

TIG-A Series

MOSFET Inverter DC MMA TIG Welder

Operation Instructions

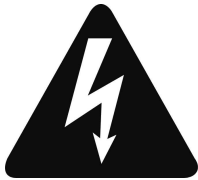
(Attention: please carefully read the operation instructions before use)

1. Safety warning



Warning

Welder's operation and maintenance will cause danger and injury, be careful!
Welder's operation and maintenance must be carried out by professional staff!



Electric shock

Electric shock is harmful to your health, and will cause death if seriously.
Wear dried protective suit, gloves, please don't touch the electrical parts of welder such as electrode and tungsten electrode. When move or maintain the welder, please power off first.



Gas and smog

The gas and smog which occur during arc welding or cutting is harmful to your health. Please ventilate during welding or install the dust and smog collector.



Arc radiation

Arc radiation will damage your eyes and burn your skin.
The operator should wear welding mask, filter glasses and protective suit.
Using suitable mask or shading screen to protect the stander-by against injury.



Fire and explosion protection

Welding spark may cause fire or explosion.
Confirm there is no inflammable and explosion goods near the welder, please pay attention to fire protection.
Please don't welding or cutting the container with inflammable goods.



Noise

Excessive noise is harmful to listening.
Arc welding/cutting will make a noise which exceed the safety range.
Use ear cover or other protector to protect your ears.
Warn the stander-by that noise will cause potential injury to his ears.

2. Summary

2.1 Main technical parameters

Table 1 Main technical parameters

Item		160A	200A	250A	300A	400A
Power voltage (V)		AC-220/230V±10%			AC-380/415V±10%	
Frequency (Hz)		50/60	50/60	50/60	50/60	50/60
Rated input current (A)	TIG	20.4/19.5	28/26.8	9.6/8.8	12.6/11.6	20/18.3
	MMA	32.8/31.5	43/41.7	14.4/13.2	18.5/16.9	27.6/25.3
No-load voltage (V)		56V	56V	54V	54V	60V
Current adjusting range (A)		10-160	10-200	10-250	10-300	10-400
Rated output voltage (V)	TIG	16.4	18	20	22	26
	MMA	26.4	28	30	32	36
Duty cycle (%)		60%	60%	60%	60	60
No-load power (W)		<50W	<50W	<60W	<60W	<100W
Arc starting of TIG		HF	HF	HF	HF	HF
Efficiency (%)		80%	80%	85%	85%	85%
Power factor		0.73	0.73	0.93	0.93	0.93
Insulation class		F	F	F	F	F
Shell protection class		IP21S	IP21S	IP21S	IP21S	IP21S
Overall dimension (mm)		371×153×232	371×153×232	515×205×355	515×205×355	565×306×432
Weight (Kg)		7.5	8	19	20	31

2.2 Product features

- 1) Adopting advance inverter technology, high working frequency, small in size, light in weight and portable;
- 2) One machine serves several purposes, which can be DC MMA Arc welding and TIG welding;
- 3) Three-ply board structure, durability and reliability, easy for maintenance;
- 4) Stable welding current, fast TIG spot welding, MMA welding thrust (TIG-250A/300A/400A) can be adjusted;

- 5) Network voltage compensation, strong ability against network voltage fluctuation, it can be normal work at $\pm 15\%$ network voltage fluctuation;
- 6) Efficient and energy-saving, which can save 20% energy compare traditional welders;
- 7) TIG welding which adopts high frequency arc starting and heat arc starting, excellent arc starting;
- 8) Good electric circuit with over voltage, over current and over heat protective function.

2.3 Working principle

First, transfer AC single phase 220/230V or three phase 380/415V rectifier filtering into 310V or 540V DC current, adopt PWM technique and convert it into 100KHz high frequency pulse AC power by MOSFET. Second, transfer it into DC current which meets the welding procedure requirement by depressurization, rectifier and filtering through high frequency transformer. Because the substantial increase in working frequency, the size and weight decrease significantly. Meanwhile, it also pick up the circuit control responsive speed and optimize the welding performance.

Owing to the building block pattern, several field effect transistors, main transformers and fast recovery diode parallel operate, which easy for systematization, disperse the heater parts, compact structure and easy to manufacture and maintain.

3. Installation

3.1 Installation environment

Please follow the below principle when install welder:

- 1) No moisture and dust environment;
- 2) The environmental pollution is third class;
- 3) No expose to sunshine or raining, shell protection class is IP21 and only for indoor using;
- 4) More than 300mm distance to wall for air flow and cooling;
- 5) Relative humidity: at $40\% \leq 50\%$; at $20^\circ\text{C} \leq 90\%$.

3.2 Choice of input cable (refer to table 2)

Table 2 Input power and power cable

Model	Size of input cable	Air switch or fuse	Input power (V/A)	
160A	Min 2.5mm ²	40A	1 Phase	220V/32.8A 230V/31.5A
200A	Min 2.5mm ²	60A	1 Phase	220V/43A 230V/41.7A
250A	Min 2.5mm ²	25A	3 Phase	380V/14.4A 415V/13.2A
300A	Min 2.5mm ²	25A	3 Phase	380V/18.5A 415V/16.9A
400A	Min 2.5mm ²	40A	3 Phase	380V/27.6A 415V/25.3A

3.3 Connection of input power cable



Input power cable of TIG160A/200A is single phase 220/230V and TIG250A/300A/400A is three phase 380/415V.

The grounding terminal of welder (at the back panel of welder) should connect to the yellow and green power wire. Please reliable grounding to ensure the welding worker's safety.

If connect TIG160A/200A wrongly to three phase power, the welder will be over voltage. Must power off and reconnect the power wire for normal using.

Connection between power wire and power switch or wiring terminal must be good to avoid damaging welder by poor contact.

3.4 Connection of output cable and air channel (As picture 1)

1) TIG welding connection

Torch cable—electric gas integrated output terminal (the second at left side facing the welder)

Work piece cable—output anode terminal (right side facing the welder)

Torch switch—two core aerial socket (the second at right side facing the welder)

Gas cylinder (or pipe)—argon gas meter—air pipe—gas inlet (back side of the welder)

2) MMA welding connection

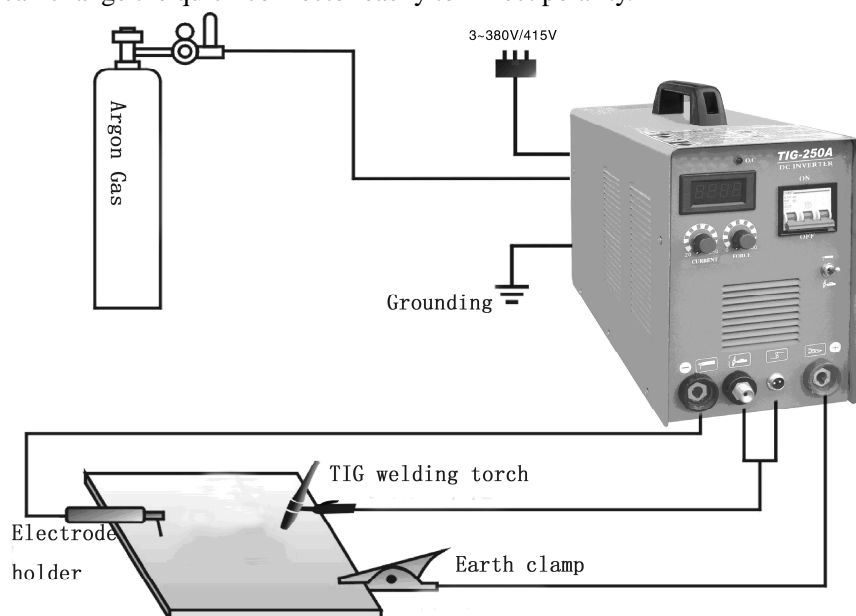
Negative method: Electrode holder cable—output cathode terminal (left side facing the welder)

Work piece cable—output anode terminal (right side facing the welder)

Opposition method: Work piece cable—output cathode terminal (left side facing the welder)

Electrode holder cable—output anode terminal (right side facing the welder)

Choose the negative or opposition method according to the performance requirement. If you choose the improper method, the arc will be unstable, big splashing and adhesive electrode, etc. If you meet these situations, you can change the quick connector easily to inflect polarity.





1. Screw the work piece cable, quick connector and earth clamp tightly to prevent burning.
2. After plug the quick connector into socket, it must be screwed tightly. Otherwise it will be heat of poor contact and will burn out the connector and output terminal.

4. Operation

After contact the power wire and air channel, the welder can be operated.

4.1 TIG Welding of TIG-160A/200A (As picture 2)

- 1) Turn on the power switch to 'ON' (the switch light on, and fan working);
- 2) Abnormal indicate light is off (at the middle upward side of welder's front panel);
- 3) Set the function switch to 'TIG' (up);
- 4) Set the post flow switch (below the abnormal indicator) to 2.5s or 5s;
- 5) Adjust the current potentiometer to the needed position (refer to the current adjusting range);
- 6) Open the argon gas valve and adjust the meter to needed flow rate;
- 7) Press the torch switch and check whether the gas output and high frequency is abnormal (High frequency discharge sound can be heard)
- 8) Place a 2-4mm distance between torch's tungsten electrode and work piece. Solenoid valve moves when the control button on the torch is pressed, then the high frequency discharge sound when arc starting will go out at once, and then start work.

4.2 MMA Welding of TIG-160A/200A (As picture 2)

- 1) Turn on the power switch to 'ON' (the switch light on, and fan working);
- 2) Abnormal indicate light is off (at the middle upward side of welder's front panel);
- 3) Set the function switch to 'MMA' (down);
- 4) Adjust the current potentiometer to the needed position (refer to the current adjusting range);
- 5) Choose the suitable electrode rod according to work piece's thickness, material and performance requirement;
- 6) Connect the earth clamp and put the electrode rod to electrode holder, then the user can start welding.

4.3 TIG Welding of TIG-250A/300A/400A (As picture 3)

- 1) Turn on the power switch to 'ON' (the digital meter light on, and fan working);
- 2) Abnormal indicate light is off (at the middle upward side of welder's front panel);
- 3) Set the function switch to 'TIG' (up);
- 4) Adjust the current potentiometer to the needed position (refer to the current adjusting range);
- 5) Open the argon gas valve and adjust the meter to needed flow rate;
- 6) Press the torch switch and check whether the gas output and high frequency is abnormal (High frequency discharge sound can be heard)
- 7) Place a 2-4mm distance between torch's tungsten electrode and work piece. Solenoid valve moves when the control button on the torch is pressed, then the high frequency discharge sound when arc starting will go out at once, and then start work.

4.4 MMA Welding of TIG-250A/300A/400A(As picture 3)

- 1) Turn on the power switch to 'ON' (the digital meter light on, and fan working);
- 2) Abnormal indicate light is off (at the middle upward side of welder's front panel);
- 3) Set the function switch to 'MMA'(down);
- 4) Adjust the current potentiometer to the needed position (refer to the current adjusting range);
- 5) Choose the suitable electrode rod according to work piece's thickness, material and performance requirement;
- 6) Connect the earth clamp and put the electrode rod to electrode holder, then the user can start welding.



Warning:

Never unplug any used cable or connector during welding, this will be harmful to personal safety and cause serious equipment damage.



Picture 2



Picture 3

5. Welding procedure

5.1 TIG Welding

5.1.1 Choice of tungsten electrode

Table 3 Choice of tungsten electrode

Electrode	At DC straight polarity
φ1.0	20~80A
φ1.6	50~160A
φ2.0	100~200A
φ3.0	200~300A
φ4.0	300~400A
φ5.0	420~520A
φ6.0	450~550A

- Tip:** (1) According to the thickness and material of work piece, please prepare enough size and quantity wearing parts, such as tungsten electrode, tungsten electrode clamp and nozzle.
- (2) The surface of tungsten should be smooth and there should be a little sharp at the terminal and good concentricity. It will be good high frequency arc leading, stable arc good welding performance and quality.

5.1.2 Choice of filler wire

Table 4 Choice of filler wire's diameter

Diameter of filler wire (mm)	DC current range (A)
1.6	20—90
2.4	65—115
3.2	100—165
4.8	200—350

Tip: The choice of wire depends on the material to be welded. Usually they are in same composition and properties.

5.1.3 DC TIG welding parameters

Table 5 DC TIG no filler wire welding parameters

Thickness (mm)	Diameter of tungsten electrode (mm)	Welding current (A)
0.5	1.0	35~40
0.8	1.0	35~50
1.0	1.6	40~70
1.5	1.6	50~85
2.0	2.0~2.5	50~130
3.0	2.5~3.0	120~150

Table 6 DC TIG filler wire welding parameter

Thickness (mm)	Diameter of tungsten electrode (mm)	Welding current (A)
0.5	1.0	30~50
0.8	1.0	30~50
1.0	1.6	35~60
1.5	1.6	45~80
2.0	2.0	75~120
3.0	2.0	110~140

5.2 MMA Welding

5.2.1 Relationship between electrode rod's diameter and work piece's thickness

Table 7 Electrode rod's diameter and work piece's thickness

Thickness (mm)	< 4	4-8	> 8-12	> 12
Diameter (ϕ mm)	≤ 3.5	$\Phi 3-4$	$\Phi 4-5$	$\Phi 5-6$

5.2.2 Relationship between electrode rod of flat welding and welding current

Table 8 Electrode rod of flat welding and welding current

Electrode rod	$\Phi 2.5$	$\Phi 3.2$	$\Phi 4.0$	$\Phi 5.0$
Welding current	70-100	110-140	170-220	230-280

5.2.3 Welding current of vertical welding, horizontal welding, overhead welding and fillet welding

The welding current of vertical welding, horizontal welding, overhead welding is 10-20% less than flat welding current. And welding current of fillet welding is 10-20% more than flat welding current. About alloy steel electrode rod, stainless steel electrode rod, because high resistance and coefficient of thermal expansion, if welding current is excessive, the electrode rod is easy to go glow and make the cover fall off. It will influence the welding performance. Thus the welding current should be decreased properly.

5.3 Problems possibly encountered in welding

The phenomena specified herein relate possibly to the fitting, gasses, environmental factor and power supply situation you use and work with. The improvement of environment is recommended so that the situation of this kind can be avoided.

5.3.1 TIG welding spot blackening

The situation represents that the welding spot is oxidized due to ineffective protection. The following examination can be carried out:

- 1) The argon bottle shall be confirmed if its valve is opened and the pressure is adequate. In the case that the pressure in the bottle is less than 0.5MPa, it is generally required to fill the argon bottle again.
- 2) Check if the argon gas is opened and the flow is adequate. To economize gas, the flow can be selected accordingly based on different welding current operating conditions. However, the undersized flow may result in inadequate shielding gas, thus the welding spot can not be wholly covered. We suggest that the flow of argon gas should not be less than 5L/min no matter how low the electric current is.
- 3) The simplest method for gas flow-out examination is to feel the muzzle of welding torch if there is gas flowing out (Don't contact electrode!) and the gas path of welding torch is blocked.
- 4) The unsealed gas path or the low gas purity may cause the problem of welding quality.
- 5) The strong air flow in environment is also likely to bring about the drop of welding quality.

5.3.2 Arc starting difficulty and easy arc breaking

1) TIG Welding:

Make sure that the tungsten electrode you use is good in quality. The discharging ability of inferior tungsten electrode may fail to reach the requirement;

MMA Welding:

Make sure that the electrode rod you use is good in quality. The discharging ability of inferior electrode rod may fail to reach the high quality welding requirement;

2) TIG Welding:

The tungsten electrode not processed by tagging can also bring about an uneasy arc strike and result in an instable arc.

MMA Welding:

The electrode rod not processed by drying can also bring about an uneasy arc strike and result in an instable arc. It will increase the welding defect and make poor quality welding.

3) Using extended cable

TIG Welding:

The extended cable will attenuate the high frequency and make arc starting difficult. Please shorten the cable's length as far as possible.

MMA Welding:

It will decrease the output terminal's voltage too much. Please shorten the cable's length as far as possible.

5.3.3 Current can't keep stable during welding

The situation relates likely to the following factors:

- 1) Network voltage fluctuation is wide or connection of power wire and air switch is not good.
- 2) Not screw the torch cable or ground wire's connector tightly or it has been broken down.
- 3) Welder's output terminal has broken down or it isn't well contact with internal wiring.
- 4) The torch cable burn out inside.
- 5) Poor contact of tungsten electrode or tungsten electrode clamp, or it has broken down.
- 6) Severe disturbance comes from power network or other electric equipment.

6. Welder safety note

The TIG welder is equipped with over voltage, over current and overheats protection circuits. When the power network voltage, current output and inner temperature exceed the set values, the welder will stop working automatically. However, the overuse (e.g. too high of the voltage) may cause damage to the welder. Therefore, please pay attention to the following notes.

6.1 Ensure good ventilation

When the welder is working, there is high current through. Transformer, reactor, inverter, rectifier, etc. will discharge lots of heat. There must use fan cooling down the welder efficiently to keep stable operation.

The user shall verify that the ventilation port is not covered or blocked and the distance between the welder and the objects around is not less than 0.3 meters. The user should keep good ventilation all the while, which is important for providing a better operation and longer service life to the welder.

6.2 No overloading

The operator shall remember to observe the maximal permissible load current (relating to the optional load duration factor) at any moment to keep the welding current not exceed the maximal permissible load current. Current overload would evidently shorten welder's service life, even possibly burn out the welder. If welder exceeds the standard duty cycle during operating, it may be into protected mode, stop working and the red indicator in the front panel lights up. It means the welder that exceeding the standard duty cycle, excessive heating cause over heating protection. In this situation, please don't unplug the power socket and allow the fan keep working to cooling the welder. When the red indicator goes out and the temperature galls to the standard range, user can restarting welding. (If the red indicator is still on, it means over current protection and should be repaired.)

6.3 No over voltage or under voltage

The power voltage is listed in the 'main technical parameters' table. Generally, welder's automatic voltage compensation circuit will ensure the current within the allowable range. If the power voltage exceeds the allowable value, it will break down the welder. The user should fully aware the situation and take corresponding protective measures.

6.4 Shell reliable grounding

There is a grounding screw and grounding sign on the back of each welder. Select a cable whose section area is greater than 6mm^2 before using. Reliable ground the welder's shell to release static electricity or prevent the possible accident caused by electric leakage.

7. Maintenance

- 1) Remove the dust with dry and clean compressed air every three month.



If the welder is used in the smoke and serious air pollution environment, it should remove dust everyday.

The pressure of the compressed air should in a reasonable range to avoid damaging the small device inside welder.

- 2) Regular check welder's internal line connection

Confirm the lines are correctly connected and connectors are firmly tightened (especially for the insert connectors or components). If there is rusting or getting loose, the user should remove the rustiness cover or oxidation firm by sand paper, then reconnect and tighten them.

- 3) Avoid water or water vapor into welder

If the situation happens, a drying process should de done. Then, use the megohm meter to measure welder's insulation (including insulation between joints, between joints and shell). Continue to welding only there is no abnormality.

- 4) If you don't use the welder for a long time, please place the welder back to the original package and store it in a dry environment.

8. Trouble shooting



The operations below request the operator to have adequate professional electric knowledge and general safety common sense. Operator should have effective qualifications to indicate his ability and knowledge.

TIG-160A, TIG-200A

Fault symptom	Measures
1. Power indicator is not on, fan is not running, and there is no welding output	<ol style="list-style-type: none"> 1. Power switch is damaged. 2. Confirm if the power network to which the input cable is connected is electrified. 3. Confirm if the input cable line has a disconnection.
2. The power on/off indicator is on, the fan is not rotating or stops after rotating a few cycles, and there is no welding output.	<ol style="list-style-type: none"> 1. Wrong connection to the 380/415V power supply may enable the over-voltage protection circuit. It shall be connected to the 220/230V power supply instead and restart the machine. 2. The 220/230V power is unsteady (due to the thin or over length of input line) or the input line is overlapped on the electric network, which enables over-voltage protection circuit. It is required to increase the linear diameter of electric network input line or tighten the node of input line, by doing so, it will be restorable by restarting the machine 2-3 minutes after the shutdown. 3. The continuous switching on and off of power in a short period of time is carried out, which enables the over-voltage protection circuit start. It is required to restart 2-3 minutes after the shutdown. 4. The wire from switch to power panel gets loose. It is required to tighten again. 5. The 24V relay in the major loop of power panel is not closed or damaged. It is required to examine the 24V power supply and the relay. If damaged, the replace relay with other circuit breaker of the same model.
3. The fan is rotating, abnormal indicator light is off, no high frequency discharge with “sha sha” noise, no arc striking effective.	<ol style="list-style-type: none"> 1. The voltage of the positive and negative polarity of the VH-07 inserter from the power panel of multimeter to the MOS board shall be DC308V around. <ol style="list-style-type: none"> 1) Check if the silicon bridging plug wire is disconnected or poorly contacted. 2) The large electrolytic capacitor (470UF/450V around) on power panel has creepage, just replace it. 2. There is one green indicator for the auxiliary power source on control board. In the case that the indicator is not on, the auxiliary power source is not functioning. Find the fault point. 3. Examine the connection lines inside the machine for contact. 4. It may be the control circuit problem, find the causes or contact the dealer. 5. The control line on the welding torch is broken.

<p>4. Abnormal indicator light is off, no high frequency discharge with “sha sha” noise, and there is no welding output.</p>	<ol style="list-style-type: none"> 1. The welding torch cable is broken. 2. Broken ground wire not connected to the welding work piece. 3. Coming-off or looseness of the connection between anode output terminal or gas-power output terminal of the welding torch and the internal of the machine.
<p>5. Abnormal indicator light is off, no high frequency discharge with “sha sha” noise, arc striking effective..</p>	<ol style="list-style-type: none"> 1. Poor contact between the primary wire of arcing transformer and the power panel. It is required to re-tighten. 2. The discharge nozzle is oxidized or the gap is big. Remove the oxidation film of the nozzle or adjust the gap to about 1mm. 3. Manual weld/argon weld interchange switch damaged, replace it. 4. One or two components of the high frequency arcing circuit are damaged. Find it out and replace it.
<p>6. The abnormal indicator is on and there is no output.</p>	<ol style="list-style-type: none"> 1. Possible activation of current overflow protection; turn off the machine, wait for the abnormal indicator light to turn off and restart the machine. 2. Possible activation of overheat protection; do not turn off the machine, just wait for 2 or 3 minutes, it will return to normal automatically. 3. Possible failure of the inverter circuit. Pull out the power plug of the main transformer on the MOS panel (near the ventilation fan VH-70), then restart: <ol style="list-style-type: none"> 1) If the abnormal indicator light is still on, switch off the machine and pull out the power plug of the HF arc strike (near the ventilation fan VH-03 plug-in unit), then restart: <ol style="list-style-type: none"> a. If the abnormal indicator light is still on, it means individual effect tube on the MOS panel is damaged; find it and replace with the same. b. If the abnormal indicator light is off, it means the problem is on the arc strike panel, the voltage boost transformer is damaged, replace it. 2) If the abnormal indicator light is off: <ol style="list-style-type: none"> a. It means the middle plate transformer is possibly damaged, Use a bridge to measure the primary inductance and Q value of the main transformer. $L = 0.9-1.6mH$, $Q > 35$. If the inductance and Q value are both small, replace it. b. Possible break down of individual rectifier diode of transformer. Check and replace it with similar diode. 4. Possibly a break in the reactive circuit.
<p>7. In the process of welding, the current output is unsteady or free from potentiometer control and the electric current varies constantly.</p>	<ol style="list-style-type: none"> 1. 1K potentiometer is disabled. It is required to change. 2. Different kinds of joints are poorly contacted, especially for connectors. They are required to be examined.
<p>8. There is a large splash for the manual electric arc welding, and it is hard to burn basic electrodes.</p>	<p>The polarity is connected wrongly. It is required to exchange the polarities between the ground wire and the handhold wire.</p>

TIG-250A/300A/400A

Trouble	Trouble Eliminating
<p>1. The fan is not rotating, the digital meter has no display, and there is no welding output.</p>	<ol style="list-style-type: none"> 1. It is required to confirm that the air switch is in good condition or close. 2. It is required to confirm that the electric network to which the input cable is connected is powered on. 3. The thermistor (four in number) on the power panel is damaged (this is generally caused by the non-closing of DC24V relay or poor contact of contacts). 4. Something wrong with the power panel (base plate), no DC537V voltage output. <ol style="list-style-type: none"> 1) The silicon bridge is disconnected, and the silicon bridging plug wire is in a poor contact condition. 2) There is a charred or burned-out place on the power panel. 3) The patch cords from the air switch to the power panel as well as from the power panel to the MOS board (inversion board) shall be examined to be in a good contact condition. 5. Something wrong with the portion of auxiliary power source on the control panel.
<p>2. The fan is rotating, the abnormal indicator is not bright, there is no whisper sound of high frequency discharge, and the arc starting can not be carried out when struck</p>	<ol style="list-style-type: none"> 1. It is required to examine the poor contact of different kinds of patch cords in machine. 2. In the case of control circuit problem, it is required to find causes or contact the dealer. 3. The control line of welding torch is disconnected.
<p>3. The abnormal indicator is not bright, there is a whisper sound of high frequency discharge, and there is no welding output</p>	<ol style="list-style-type: none"> 1. The cable of welding torch is disconnected. 2. The ground wire is disconnected or not connected to the welding piece. 3. It gets loose at the built-in joint between the machine and the anode lead-out terminal or welding torch pneumoelectric lead-out terminal.
<p>4. The abnormal Indicator is not bright, there is no whisper sound of high frequency discharge, and the arc starting can be carried out when struck.</p>	<ol style="list-style-type: none"> 1. Poor contact between the primary cable of arc strike transformer and the power panel, retighten it. 2. Discharge nozzle oxidized or the gap too wide. Remove the oxide film on the nozzle or adjust the gap to 1mm. 3. Manual weld/argon weld interchange switch damaged, replace it. 4. Certain parts of the HF arc strike circuit damaged; find and replace them.

<p>5. The abnormal indicator is on and there is no output.</p>	<ol style="list-style-type: none"> 1. Possible activation of current overflow protection; turn off the machine, wait for the abnormal indicator light to turn off and restart the machine 2. Possible activation of overheat protection; do not turn off the machine, just wait for 2 or 3 minutes, it will return to normal automatically. 3. Possible failure of the inverter or arc strike panel: <ul style="list-style-type: none"> If it is the failure of dual inverter, pull out one of the power plugs on the inverter (near the panel-07 plug-in unit), then restart: If the abnormal indicator is off, it is the failure on this inverter, or otherwise, on the other inverter. After that failures of the machine with single or dual inverter can be removed in the same way. <ol style="list-style-type: none"> 1) If the abnormal indicator light is still on, switch off the machine and pull out the power plug of the arc strike (near the ventilation fan VH-03 plug-in unit), then restart: <ol style="list-style-type: none"> a. If the abnormal indicator light is still on, it means individual effect tube on the MOS panel is damaged; find it and replace with the same. b. If the abnormal indicator light is off, it means the problem is on the arc strike panel, the voltage boost transformer is damaged, replace it. 2) Plug the power line It is required to plug in the electric power supply of the fault inverter with the power line of main transformer not being plugged in, and then restart the machine again. <ol style="list-style-type: none"> a. If the abnormal indicator light is off, it means the problem is on the middle plate, the middle plate transformer is possibly damaged, Use a bridge to measure the primary inductance and Q value of the main transformer. The primary inductance and Q value of main transformer TIG-250: L=1.2-1.6mH Q>35 The primary inductance and Q value of main transformer TIG-400: L=1.2-2.0mH Q>35 b. Possible break down of individual rectifier diode of middle plate. Check and replace it with similar rectifying diode. 4. Possibly a break in the reactive circuit.
<p>6. The welding current is not large enough, and the current regulation is out of control</p>	<ol style="list-style-type: none"> 1. The secondary wire is too long or too thin. Try to reduce the length or increase the cross-sectional area of the secondary wire as much as possible. 2. If there is a remote control device, it may be in a remote control state. 3. Possible damage to the current regulation potentiometer.