



PROFESSIONAL
WATER
PRODUCTS

FREQUENCY INVERTER








Vario+ II (RB345)

Thank you for purchasing our frequency inverter. Please read the manual carefully before installing or using it and keep it for future reference after installation.

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SAFETY SYMBOLS

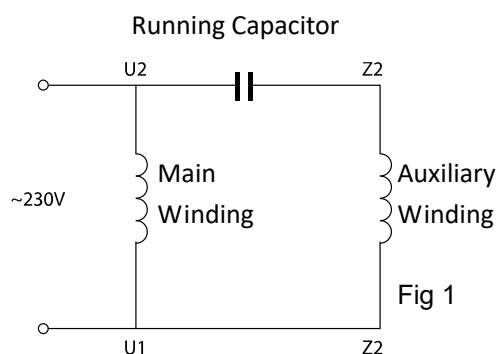
	Read and keep the manual
	Warning
	Electric shock or injuries to people
	Do not touch the heat sink
	No littering

1. IMPORTANT SAFETY INSTRUCTIONS



To make best use of this energy saving device and to avoid potential risk of fire, electrical shock, SERIOUS injuries 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. Below shows a typical single speed swimming pool pump motor.



1.1 It is NOT compatible with:

- a. Single phase motors with centrifugal switch
- b. Pool pump motors with start relays or switch
- c. Series or DC motors
- d. Pool pump motors with faults in their rotors or capacitors
- e. Shaded-pole asynchronous motors

1.2 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.

2. TECHNICAL DATA

Model	Vario+ II	Dimensions
Input power	1 phase AC	
Input voltage	220~240V	
Input frequency	50Hz	
Output power	Max 1.1kW	
Output Voltage	1ph, 0~240V	
Pump type	Single phase	
Max. current	Max 6A	
Speed range	1200~2900 rpm	
Cooling	Ventilation	
Net Dimension (L*H*W)	222*117*166mm	

3. BEFORE INSTALLATION



Upon receipt of the device, check for any damages on packaging or product. **DO NOT PROCEED** with installation if any damages 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 ~ 40°C
- 45 to 90 percent relative humidity, non-condensing
- Below 1000m above sea level
- No direct sunlight
- Good ventilation

For an efficient cooling, please make sure it is installed with a minimum clearance surrounding it (Fig2), a blocked ventilation or an enclosed space with limited air flow may cause overheating or potential operational failure of the inverter.

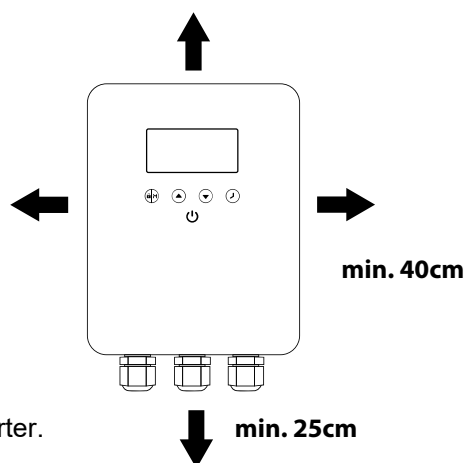


Fig. 2

4. CONNECTING TO POOL PUMP



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 1 pump can be connected to the inverter. Please do not connect any other appliance to the output.

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

- 4.1 Turn off all electrical supply to the pool pump, unplug it from the main switch or at the chlorinator which provides electrical power to the pump.
- 4.2 Plug the pool pump into the device's power outlet (marked PUMP CONNECTION ONLY). Make sure the total length of the output cable of the device and the power cable of the pool pump is not more than 2m.
- 4.3 Plug the device into the main switch/chlorinator/timer connection where the pump was originally plugged into.
- 4.3 To reduce the electromagnetic interference, please connect the ground wire on the device to the ground terminal of the pool pump motor.
- 4.5 Switch all power back on.
- 4.6 Ensure chlorinator/timer is active.
- 4.7 Now the device is ready to run.

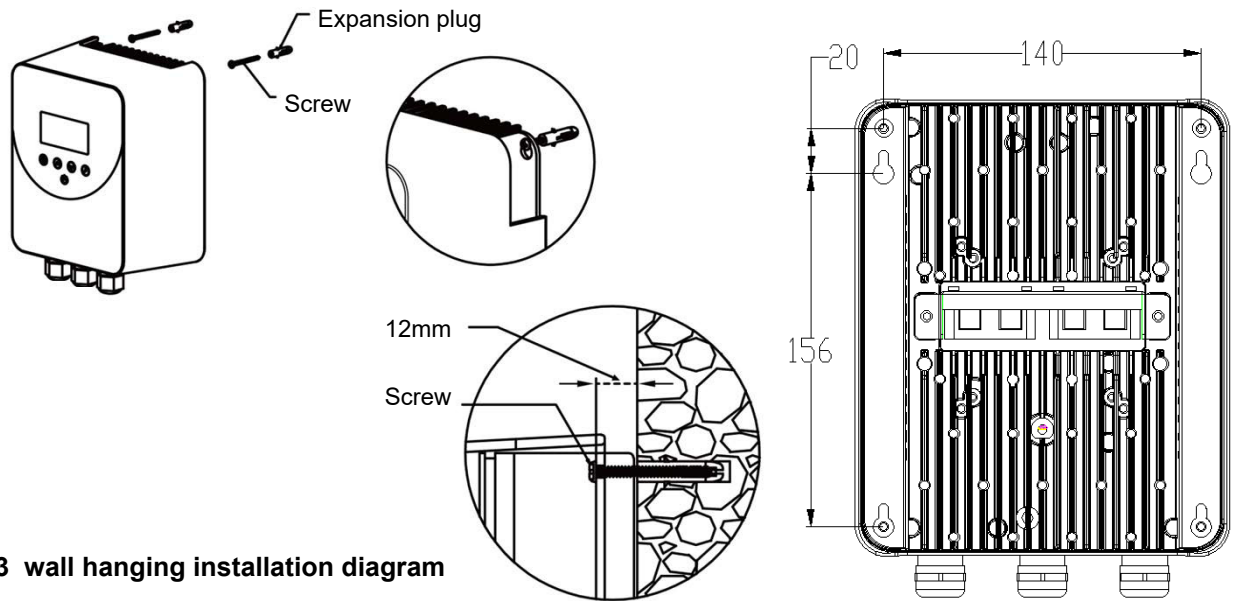


Fig.3 wall hanging installation diagram

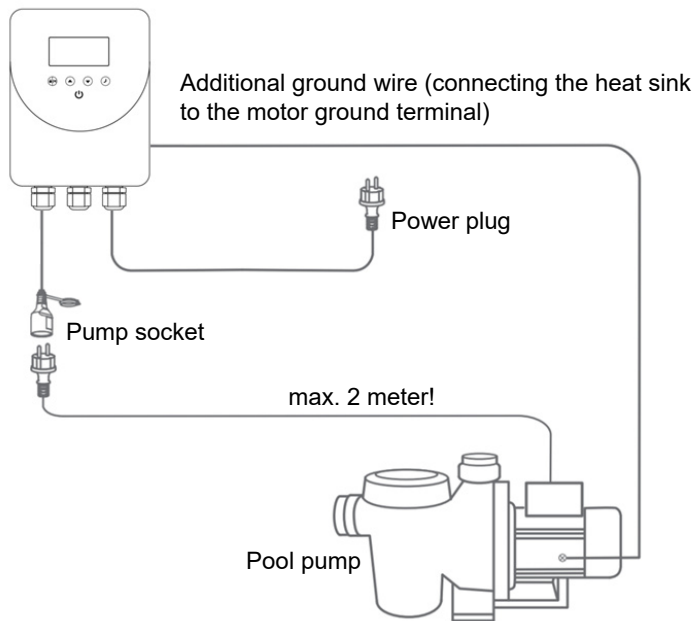


Fig.4 cable connection diagram

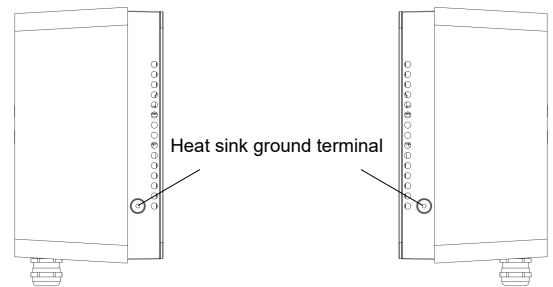


Fig.5 Heat sink ground terminal diagram



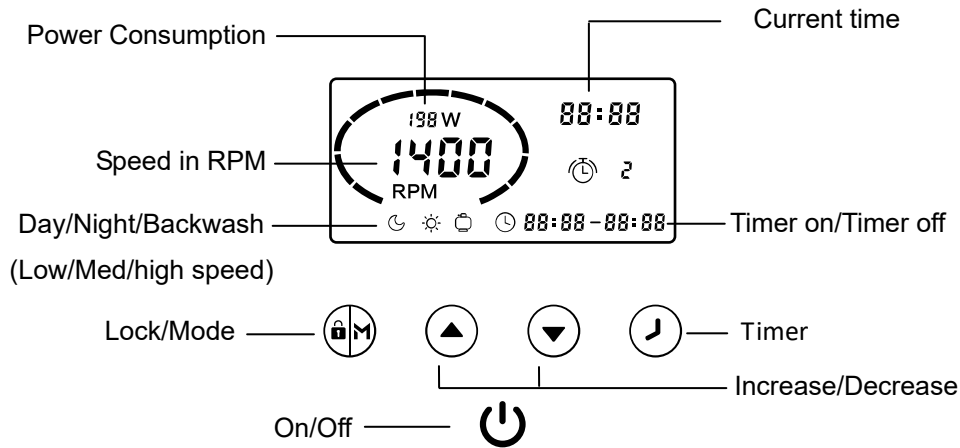
Do not touch the heat sink while the device is in operation or until at least 30 mins after it has been switched off. Keep it out of reach of children.



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 serving 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.

5. SETTING & OPERATION

5.1 Control panel



5.2 Mode selection

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

Mode	Speed range	Default speed
Night (Low)	1200~1650 rpm	1400 rpm
Day (Medium)	1700~2400 rpm	2000 rpm
Backwash (High)	2450~2900 rpm	2900 rpm

① When plugged in, lights up, hold for 3 seconds to unlock the screen. Press to start.

② 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 5.5)

③ Press to choose a running speed, use or to adjust by 50RPM to a specific running speed if needed.

The diagram shows the control panel with the display showing '198 W', '1400 RPM', and '88:88'. Below the display are the mode selection icons, the up/down arrow buttons, the timer icon, and the power button.

Upon completion of self-priming, pump will automatically switch to the speed pre-set,

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