA).

A coloured LED signals that the luminaire is connected to the grid (see Pict.3 on pag.6).

Motion sensor (optional, not supplied from the manufacturer): it is possible to equip the luminaire with a motion sensor. In this case, for any operating setting and for the duration of the lighting, the luminaire will be on with the outer LED ring running at 50% until the sensor detects movement, from that moment the luminaire will be on at 100% luminosity. Using the DIP switches it is possible to select the duration of the lighting after no movement is detected: 1,2 or 3 minutes (see the operating settings on Pag.9).

*The running modes "sunset to sunrise" and "4hrs from sunset - 2hrs from sunrise" will be operative after 3 days and 3 nights; before this time has passed the luminaire will function for "8hrs from sunset".

Electronic circuit board

- **LED1:**

(if it is on) Power supply to electronic circuit is ok (from either the panel or the battery).

- **LED2:**

It indicates how things are working:

- **1 flash:** The brightness threshold is such that the panel no longer charges the battery, but the LEDs still do not light up (it usually occurs at sunset).

- **2 flashes:** battery charging (it occurs during the day).

- **3 flashes:** LEDs on, the light hitting the panel is low and the LEDs are instructed to switch on. If the battery has insufficient charge to switch to light up the luminaire, the electronic circuit board remains in this operating mode up until the end of the pre-set light-up time (which can be set up via DIP switch).
(It occurs during the night).

- **4 flashes:** LEDs off as per settings (it occurs when the selected running modes are: on at sunset for 8 hours, on at sunset for 10 hours, when the 8h or the 10h are over).

- **Continuous flashing:** Diagnostic mode (see LED3).

- **LED3:**

It gives additional input for diagnostics (info's for the manufacturer).

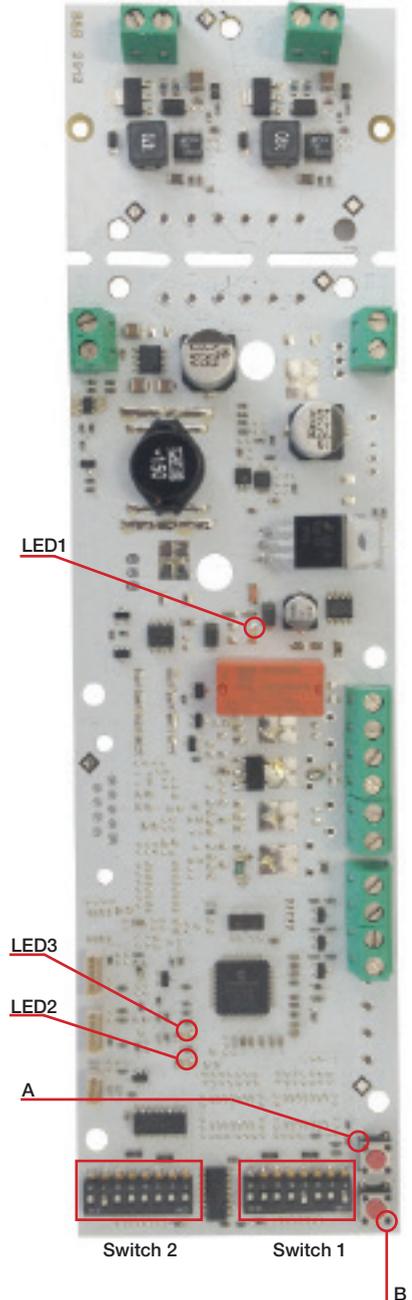
RESET OF THE ELECTRONIC CIRCUIT BOARD

ATTENTION:

The reset of the electronic circuit board deletes the memory and all the data's stored till that moment from the luminaire operation permanently. The luminaire will get back to the starting installation condition.

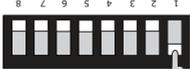
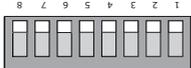
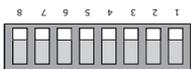
Carry out the reset only if strictly necessary and upon agreement with the manufacturer.

To reset the electronic circuit board press buttons A and B simultaneously for 2": LED2 and LED3 will switch on at the same time, their switching off indicates that the reset has taken place.



Programming

Factory standard programming: SMART operating mode with on at sunset for 8 hours and a battery duration of 3 nights; in case of grid connection the luminosity is not set at 100%.

	switch 2	switch 1	
			Dip 1 - Battery duration (SMART mode) OFF - 3 nights duration without recharging ON - 2 nights duration without recharging
			Dip 2 - Programming mode OFF - SMART ON - NORMAL
			Dip 4/3 - Duration of nightly illumination OFF/OFF - 8h OFF/ON - 10h ON/OFF - 4h at sunset and 2h before sunrise ON/ON - from sunset to sunrise
			Dip 5 - LEDs at 100% luminosity (if the system connects to the grid) OFF - Connected ON - Disconnected
			Dip 8/7 - Movement sensor OFF/OFF - no sensor OFF/ON - 1 minute ON/OFF - 2 minutes ON/ON - 3 minutes
Dip 2 - Number of batteries			OFF - 1 ON - Option not available
Dip 4 - Type of battery			OFF - Lithium Ion ON - Option not available
Dip 7 - Grid connection			OFF - ON ON - OFF
Dip 8 - Selected fitting			OFF - Stud ON - Option not available

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