MULTI ISLAND is a water pumping system with power from photovoltaic panels. It is designed for use in water wells, irrigation systems, or the power supply network is not available, or when the user wishes to save on energy consumption.

Inverter Specifications:

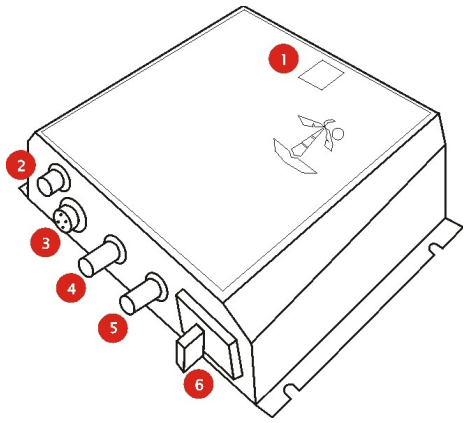
- Protection in galvanized steel sheet with protection IP20C.
- Power supply from photovoltaic minimum 40Vdc, 440Vdc Absolute maximum
- Power handling maximum 3kw 230Vac, 15A maximum input or output with any output voltage.
- Automatic speed variation in pump function of the available power (MPPT)
- Autostart and auto reset.
- Managing external sensor
- Managing dry run "dry pump"
- Power switch
- Maximum ambient temperature range: 40 ° C
- External dimensions: 260mm * 250mm * 100mm h
- Weight: 2.8kg Package Standard

SIZING OF SOLAR GENERATOR

The dimensioning of the PV field must ensure sufficient power and voltage inverter for driving the motor properly. The minimum number of panels recommended for the formation of the string is variable depending on the voltage of the connected motor. Below is a short table indicates the recommended number of panels in series to use:

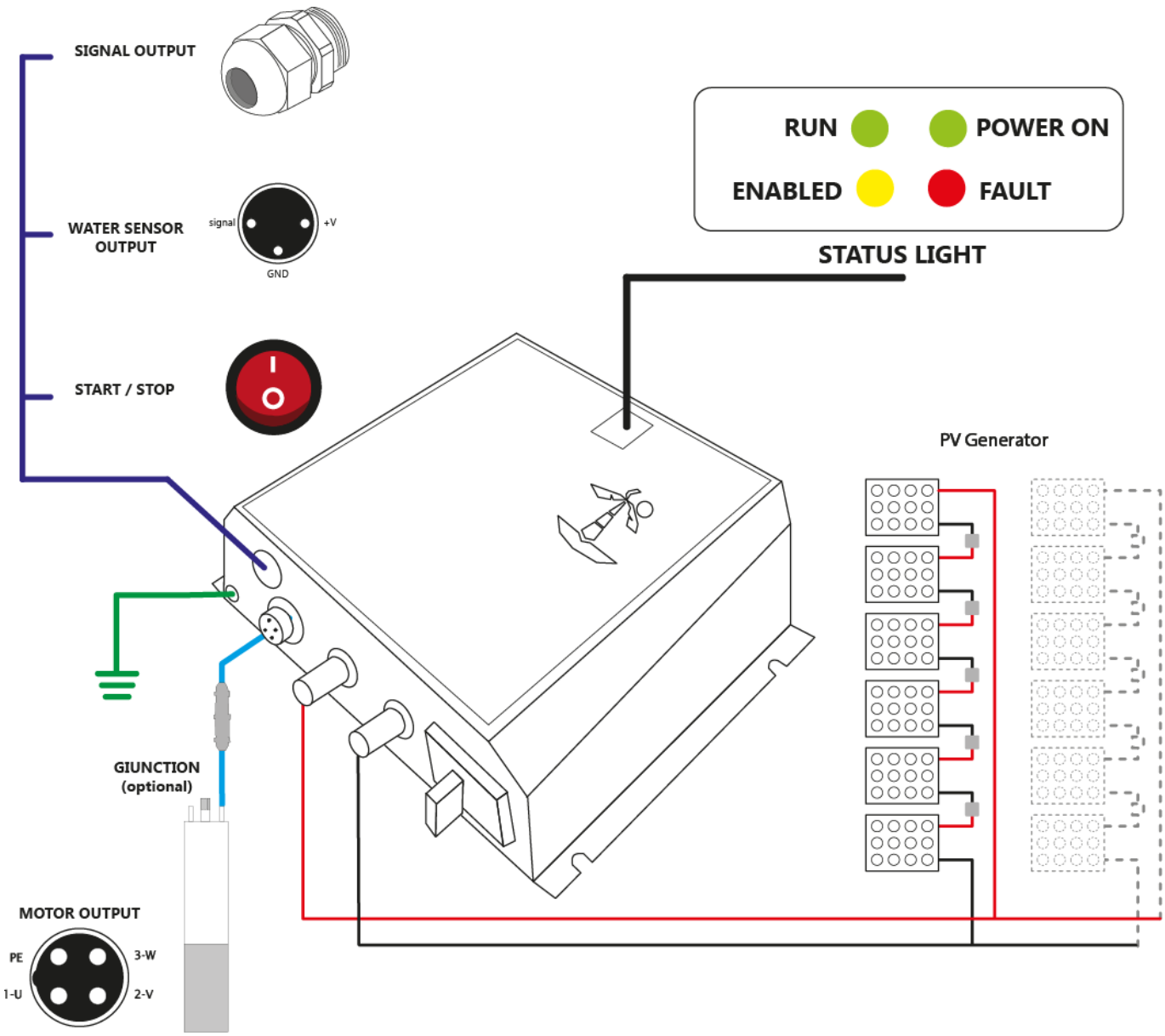
Rated motor voltage	Number of panels in series string/strings
230Vac	10-11
130Vac	6-8
110Vac	5-7
50Vac	2-4

The power to be installed instead must take into account the power absorbed by the motor (P1) and the number of hours of work wished during the day. A lower power than the nominal causes a deceleration of the engine and therefore a failure to achieve the performance of the pump. A low margin of power available than is required by the application due to a reduced number of working hours for the same irradiation.



Item	DESCRIPTION
1	STATUS LIGHT
2	Enable switch or signal output
3	Puissance du moteur
4 - 5	PV power supply (+ / -)
6	Main switch.

WIRING



PRELIMINARY ACTIVITIES AND PERIODIC

The air intakes and the external cleaning of the product and the space where it is installed are important in order to permit the power unit to dissipate properly. Do not install the product in the environment where it can be affected by water splashes, dust, or directly exposed to sunlight.

The cables for the connection of the photovoltaic field, the motor and any network or generator, must be of suitable section, in order not to cause significant power losses in the cables themselves or cause it to overheat.

CAUTION

ELECTRICAL EQUIPMENT UNDER VOLTAGE
ALL OPERATIONS MUST BE PERFORMED BY QUALIFIED PERSONNEL

- Power supply must be disconnected before wiring the product.
- Wait 20 minutes after power off before making any wiring.
- Incorrect connections may damage or destroy the product.
- Make the ground connection.
- Do not use the product other than for the control of any pump.
- Do not use the insulation test on the product, may damage the power device.
- DO NOT install the product in a place exposed to high temperatures, direct sunlight, in high humidity, excessive vibration, to flammable or explosive gases, corrosive liquids, dust particles or atmospheric metal.
- Failure to follow instructions could result in fire, explosion or electric shock.
- Keep out of reach of children.
  This manual is an integral and essential part of the product. Read carefully the instructions contained since they provide important information for safe use and maintenance.

STANDARD CONFIGURATIONS

Below we listed the standard configurationson motors supplied by HPS. The configuration code is the same as indicated in the name plate in case of supply of the kit and configuration file.

Configuration Code	Motor Type
012	BLDC brushless - 50V 3000rpm – 0,37kw
011	BLDC brushless - 50V 3000rpm – 0,55kw
013	BLDC brushless - 50V 3000rpm – 0,75kw
020	BLDC brushless - 130V 3000rpm – 1,1kw
030	BLDC brushless - 230V 3000rpm – 1,1kw
031	BLDC brushless - 230V 3000rpm – 2,2kw
101	AC asynchronous - 110V 3000rpm – 0,55kw
102	AC asynchronous - 110V 3000rpm – 0,75kw
110	AC asynchronous - 230V 3000rpm – 1,1kw
111	AC asynchronous - 230V 3000rpm – 1,5kw
112	AC asynchronous - 230V 3000rpm – 2,2kw
113	AC asynchronous - 230V 3000rpm - 3kw

STARTING PROCEDURE

Upon receipt of the product

First, check that the product purchased is intact inside its packaging and that you have received the power connector for connecting the motor and, if provided, the connector for connecting the water presence sensor.

Check the type of configuration present in the drive and make sure it is compatible with the electric pump to match. If the product was purchased in KIT configuration will be suitable to the motor shipped. If you have not purchased in KIT verify the configuration suitable and proceed with the programming of the product as shown in the following paragraphs.

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Mounting

Install the product in an upright position, taking care to leave enough space for ventilation above and below. Install in a dry place, away from splashing water, away from direct sunlight and in well-ventilated areas. To connect the PV string use MC4 connectors.

Starting

- Make connections as per the circuit diagram above.
- Power up the product with the switch POWER SWITCH. At this point, the Power ON indicator will light indicating the presence of input voltage.
- Enable the enable button if present. The yellow light illuminates. After a wait of about two minutes the pump will start.
- If you experience an error code, verify the number of FLASH FAULT light and compare the error list at the end of this manual, operating the advice given.
- If the motor is running backwards off the product and reverse 2 motor phases on the output connector.

EXPERT SETTINGSE

For any parameter refer to the specific manual.

ALARMS & SOLUTIONS

Each alarm can be encoded by the count of Flash Led FAULT. Each sequence of flash is followed by a pause. After each faut the product resets itself and attempt a new start after about 2 minutes.

Red LED flash code	Description and solutions
1 flash	OVER CURRENT – The absorption of the motor is higher than the value setted or the maximum limit of the product. Check absorption and settings. Check motor insulation.
2 flash	OVER VOLTAGE – voltage is higher than the maximum set. Check that the PV array is adequate
3 flash	UNDER VOLTAGE – insufficient voltage. Wait for the automatic startup or a new day.
4 – 5 flash	SENSORLESS TOUT ERROR – false start (only for synchronous motors) - wait for the start-up
6 flash	OVER HEAT - Check if it is blocked the passage of air into the slots on the casing of the drive, check the status of operation of the internal fan.
7 flash	DRY PUMP - Pump dry. Check the availability of water in the well. Check the parameter of the minimum power "DRY PUMP" parameter

CE MARK

The CE marking certifies the compliance of the apparatus with the essential requirements of health and safety requirements laid down by European directives listed in the EC declaration of conformity. It consists of awithe polyester adhesive label with black print, of the following dimensions: L = 49 mm - H = 15 mm. Is applied externally on one side of the product. In the nameplate are indicated legibly and indelibly the following information:

- The CE marking
- The manufacturer HPS Srl
- The maximum input voltage
- The maximum output voltage
- The maximum output current
- The serial number AA MM 000
- Software configuration

TECHNICAL ASSISTANCE

Directly or through its partners, please contact HPS Srl at the following references:

Phone: +39 0444 411382

Fax: +39 0444 316320

E-mail: info@hpsitalia.it

ALL INFORMATION HAVE BEEN WRITTEN AND SUBSIDIARIES WITH EXTREME CARE.
HPS IS NOT RESPONSIBLE FOR ERRORS OR OMISSIONS.
HPS SRL MAY, IN ITS DISCRETION, CHANGE AT ANY TIME THE CHARACTERISTICS OF DATA.

CE

CONFORMITY DECLARATION

HPS srl
Registered Office: Via Perosi, 10 - 36021 Barbarano Vicentino (VI) Italia
Warehouse: Via del Lavoro, 1 - 36043 Camisano Vicentino (VI) Italia

DECLARES

Under its own exclusive responsibility that the product

MULTI ISLAND SOLAR PUMP

described in this catalog

is **CONFORM** to the European Directives

DIRECTIVE LOW VOLTAGE 2006/95/CE
DIRECTIVE EMC ELECTROMAGNETIC COMPATIBILITY 2004/108/CE

The application and the correspondence to the above normes, where applicable in detail, is only valid if are follow the directions of the product presents in this document.

HPS srl
the legal representative

Caoduro Gabriele

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