






## TABLE OF CONTENTS

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## FOREWORD

READ, UNDERSTAND, AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL CAREFULLY BEFORE INSTALLING AND USING THE EQUIPMENT.

In this manual, the pictograms below announce a CAUTION, or even a WARNING, accompanied by a set of instructions that must be scrupulously respected:

	Read and keep the manual in a safe place
	Warning
	Caution: Risk of electrical shock
	Do not touch the heat sink
	e-Waste: Dispose at recycling centre

Failure to follow these instructions can result in serious risk of equipment damage and / or serious injury to persons.

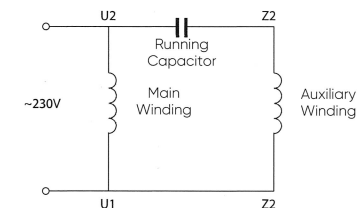
FOLLOW AND RESPECT IMPERATIVELY THESE INSTRUCTIONS.

## IMPORTANT SAFETY INSTRUCTIONS



To make the best use of this energy saving device and to avoid potential risk of fire, electrical shock, **SERIOUS** injury to people or damage to property, please read this user guide carefully before installation and keep it for future reference.

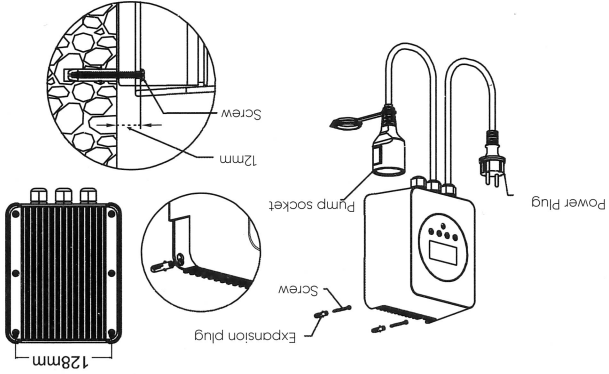
This device can **ONLY** be used with pool pumps with permanent split capacitor motor. The schematic diagram below shows a typical single speed swimming pool pump motor:



It is **NOT** compatible with:

- Single phase motors with centrifugal switch
- Pool pump motors with start relays or switch
- Series or DC motors
- Pool pump motors with faults in their rotors or capacitors
- Shaded-pole asynchronous motors

Mark the hole locations on the wall, drill and insert the expansion plugs supplied, fit the screws and hang the device on the screws.



ELECTRICAL CONNECTION

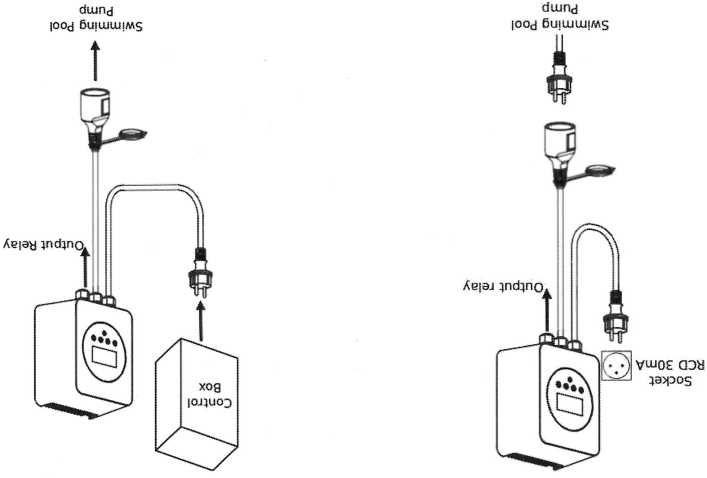
Please follow these steps and the wiring diagram for correct connection. The warranty may be compromised if the device is not installed in accordance with instructions described in this manual. Only ONE pump can be connected to the inverter. Please do not connect any other appliance to the output.

An RCD with a rated residual current not exceeding 30mA must be used with this product.

Turn off all electrical supply to the pool pump, unplug it from the main switch.

Plug the pool pump into the device's power outlet (marked PUMP CONNECTION ONLY).

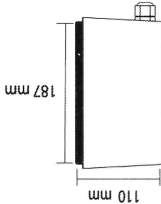
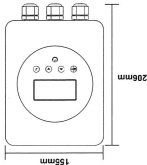
Plug the device into the main switch/timer connection where the pump was originally plugged into.



An RCD with a rated residual current not exceeding 30mA must be used with this product.

If you are not sure of the compatibility of your pool pump with this device, please contact your supplier or manufacturer before proceeding with installation.

TECHNICAL DATA

	Gross/Net Weight		3.0/2.7kg	
	Net Dimension (L*H*W)		187*110*155mm	
	Cooling	Ventilation		Ventilation/Fan
	Speed range	1200~2900 rpm		
	Max. current	Max 6A	Max 12A	
	Pump type	Single phase		
	Output Voltage		1ph, 0~240V	
	Output power	Max 1.1kW	Max 2.2 kW	
	Input frequency	50Hz		
	Input voltage	220~240V		
	Input power	1 phase AC		
	Model	VS1100	VS2200	

INSTALLATION

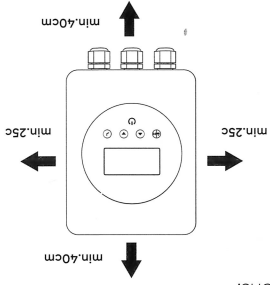
Upon receipt of this device, check for damage to the packaging or product. DO NOT PROCEED with installation if any damage is found; contact your supplier. Do not use extension leads with the device. This can pose a danger particularly in the vicinity of a swimming pool.

Make sure the place you choose for installation meets the following conditions:

- Ambient temperature from -10°C to 40°C
- 45 to 90 percent relative humidity, non-condensing
- Less than 1000m above sea level
- Keep out of direct sunlight
- Good ventilation

For efficient cooling, please make sure it is installed with a minimum clearance surrounding it (Diagram opposite)

Blocked ventilation or an enclosed space with limited air flow may cause overheating or potential operational failure of the inverter.



Switch all power back on.

Ensure timer is active.

Now the device is ready to operate.



Do not touch the heat sink while the device is in operation or until at least 30 mins after it has been switched off. Keep it out of reach of children.

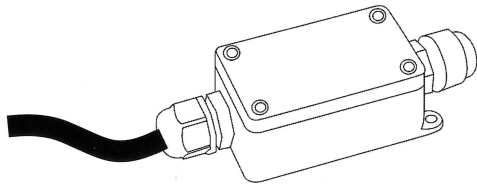


Because of high voltage conversion components contained in the device, do not try to disassemble or replace any components in case of malfunction or breakdown. Before intervening on the unit, wait till the power light turned off or at least 3 minutes after power plug has been plugged off from input supply.

### Output relay connection:

A dry contact (non-polarised) enables another element of the installation (dosing pump, electrolyser, etc.) to be controlled by the filter pump. This contact is open when the pump is stopped and closed when the pump is running.

To connect this contact, open the junction box:

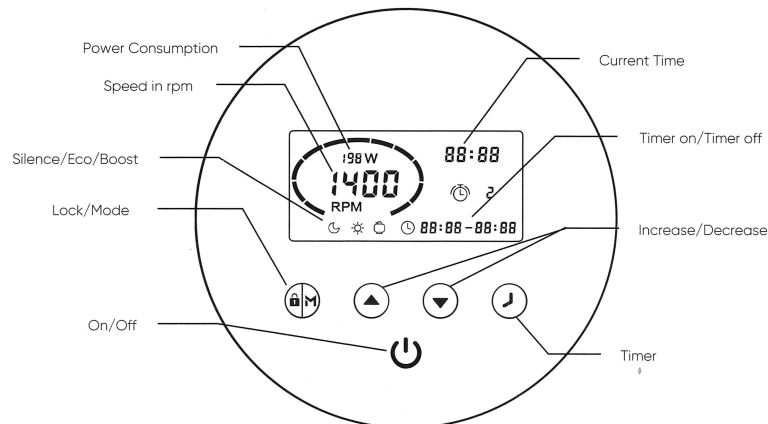


Maximum voltage: 230V

Maximum power: 500W

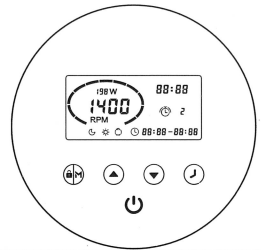
## SETTINGS AND OPERATION

### Control panel



### Mode selection

The frequency inverter has 3 modes(speed ranges).You can either run your pump at a constant speed choosing from or set up to 4 timers for daily operation, each with an individual speed.



Mode	Speed range	Default speed	Usage tips
Silence	1200~1650 rpm	1400 rpm	Active wintering, rest by the pool, period of low use
Eco	1700~2400 rpm	2000 rpm	Period of normal use
Boost	2450~2900 rpm	2900 rpm	Backwash, strong heat, strong use

When plugged in, lights up, hold for 3 seconds to unlock the screen. Press to start.

Upon starting, pump will run at maximum speed of 2900 rpm for one-minute self-priming. (This can be increased to 10 minutes – see Parameter settings Section).

Press to choose a running speed, use or arrows to adjust by 50rpm to a specific running speed if required.

Once the pump has finished priming, the inverter will automatically switch the pump to the pre-set speed.



indicates the pump is running and showing current rpm and power consumption.

### Timer setting

To run the pump at different times or speeds to take advantage of lower electricity tariffs during the night, you can set up to 4 timers.

Press to enter timer setting.

Use or to set current time. Press to move cursor to the next setting. Press to choose a speed range for timer 1, use or to decide on a specific speed if required. Press or to move cursor to previous setting.

Repeat the above steps to set the other 3 timers

Hold for 3 seconds or wait 10 seconds to save settings automatically. A flashing 88:88-88:88 indicates the device is waiting for start time.



Press or to check all 4 timers to ensure there are no invalid setting. Any overlapping of timer periods will be considered as invalid and the device will only run based on the previous valid timer setting.

During timer setting, if you want to abandon it, hold for 3 second.



### Note:

If inactivate for 1 minute, the screen will lock automatically. Hold for 3 seconds to unlock the device.

The device has power-off memory, operation will resume upon power restoration.

Under OFF mode, hold   for 3 seconds to retrieve factory setting.

## PARAMETER SETTING

Under OFF mode, hold   for 3 seconds to enter parameter settings.

Parameter	Description	Default setting	Setting range
1	Priming time	1 minute	1~10min, by 1 minute increments
2	Minimum RPM	1200rpm	1200~2000rpm, by 100rpm increments
3~5	Digital Input 2 to 4 speed setting	2900/2400/1200rpm	1200~2900rpm, by 100rpm increments
6	Self-priming speed	2900rpm	1200~2900rpm, by 100rpm increments

## WARNING CODES

Code	Description	Analysis
E001	Abnormal input voltage	Not faulty
E002	Output over current	Not faulty
E101	Heat sink over heat	See below
AL01	Auto speed reduction against high temperature	See below

### Note:

AL01 is not an error indication: when it appears the inverter will automatically switch to a lower speed to self protect against high internal temperature. When the temperature drops back to 65°C the inverter will resume at the preset speed.

When causes for E002/E101/E103 lifts, the device will resume working automatically, however when it appears a fourth time, the device will stop working, to resume operation, unplug the device and plug in & restart again.

## ERROR CODES

Code	Description	Analysis
E102	Heat sink sensor error	Contact your supplier
E103	Master driver board error	
E201	Circuit board error	
E202	Master board EEPROM reading failure	
E203	RTC time reading error	
E204	Keyboard EEPROM reading failure	
E205	Communication error	

## EXCLUSIONS

Under no circumstances should the manufacturer be held liable for any consequences resulting from inappropriate, incorrect installation, or mismatching of the product to pool pumps that are not compatible.

Manufacturer reserves the right to change the specification of the product or its performance or the contents of the User Guide without notice in case of technical upgrade.

## WEEE LEGISLATION

When disposing the product, please hand it over to a designated collection point for the recycling of waste electrical and electronic equipment.

The separate collection and recycling of waste equipment at the time of disposal will help ensure that it is recycled in a manner that protects human health and the environment. Contact your local authority for information on where you can drop off your waste for recycling.