

# HIGH FREQUENCY CONVERTER



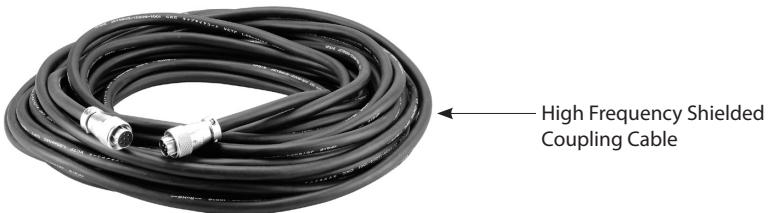
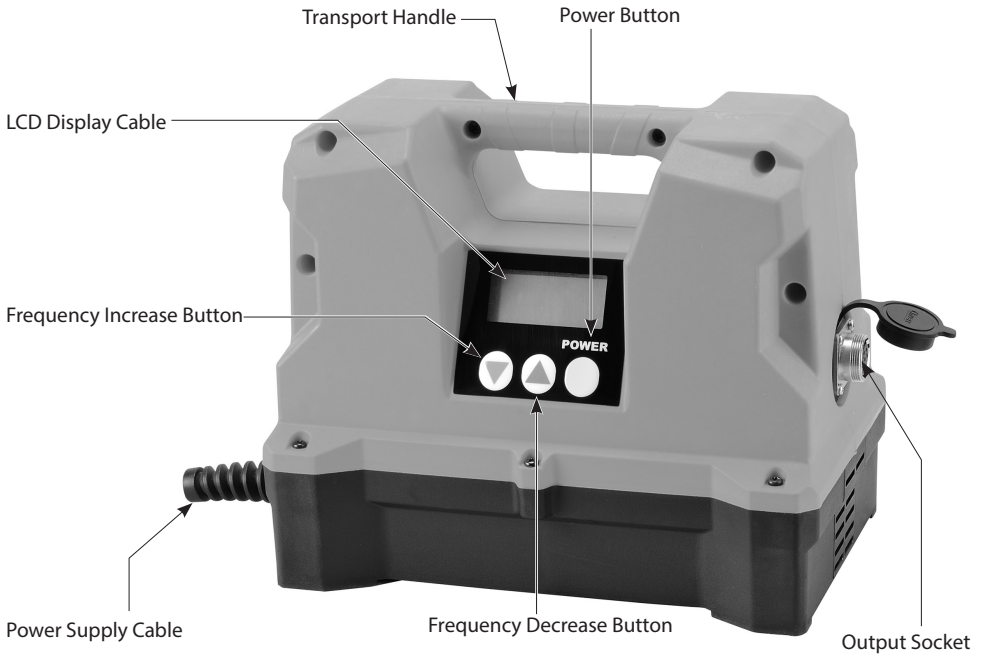
CECB

For your personal safety, READ and UNDERSTAND before using.

SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE.

# INSTRUCTION MANUAL

Voltage	See machine nameplate
Input	3.0 KVA
Output	Single Phase: 1600W, 210V, 200-285 Hz ,3 Phase: 2200W, 210V, 200-285 Hz
Dimensions	260mm x 160mm x 215mm
Net Weight	2.65kg (5.83Lbs)



## GENERAL SAFETY INSTRUCTIONS



**WARNING! Read all safety warnings and all instructions.** Failure to follow the warnings and instructions may result in electric shock, fire and/or serious injury.

**Save all warnings and instructions for future reference.** The term “power tool” in the warnings refers to your mainsoperated (corded) power tool or battery-operated (cordless) power tool.

### 1) WORK AREA SAFETY

- a. **Keep work area clean and well lit.** Cluttered or dark areas invite accidents.
- b. **Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases or dust.** Power tools create sparks which may ignite the dust or fumes.
- c. **Keep children and bystanders away while operating a power tool.** Distractions can cause you to lose control.

### 2) ELECTRICAL SAFETY

- a. **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.**  
Unmodified plugs and matching outlets will reduce risk of electric shock.
- b. **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- c. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- d. **Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil,**

**sharp edges or moving parts.** Damaged or entangled cords increase the risk of electric shock.

- e. **When operating a power tool outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f. **If operating a power tool in a damp location is unavoidable, use an earth leakage circuit breaker.** Use of an earth leakage circuit breaker reduces the risk of electric shock.

### 3) PERSONAL SAFETY

- a. **a) Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- b. **b) Use personal protective equipment. Always wear eye protection.** Protective equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- c. **Prevent unintentional starting. Ensure the switch is in the off-position before connecting to power source and/or battery pack, picking up or carrying the tool.** Carrying power tools with your finger on the switch or energising power tools that have the switch on invites accidents.
- d. **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- e. **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- f. **Dress properly. Do not wear loose clothing**

or jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts.

- g. If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of dust collection can reduce dust-related hazards.

#### 4) POWER TOOL USE AND CARE

- a. Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- b. Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- c. Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- d. Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- e. Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- f. Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- g. Use the power tool, accessories and tool**

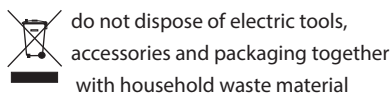
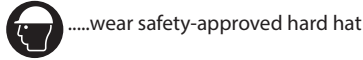
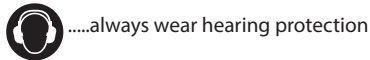
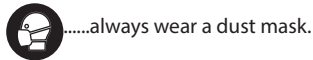
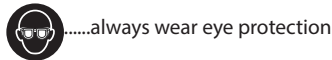
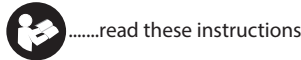
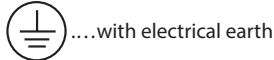
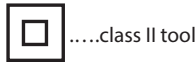
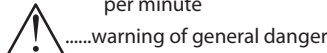
bits etc., in accordance with these instructions, taking into account the working conditions and the work to be performed. Use of the power tool for operations different from those intended could result in a hazardous situation.

#### 5) SERVICE

Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

#### Symbols used in this manual

- V.....volts
- A.....amperes
- Hz.....hertz
- W.....watt
- ~.....alternating current
- $n_0$ .....no load speed
- min<sup>-1</sup>.....revolutions or reciprocation
- per minute



**IMPORTANT: Some of the following symbols may be used on your tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.**

## TERMINOLOGY USED IN THE MANUAL

- 1. Warning: This term means that there is a risk of physical harm or death to the operator or people nearby.**
- 2. Caution: This term means that there is a risk of damage to the machine, cutting tool or other equipment.**
- 3. Note: These terms offer useful information relating to the operation of the machine or its maintenance.**

## SPECIFIC SAFETY RULES

1. Keep all electrical connectors and couplings clean and free from water or foreign matter
2. Never use this machine if any cable or electrical connector is damaged
3. Only use this machine to power machines which it is designed and intended for
4. This machine is intended for industrial use by qualified, trained operators only.
5. Never unplug the power cable or coupling without first switching off the converter and the coupled power tool.
6. Always switch off the converter before moving it.

## INTRODUCTION

This converter is specifically designed to be a power pack for certain models in our line of high frequency power tools. It takes 50Hz or 60Hz supply and converts it to up to 285Hz for use with specially designed, high frequency power tools. Any other use

is strictly prohibited.

High frequency power tools have many advantages: High frequency allows high power to weight ratio as well as extremely even operating speed. High frequency also has the benefits of long duty cycles, long motor life, and quiet operation. The motor of the connected power tool is brushless and maintenance free.

## ELECTRICAL CONNECTION

This machine may be connected to either 3 phase or 1 phase 220-240V~ 50/60Hz supply.

Make sure that the power circuit voltage is the same as that shown on the specification plate of the machine before connecting the machine to the power circuit.

The machine must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way.

## EXTENSION CABLE

If an extension cable is required, it must have a sufficient cross-section so as to prevent an excessive drop in voltage or overheating. Use only approved extension cables. Never use two extension cables together. Instead, use one long one.

## UNPACKING

Carefully remove the tool and all loose items from the shipping container.

Retain all packing materials until after you have inspected and satisfactorily operated the machine.

## CARTON CONTENTS

1. High Frequency Converter
2. Coupling Cable

**DO NOT OPERATE THIS TOOL UNTIL YOU READ AND UNDERSTAND THE ENTIRE INSTRUCTION MANUAL**

## CONNECTING TO THE COUPLED POWER TOOL

The special coupling cable must be used to connect from the converter to the coupled power tool. Align the tang in the socket with the slot in the plug and push in fully. Then thread on the knurled locking ring. The locking ring should be hand tight only. If the plug does not match with the socket, it may not be used. Only use plugs and connections which are designed specifically for this device.



## SETTING UP AND ADJUSTMENTS

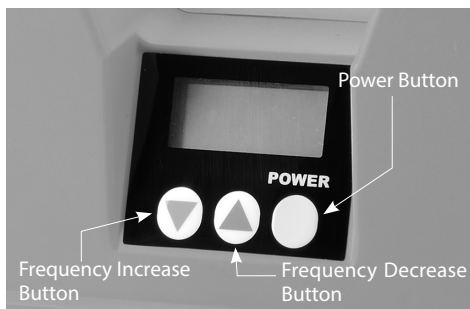
Ensure that the power tool's switch is in the OFF position before connecting.

First connect the coupling cable between the power tool and the converter. Only then plug the converter into the electrical supply. After plugging in, allow the converter at least 5 seconds for its capacitors to charge before turning the unit on and putting the power tool to use.

## STARTING AND STOPPING THE MACHINE

**To start:** First press the power to energize the system, then start the power tool by its switch.

**To stop:** First shut off the connected power tool by its switch. Then turn off the converter by pressing the power button



## MAINTENANCE

Keep the machine clean and free from dust, dirt, oil, etc. Pay special attention to keep the electrical coupling sockets and plugs free of all foreign material. Any conductive foreign material in the socket could lead to damage to the machine.

## KEEP TOOL CLEAN

Periodically blow out all air passages with dry compressed air. All plastic parts should be cleaned with a soft damp cloth. NEVER use solvents to clean plastic parts. They could possibly dissolve or otherwise damage the material.

Wear safety glasses while using compressed air.

## ERROR CODES

### **E1: Overload.**

Current is more than 19.2A. The unit will shut off and one must unplug and plug in again to reset.

### **E2: Overheat.**

Controller temperature is over 90°C. The unit will shut off and one must wait for the controller temperature to drop to below 70°C

**E3: Low Voltage.**

At no load, if the voltage is less than 172.5V the unit will not operate. If the supplied voltage is 173.2V or more, the error will automatically disappear.

On load, if the voltage is less than 155.5V, the unit will stop. Then if the no load voltage is sufficient (173.2V or more) the error will automatically disappear

**E4: Over Voltage.**

If the voltage is over 271.4V, the unit will stop.

If the voltage is less than 268.6V, the error will automatically disappear.

**Note: All of the above voltages are +/- 5%**

**E5: Motor brake current too high.**

This may indicate that an incorrect overweight rotary accessory is being used. The unit will shut off. Install the correct accessory, then one must unplug and plug in again to reset.

**Note: In E5 above, residual voltage in the controller's capacitors may cause an E4 over voltage error code. Wait for a few moments for the capacitors to discharge before continuing.**

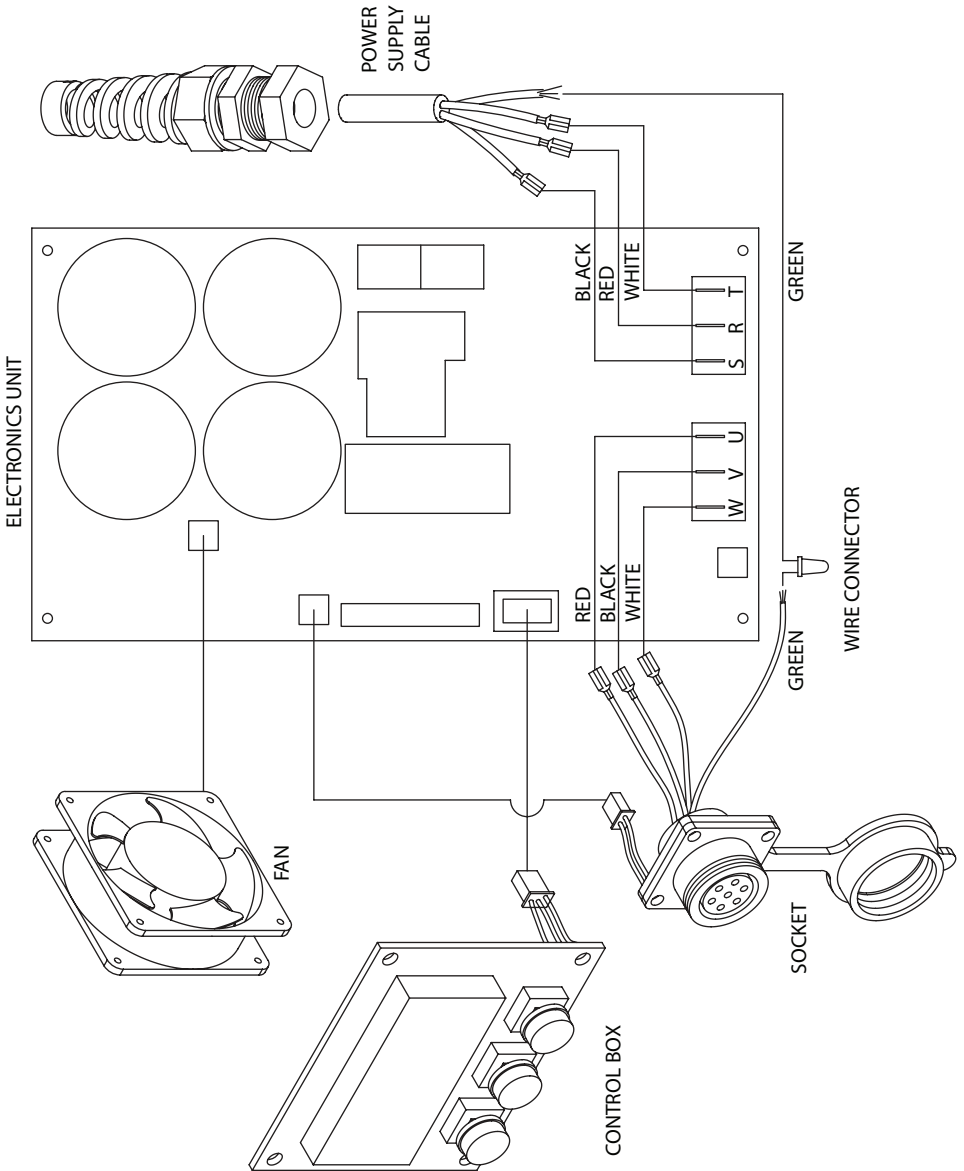
**If the replacement of the power supply cord is necessary, this has to be done by the manufacturer or their agent in order to avoid a safety hazard.**

**WARNING: All repairs must be entrusted to an authorized service center.** Incorrectly performed repairs could lead to injury or death.

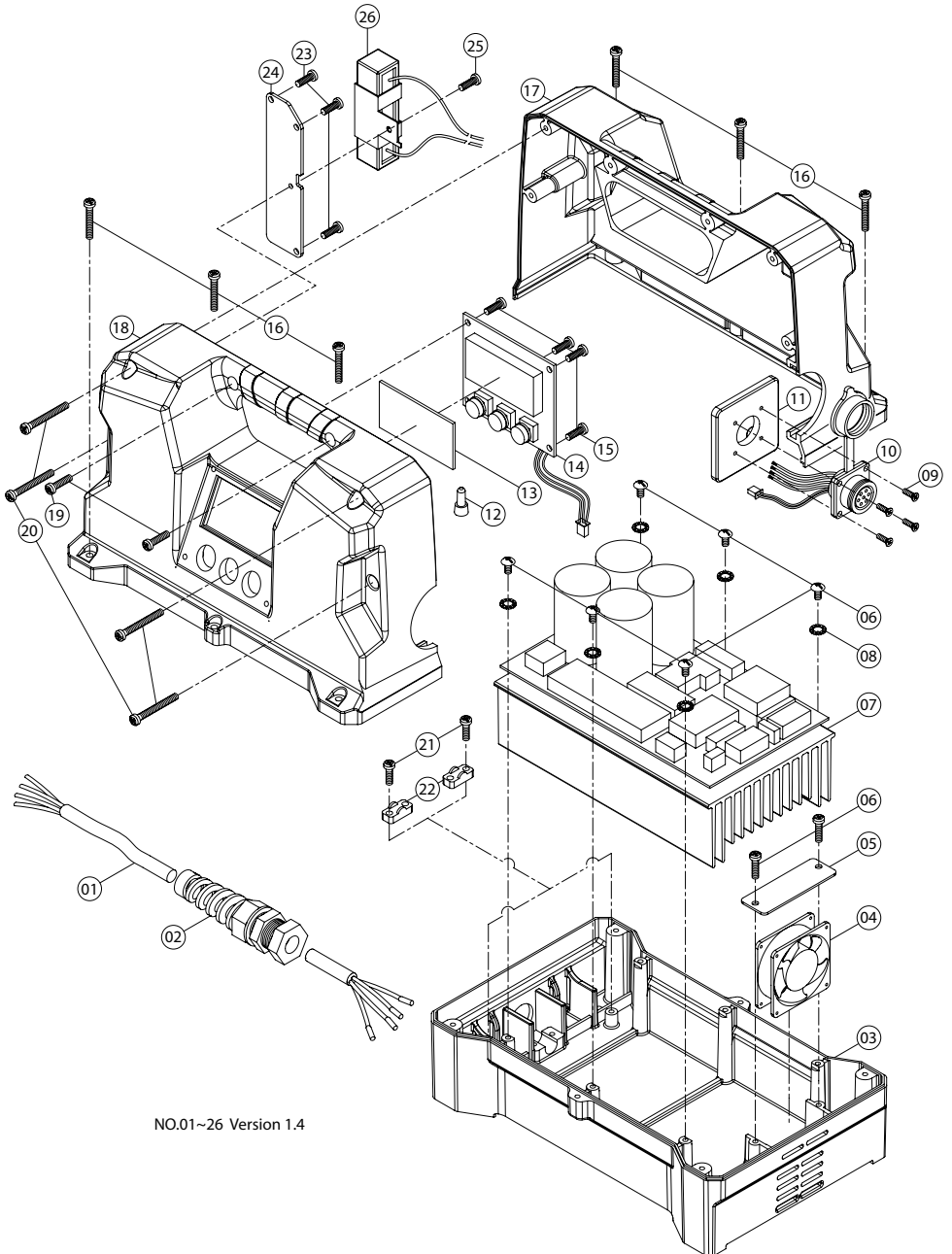




# WIRING



# EXPLODED VIEW



NO.01~26 Version 1.4

## PARTS LIST

NO.	Parts Name	QTY
1	POWER SUPPLY CABLE (NO PLUG-2.0x4Cx3.3M-VCT<PS>E)	1
1	POWER SUPPLY CABLE (VDE-1.5x3Cx3.5M-H07RNF)	1
2	CORD ARMOR	1
3	BASE	1
4	FAN UNIT	1
5	THRUST WASHER (65x22x1.5)	1
6	TRUSS HEAD TAPPING SCREW (M4x12)	8
7	ELECTRONICS UNIT	1
8	EXTERNAL STAR WASHER (M4)	6
9	PANHEAD TAPPING SCREW (M3x12)	4
10	SOCKET	1
11	SOCKET MOUNTING PLATE	1
12	CRIMP CAP CONNECTOR (C4)	1
13	WINDOW (65x35x1)	1
14	LCD DISPLAY	1
15	TRUSS HEAD TAPPING SCREW (M4x8)	4
16	PANHEAD TAPPING SCREW (M4x20)	6
17	HOUSING-LEFT	1
18	HOUSING-RIGHT	1
19	PANHEAD TAPPING SCREW (M4x16)	2
20	PANHEAD TAPPING SCREW (M4x35)	4
21	PANHEAD TAPPING SCREW (M4x14)	2
22	CABLE CLIP	2
23	PANHEAD TAPPING SCREW (M4x10)	3
24	THRUST WASHER (113x30.5)	1
25	PANHEAD MACHINE SCREW (M4x8xP0.7)	1
26	BRAKING RESISTOR	1

