



---

# MMA INVERTER WELDER

---

## Instruction Manual

# MMA 250



---

---

## CONTENTS

---

<b>GUARANTEE</b> .....	3
<b>INTRODUCTION</b> .....	3
<b>SAFETY PRECAUTIONS</b> .....	4
<b>TECHNICAL DATA</b> .....	5
<b>INSTALLATION</b> .....	6
Connection.....	6
Checking.....	7
<b>OPERATION</b> .....	7
Instructions.....	7
Duty Cycle.....	7
<b>CAUTION</b> .....	8
Working Environment.....	8
Safety Tips.....	8
<b>MAINTENANCE</b> .....	9
<b>TROUBLESHOOTING</b> .....	9
<b>WARRANTY</b> .....	10-11

## **GUARANTEE**

We give our unreserved guarantee that the Inverter Welding and Cutting Power Source series comply with IEC60974 international safety standard.  
Maintenance for one year since the date of purchase.

## **INTRODUCTION**

The introduction of the inverter welders is considered as a revolution in the welding industry. The features of the MMA series is: perfect functions and satisfying all kinds of welding needs, especially places requiring welding of high quality, e.g. pipes, boilers or vacuum compressing container.

1. Maintenance for the machine is one year, excluding other spare parts.
2. During the maintenance period, all maintenance is for free except intentional damage.
3. Customers are not allowed to unfold and refit or change the parts. Any damage caused to the machines is not the responsibility of Inverter Fusion Ltd.

## **SAFETY**

### **Caution**

- You may be faced with dangers during the course of welding, so please read the manuals carefully before commencing operation.
- Please use welding tools of high quality.
- Operators should be qualified for welding.

### **Electric-shock**

- Do not touch live electrical parts
- Check and be sure that the input power cable earth wire is properly connected to the earth in the mains input plug.

- Insulate yourself from work and ground using dry insulating mats or covers big enough to prevent any physical contact with the work or ground.

### **Smoke**

- Avoid a prolonged period in the smoke
- When welding, make sure you are in a well-ventilated area to avoid breathing in the smoke.

### **Arc-emission**

- Wear suitable welding mask and clothing to protect your eyes and skin.
- Use a suitable screen or curtain.
- The welding splash may cause fire, so ensure that there are no flammable things near to the work place.

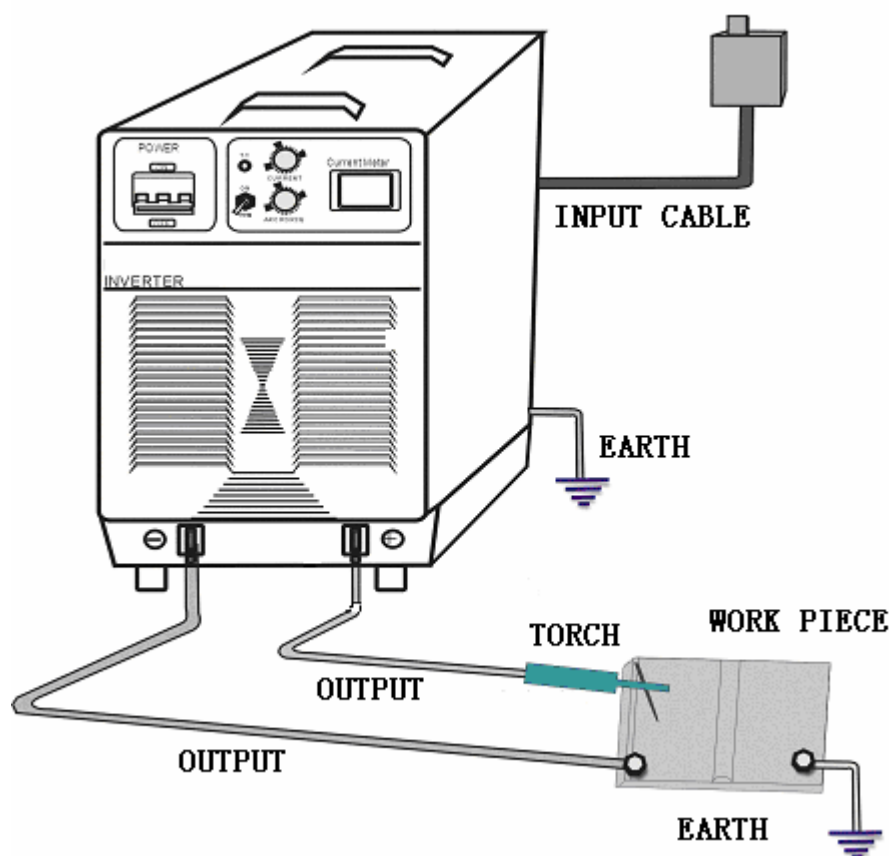
### **Noise**

- Use approved earplugs or earmuffs if noise level is high.
- Warn others nearby about noise hazard.

**TECHNICAL DATA**

<b>DATA</b>	<b>250 MMA</b>
<b>Input power voltage (V、Hz)</b>	Three phase AC380±10% 50/60
<b>Rated input current (A)</b>	15
<b>Rated output voltage (V)</b>	30
<b>Output current adjustment (A)</b>	20-250
<b>ARC force (A)</b>	0-100
<b>Duty cycle %</b>	60
<b>No-load voltage (V)</b>	54
<b>No-load loss (W)</b>	60
<b>Efficiency %</b>	85
<b>Power factor</b>	0.93
<b>Insulation class</b>	B
<b>Protection class</b>	IP21
<b>Weight (kg)</b>	15
<b>Size (mm)</b>	480 x 210 x 310

## INSTALLATION



### Connection of the power wires

- 1) The machine is equipped with primary power wire, according to the input voltage; please connect the primary wire to the suitable voltage class.
- 2) The primary wire should be connected to the corresponding socket to avoid oxidization.
- 3) Use multimetres to see whether the voltage value varies in the given range.

### Connection of output wires

- 1) Each welder has two sockets, connect the plug to the socket on the front panel, and tighten it and make sure that it is fully connected, or it may cause damage to both the plug and socket.
- 2) The electrode holder wire is connected to the positive terminal, while the work piece is connected to the negative terminal.
- 3) If the work piece is too far away from the machine (50-100m) and the secondary

wire is too long, the section of the cable should be bigger to reduce a decrease in the voltage in the cable.

### Checking

- 1) Whether the machine is connected to standard to earth.
- 2) Whether all the connections are fully connected.
- 3) Whether the output of the electrode holder and earth cable is short-circuited.
- 4) Whether the pole of the output is correct.
- 5) The welding splash may cause fire, so make sure there are no flammable materials nearby.

## OPERATION

### Operation instructions

1. Turn on the power switch, and the meter indicates the set current value, and the fan begins to spin.
2. According to practical need, adjust the “welding current knob” and “the arc-leading pulse knob” to the welding requirement.
3. Generally, the welding current of each wire is:  
**Φ2.5: 70-100A; Φ3.2: 110-160A;**  
**Φ4.0: 170-220A; Φ5.0: 230-280A.**
4. Place the switch on “OFF” when not use the remote control, or you cannot adjust the current on the panel board.

### Allowed duty cycle

1. Strictly work in conformity with the required duty cycle.
2. If work over duty cycle, the machine may suddenly stop working. That's the inner thermal parts work because of over-loading. In this circumstance, you do not need to cut off the power supply, leave the fan to lower the temperature. Generally, it will recover within 5 or 10 minutes.

## Working Environment

1. Under comparative dry environment, the moisture  $\leq 80\%$
2. The environment temperature should be between  $-10^{\circ}\text{C}$  and  $+40^{\circ}\text{C}$
3. Avoid working in the sun or rain
4. Avoid working in the environment where there is much dust or corrosive gas.

## Safety Tips

### 1) Good air circulation

This machine is small in size, and big in current output so the natural air circulation cannot satisfy its need, and we add special fans for cooling.

NOTE: make sure the two terminals and the vents are not blocked and covered, and the machine should be placed 0.3m away from the surroundings; please always improve the circulating condition, because it's very important for the normal working of the welding machine.

### 2) No over-load working

Over-loading is prohibited; otherwise the machine may stop suddenly during the welding. Under this circumstance, it is not necessary to cut the power, allow the fan to lower the temperature. Recovery of the machine will commence once the temperature has fallen.

### 3) No over-voltage

For the power voltage range of the machine see the Technical Data table on page 5. In the case of over voltage, the inner voltage will complement by itself, and guarantee the welding current will not surpass the allowed value. Please be more careful if the parts are damaged because of over-voltage.

### 4) Earth

Each machine has a screw for the earth connection, please choose a  $10\text{mm}^2$  cable to connect the case of the machine to its earth to avoid breakdown caused by static electricity or electricity-leaking.

### 5) Electric Shock

Do not touch the output terminal when working, or it may cause electric shock.



## **MAINTENANCE**

- 1) Clear the dust at regular intervals with clean and dry compressed air; if the working conditions have heavy smoke and pollution, the welding machine should be cleaned once a month.
  
- 2) Avoid water and rain. In the event of the welder getting wet check the connection between the case and the connection. Only when this is clear can you recommence the welding.
  
- 3) If the machine is not going to be used for a long time, put it into the original packing in dry conditions.

## **TROUBLESHOOTING**

If you have any problems in setting up or operating, please first consult this manual.

If you are still having difficulties after reading this manual, please contact Inverter Fusion Ltd direct.



## **PRODUCT WARRANTY**

**September 2010**

This limited warranty supersedes all previous Inverter Fusion Limited warranties and applies to sales of Inverter Fusion Limited equipment in the UK.

### **Warranty**

Subject to the following terms and conditions, Inverter Fusion Limited warrants to the original retail purchaser that new Inverter Fusion Limited equipment sold in the UK is free of defects in material and workmanship at the time of its despatch from Inverter Fusion Limited for the warranty period advertised for the product at the time of sale.

Within the warranty period as listed, Inverter Fusion Limited will repair or replace any warranted parts or components that fail due to such defects in material or workmanship, provided the warranty has been registered at the time of purchase.

Inverter Fusion Product Warranty shall not apply to:

- Consumable items and accessories supplied by Inverter Fusion Limited but manufactured by others. These items will be covered by the manufacturer's warranty, if any.
- Electrodes, contactors and relays.
- Equipment that has been modified or repaired in any way
- Equipment that has been improperly installed, misused, improperly operated, or used in a manner that does not comply with an industry standard.
- Equipment that has been used for a purpose outside the specifications for that equipment
- Equipment that has not been maintained in a condition that would make it suitable for use.
- Equipment which has been used in conjunction with parts or consumables which affect the equipment operation which are deemed by Inverter Fusion Ltd to be of inferior quality or no fit for that purpose

In the event of a valid warranty claim being made on any Inverter Fusion Limited product, the exclusive remedies shall be, at the discretion of Inverter Fusion Limited, either the repair or replacement of the product

To the extent permitted by Law, the remedies provided herein are the sole and exclusive remedies.

Inverter Fusion Limited liability under this warranty shall not exceed the cost of correcting

the defect. In no event shall Inverter Fusion Limited be liable for direct, indirect, special, incidental or consequential damages (including loss of profit), whether based on contract, tort, or any other legal theory.

Any express warranty not provided herein and any implied warranty, guarantee, or representation as to the performance, and any remedy for breach of contract, tort or any other legal theory which, but for this provision, might arise by implication, operation of Law, Custom of Trade, or course of dealing, including and implied warranty or merchantability for a particular purpose, with respect to any and all equipment furnished by Inverter Fusion Limited, is excluded and disclaimed by Inverter Fusion Limited.

### **Warranty Registration**

In order for any warranty to be valid, the Warranty Registration Card enclosed must be completed and returned at the time of purchase in order to register the warranty with Inverter Fusion Limited. Alternatively the warranty may be registered via the company's website [www.inverterfusion.com](http://www.inverterfusion.com)

### **Warranty Claims Procedure**

In the event of a claim, the claimant must first contact Inverter Fusion Limited for a warranty claim authorization number. Following this, the Warranty Claim form, as printed on the reverse side of this page should be completed with all the details as requested and forwarded to Inverter Fusion Limited at the address below along with the faulty product and a copy of the original purchase receipt. The claimant will be responsible for all carriage, insurance and transportation costs in returning the product to Inverter Fusion Limited.

Upon receipt and inspection of the product, if valid the product will be repaired or replaced at the discretion of Inverter Fusion Limited. In the event of a repair being required that is not considered to be a warranty issue, the claimant will be contacted for his further instruction.

Following the completion of any authorized warranty claim work, the product will be returned to the original claimant at the cost of Inverter Fusion Limited. (UK Customers Only)

Failure to comply with the above procedure could invalidate or delay the completion of any warranty work.

Improper use, abuse or any attempt to repair the product by an unauthorized third party will invalidate any warranty claim.

**Inverter Fusion Ltd  
Heathpark Way  
Heathpark Industrial Estate  
Honiton  
Devon EX14 1BB**