

MULTI ISLAND MAXI is a pumping water system powered from photovoltaic panels or with hybrid power (photovoltaic and power grid at the same time). The application is useful to installations of lifting water from a well, water storage of reservoirs or containers, where the electricity network is absent or as an alternative to systems in motor generator.

You can feed the system as hybrid, that is, from the power grid and photovoltaic simultaneously, integrating momentary power shortages on photovoltaics for weather reasons or during the night. In this mode, the system can not in any way enter power into the grid.

GENERAL FEATURES

Inverter technicals datas:

- Electrical panel with protection IP54
- Power supply:
 - 4T version: 500-820Vdc photovoltaic - 400Vac 3PH 50/60Hz mains
 - 2T version: 250-440Vdc photovoltaic - 230Vac 3PH 50/60Hz mains
- Motor output:
 - 4T version: 400Vac 3PH
 - 2T version: 230Vac 3PH
- MPPT software control
- "Dry Pump" function
- Input for pyranometer to switching on diesel generator (option)
- Automatic or manual mode (option)
- Filter DV / DT for motor protection (option)
- String inputs with protection against electric shock and overcurrent
- Power switch DC
- AC power supply input with switch and fuse protection (option)
- Working ambient temperature maximum: 40 ° C

SIZE CHART

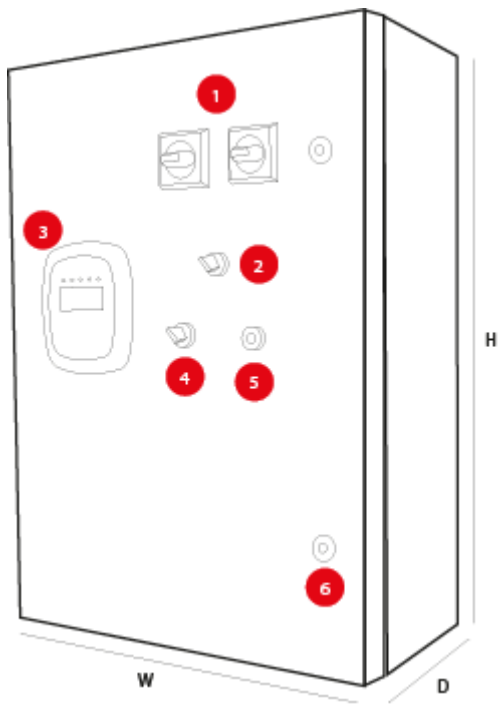
Code	Max Box Dimensions (mm)	Output inverter nominal current (A)	Motor nominal power P2 (kW)	Section of the motor cable (mmq)	Weight (kg)
PVPUMP0114-005	W570*H730 H270	10,5	3	4x2,5	25
PVPUMP0114-007	W570*H730 D270	12,5	4	4x4	25
PVPUMP0114-009	W570*H730 D270	16,5	5,5	4x4	25
PVPUMP0114-016	W835*H635 H300	27	7,5	4x4	40
			9,2	4x4	40
			11	4x4	40
PVPUMP0114-025	W835*H635 H300	41	15	4x4	40
			18,5	4x4	40
PVPUMP0114-034	W835*H635 H300	57	22	4x6	40
PVPUMP0114-036	W835*H635 H300	60	30	4x8	40
PVPUMP0114-049	W800*H1000 D400	80	37	4x8	60

DIMENSIONING OF SOLAR GENERATOR

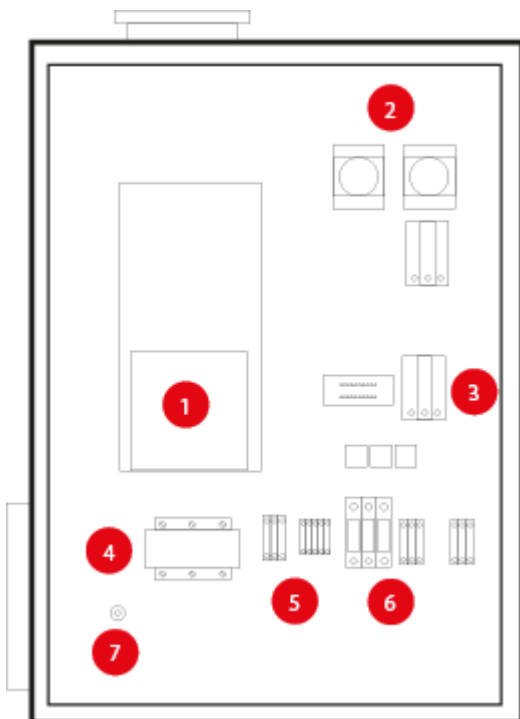
The dimensioning of the PV field must ensure sufficient power and voltage to the inverter that has to drive the motor properly. The minimum and maximum voltage must comply with the stated technical specifications.

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 motor and, therefore, a failure to achieve the performance of the pump. A low margin of power available than that required by the application, due to a reduced number of working hours for the same irradiation.

DESCRIPTION OF THE ELECTRICAL BOX



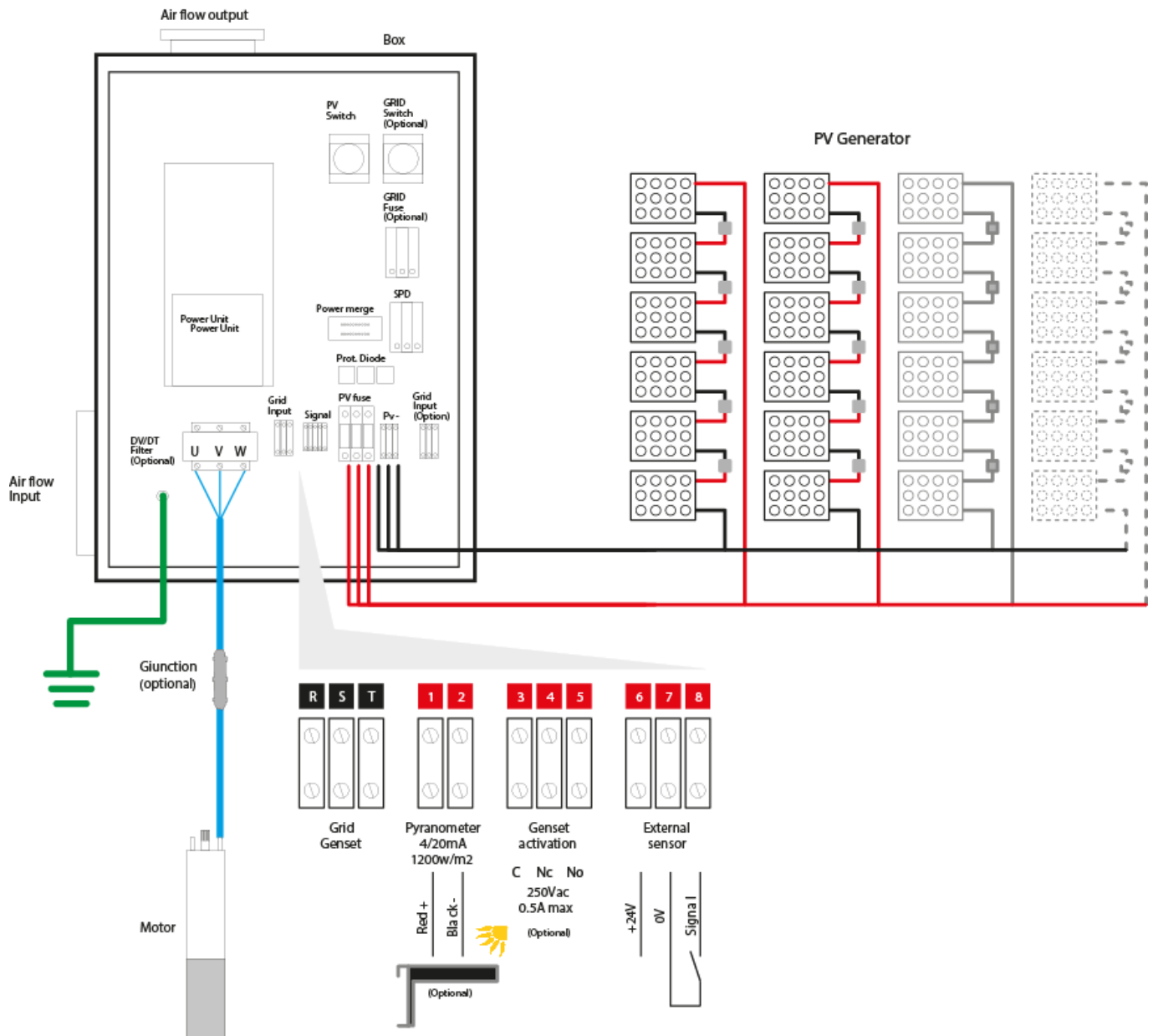
Item	Description
1	MAIN SWITCH - Allows the supply of the pump control panel. ATTENTION: the sectioning is performed only on PV power. If there is a hybrid supply, refer to the organs of protection and stopping outside the electric panel. SWITCH OFF ONLY WHEN THE "RUN" IS SWITCHED OFF
2	If the panel is powered (POWER SWITCH = ON) allows the motor's running
3	Keypad
4	MAN = enable manual adjustment of speed regardless of PV sensor. AUTO = enable automatic adjustment of speed. (option)
5	Manual speed control. Useful during start-up maintenance. (option)
6	Power BOX key



Typical indicative layout, not representative of all sizes.

Item	Description
1	Power unit, inverter
2	Power switch
3	Overvoltage protection on the photovoltaic generator
4	Motor output connection, directly on the DV/DT filter (option)
5	Terminal block for power grid input and signals.
6	Input strings connection from the photovoltaic generator

EXTERNAL WIRING



Terminal N.	Description
R – S – T	Power grid or genset input
1	Pyranometer + input 4/20mA
2	Pyranometer – input 4/20mA
3 – 4 – 5	Genset activation. Max load 250Vac 0,5A
6	+24 – ATTENTION only for Water touch. Do not connect other load
7	0V – common signal for external water sensor
8	Signal – signal input for external water sensor

PRELIMINARY AND PERIODIC ACTIVITIES

All terminals where are connecting wires in the electrical system must be checked before start. This check should be repeated every two months. Although if the current is limited, the conductors on terminals not tight may cause damage. The loosening of the clamps is a consequence of transports or thermal expansions due to changes in temperature between day and night.

It is important to keep clean the outside and vents of the framework and the room where it is installed, in order to allows 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, motor, power grid 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.

STARTING PROCEDURE

Power On "MAIN SWITCH"

The switch MAN / AUTO if present must be set to "AUTO"



"STARTING UP " shows that there isn't enough Voltage to start.
4T version: voltage less than approximately 400VDC
2T version: voltage less than approximately 220VDC



"INSULATION KO" shows that there isn't enough Voltage to start.
4T version: voltage less than approximately 500VDC
2T version: voltage less than approximately 300VDC



"INSOLATION OK" shows that there is sufficient voltage on PV, and the system is ready to start. Now the system will wait 300 seconds before to start. You can see the countdown on display.



The switch RUN/STOP must be set to "RUN"



At this point the motor starts. The speed is determined instant by instant by the MPPT software. If the PV does not provide enough power, on the display will appear again the words "INSOLATION KO". When the voltage on PV will be available again, the system will wait for the set time and then automatically restarts.

FAULTS AND WARNINGS



Alarm DRY RUN. It means that the pump is empty and it's working dry. The system waits for of 900 seconds (15 minutes) before giving consent to the restart. The remaining time is shown on the screen. The value dry run is set at 30% of the rated power of the motor to 30HZ and 50% at 50Hz. The customer can, depending on its needs or if the alarm is shown without reason, modify these values.
MENU\PAR\DRYPUMP\P701b = 30%
MENU\PAR\DRYPUMP\P701d = 50%



Alarm EXT. 1 . This alarm is linked to an event outside the inverter. Typically it can be used to block the pump if the reservoir or the container for the water, if used, is full. In this case is connected to the inlet float with a normally open contact, which closes when the level is reached. If the external event lapse, the alarm is automatically resetted.



AUTOMATIC START AFTER AN ALARM. Once back the alarm, the system will wait 300 seconds before re-enabling the engine.

If the system shows other alarms, contact the nearest service center communicating the code of the alarm that is occurred. In general alarms are automatically reset for 5 times within 300 seconds. At sixth alarm the system freezes indicating a code. To restart press "RESET" on keyboard.

Useful note: to accelerate the startup or the wait after a "dry run", you can reset the waiting time by pressing the RESET button on the front panel.

AUTO ACTIVATION EXTERNAL GENERATOR (GENSET ACTIVATION)

The terminals 3-4-5 are available for the automatic switching of an external generator or any other function related to the reading of a pyranometer externally connected. This output clicks on reaching the 30% of the absolute value read from the pyranometer, which has as an end scale 1200w / m². The activation of the generator with respect to the threshold reached, is delayed in the activation and deactivation for 300 seconds in order to avoid repeated false starts in the event of sudden changes in irradiation.

The customer can change this threshold depending on the application requirements by changing the parameter MENU \ DIGITAL OUTPUT \ P302

CHANGE OF PARAMETERS



- 1) from the Status screens in the picture on the left, place the selector RUN/STOP to STOP.
- 2) use the arrows buttons to bring the parentheses to enclose the desired menu (PAR), or (CF) depending to the instruction that follow
- 3) once positioned brackets, enter the menu by pressing the ENTER key
- 4) with the arrow keys find the submenu shown in the instructions and once you find it, with the ENTER key enter in the parameter list
- 5) with the arrow keys search for the parameter specified in the instructions and once you find it with the ENTER key, enter in changes mode.
- 6) change the parameter with the arrow keys and once set the desired value confirm with ENTER.

To move up one level in the menu, press ESC. To return to the Home menu, press MENU. Repeat the operation for each parameter to be changed.

ALL INFORMATIONS HAVE BEEN WRITTEN AND CHECKED WITH THE GREATEST CARE.
HPS Srl DOES NOT ASSUME ANY RESPONSABILITY FOR ANY ERRORS OR OMISSIONS.
HPS srl CAN AT ITS SOLE OPTION TO CHANGE AT ANY TIME THE CHARACTERISTIC OF PRODUCT SOLD.

TECHNICAL ASSISTANCE AND APPLICATIVE

Directly or through its partner it's possible to contact HPS Srl to these references:

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CONFORMITY DECLARATION

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Registered Office: Via Perosi, 10 - 36021 Barbarano Vicentino (VI) Italia
Warehouse: Via del Lavoro, 1/3 - 36043 Camisano Vicentino (VI) Italia

DECLARES

Under its own exclusive responsibility that the product

MULTI ISLAND MAXY

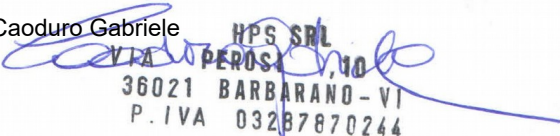
In all the sizes available and mentioned in this catalog
is **CONFORM** to the European Directives

CEI EN 61439-2

relates to electrical panels intended to be used for motor control application and general automation.

HPS srl
the legal representative

Caoduro Gabriele



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