

# INVERTEC<sup>®</sup> CC400-S/-S PLUS

For use with machine Part Number K60060-1, Code 76115 [INVERTEC CC 400-S /](#)  
K60060-3, Code 76135 [INVERTEC CC 400-S Plus](#)

## Safety Depends on You

Lincoln arc welding and cutting equipment is designed and built with safety in mind. However, your overall safety can be increased by proper installation and thoughtful operation on your part. **DO NOT INSTALL, OPERATE OR REPAIR THIS EQUIPMENT WITHOUT READING THIS MANUAL AND THE SAFETY PRECAUTIONS CONTAINED THROUGHOUT.**

And, most importantly, think before you act and be careful.



## OPERATOR'S MANUAL



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• World's Leader in Welding and Cutting •  
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**Thank you** for selecting QUALITY Lincoln Electric products.

- Please examine the packaging and equipment for damage. Claims for material damaged in shipment must be notified immediately to the authorized dealer from whom you purchased the machine.
- For future reference, please record your equipment identification information in the table below. Model Name, Code & Serial Number can be found on the machine rating plate.

Model Name	
<input type="checkbox"/> Invertec® CC400-S	<input type="checkbox"/> Invertec® CC400-S PLUS
Code & Serial number	
Date & Where Purchased	
<b>Authorized dealer's shop</b>	

Declaration of conformity

**THE SHANGHAI LINCOLN ELECTRIC COMPANY**



Designed in conformance with the following norm:

**GB15579.1**  
**EN 60974-1**

**⚠ WARNING**

**ARC WELDING CAN BE HAZARDOUS. PROTECT YOURSELF AND OTHERS FROM POSSIBLE SERIOUS INJURY OR DEATH. KEEP CHILDREN AWAY. PACEMAKER WEARERS SHOULD CONSULT WITH THEIR DOCTOR BEFORE OPERATING.**

**BE SURE THAT ALL INSTALLATION, OPERATION, MAINTENANCE AND REPAIR PROCEDURES ARE PERFORMED ONLY BY QUALIFIED INDIVIDUALS.**



**ELECTRIC AND MAGNETIC FIELDS may be dangerous.**

- 1.a Electric current flowing through any conductor causes localized Electric and Magnetic Field (EMF). Welding current creates EMF fields around welding cables and welding machines.
- 1.b EMF fields may interfere with some pacemakers, and welders having a pacemaker should consult their physician before welding.
- 1.c All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:
  - 1.d.1 Route the electrode and work cables together – Secure them with tape when possible.
  - 1.d.2 Never coil the electrode lead around your body.
  - 1.d.3 Do not place your body between the electrode and work cables. If the electrode cable is on your right side, the work cable should also be on your right side.
  - 1.d.4 Connect the work cable to the workpiece as close as possible to the area being welded.



**ELECTRIC SHOCK can kill.**

- 3.a The electrode and work (or ground) circuits are electrically “hot” when the welder is on. Do not touch these “hot” parts with your bare skin or wet clothing. Wear dry, hole-free gloves to insulate hand.
- 3.b Insulate yourself from work and ground using dry insulation. Make certain the insulation is large enough to cover your full area of physical contact with work and ground.

**In addition to the normal safety precautions, if welding must be performed under electrically hazardous conditions (in damp locations or while wearing wet clothing; on metal structures such as floors, grating or scaffolds; when in cramped positions such as sitting, kneeling or lying, if there is a high risk of unavoidable or accidental contact with the workpiece or ground) use the following equipment:**

- **Semiautomatic DC Constant Voltage (Wire) Welder.**
- **DC Manual (Stick) Welder.**
- **AC Welder with Reduced Voltage Control.**
- 3.c In semiautomatic or automatic wire welding, the electrode, electrode reel, welding head, nozzle or semiautomatic welding gun are also electrically “hot”.
- 3.d Always be sure the work cable makes a good electrical connection with the metal being welded. The connection should be as close as possible to the area being welded.
- 3.e Ground the work or metal to be welded to a good electrical (earth) ground.
- 3.f Maintain the electrode holder, work clamp, welding cable and welding machine in good, safe operating condition. Replace damaged insulation.
- 3.g Never dip the electrode in water for cooling.
- 3.h Never simultaneously touch electrically “hot” parts of electrode holder to two welders because voltage between the two can be total of the open circuit voltage of both welders.



**ARC RAYS can burn.**

- 2.a Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc. Headshield and filter lens should conform to ANSI Z87. 1 standards.
- 2.b Use suitable clothing made from durable flame-resistant material to protect your skin and that of your helpers from the arc rays.
- 2.c Protect other nearby personnel with suitable, non-flammable screening and/or warn them not to watch the arc nor expose themselves to the arc rays or to hot spatter or metal.



### FUMES AND GASES can be dangerous.

- 4.a Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. When welding, keep your head out of fume. Use enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone. **When welding with electrodes which require special ventilation such as stainless or hard facing (see instructions on container or MSDS) or on lead or cadmium plated steel and other metals or coatings which produce highly toxic fumes, keep exposure as low as possible and below Threshold Limit Values (TLV) using local exhaust or mechanical ventilation. In confined spaces or in some circumstances, outdoors, a respirator may be required. Additional precautions are also required when welding on galvanized steel.**
- 4.b Do not weld in locations near chlorinated hydrocarbon vapors coming from degreasing, cleaning or spraying operations. The heat and rays or the arc can react with solvent vapors to form phosgene, a highly toxic gas, and other irritating products.
- 4.c Shielding gases used for arc welding can displace air and cause injury or death. Always use enough ventilation, especially in confined areas, to insure breathing air is safe.
- 4.d Read and understand the manufacturer's instructions for this equipment and the consumables to be used, including the material safety data sheet (MSDS) and follow your employer's safety practices. MSDS forms are available from your welding distributor or from the manufacturer.



### FOR ELECTRICALLY powered equipment.

- 5.a Turn off input power using the disconnect switch at the fuse box before working on the equipment.
- 5.b Install equipment in accordance with the national standard, all local standards and the manufacturer's recommendations.
- 5.c Ground the equipment in accordance with the national standards and the manufacturer's recommendations.



### WELDING SPARKS can cause fire or explosion.

- 6.a Remove fire hazards from the welding area. If this is not possible, cover them to prevent the welding sparks from starting a fire. Remember that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas. Avoid welding near hydraulic lines. Have a fire extinguisher readily available.
- 6.b When not welding, make certain no part of the electrode circuit is touching the work or ground. Accidental contact can cause overheating and create a fire hazard.
- 6.c Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to insure that such procedures will not cause flammable or toxic vapors from substances inside. They can cause an explosion even though they have been "cleaned".
- 6.d Sparks and spatter are thrown from the welding arc. Wear oil free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes and a cap over your hair.



### CYLINDER may explode if damaged.

- 7.a Use only compressed gas cylinders containing the correct shielding gas for the process used and properly operating regulators designed for the gas and pressure used. All hoses, fittings, etc. should be suitable for the application and maintained in good condition.
- 7.b Always keep cylinders in an upright position securely chained to an undercarriage or fixed support.
- 7.c Cylinder should be located:
  - Away from areas where they may be struck or subjected to physical damage.
  - A safe distance from arc welding or cutting operations and any other source of heat, sparks, or flame.
- 7.d Never allow the electrode, electrode holder or any other electrically "hot" parts to touch a cylinder.
- 7.e Keep your head and face away from the cylinder valve outlet when opening the cylinder valve.
- 7.f Valve protection caps should always be in place and hand tight except when the cylinder is in use or connected for use.

## TECHNICAL SPECIFICATIONS – INVERTEC® CC400-S/-S PLUS

INPUT – THREE PHASE ONLY		
INVERTEC® CC400-S/-S PLUS	<u>Standard Voltage/Phase/Frequency</u> 380V ~ 415V(±10%)/3/50 or 60 Hz	<u>Input Power at Rated Output</u> 17KW @ 60% Duty Cycle

RATED OUTPUT – DC ONLY			
INVERTEC® CC400-S/-S PLUS	<u>Duty Cycle</u> 60% 100%	<u>Amperes</u> 400A 310A	<u>Volts at Rated Amperes</u> 36V 32.4V

OUTPUT			
INVERTEC® CC400-S/-S PLUS	<u>Welding Current Range</u> 10A ~ 400A	<u>Open Circuit Voltage</u> 68V @380V Input 73V @415V Input	<u>Welding Voltage Range</u> 20.2 V ~ 36V

RECOMMENDED INPUT WIRE AND FUSE SIZES						
INVERTEC® CC400-S/-S PLUS	<u>Input Voltage/Frequency (Hz)</u> 380/415V	<u>Maximum Input Ampere</u> 38/30A	<u>Maximum Effective Supply Current</u> 29/23A	<u>60°C Copper Wire in Conduct Sizes</u> 6mm <sup>2</sup>	<u>Fuse or Breaker Size (Super Lag)</u> 40A	<u>Grounding Conductor Size</u> 4mm <sup>2</sup>

PHYSICAL DIMENSIONS				
INVERTEC® CC400-S	<u>Height</u> 480mm	<u>Width</u> 350mm	<u>Depth</u> 730mm	<u>Weight</u> 32Kg
INVERTEC® CC400-S PLUS				36Kg

Temperature Range	
<u>Operating Temperature Range</u> -10°C ~ +40°C	<u>Storage Temperature Range</u> -25°C ~ +55°C

For any maintenance or repair operation it is recommended to contact the nearest technical service center or directly consult machine division of the Shanghai Lincoln Electric. Maintenance or repairs performed by unauthorized service center or personnel will void the manufacturer's warranty.

## SAFETY PRECAUTIONS

Read the entire installation section before starting installation.

### WARNING



- ELECTRIC SHOCK can kill.**
- Only qualified personnel should perform this installation.
  - Turn the input power OFF at the main switch or fuse box before working on this equipment. Turn

off the input power to any other equipment connected to the welding system at the main switch or fuse box before working on the equipment.

- Do not touch electrically “Hot” parts.
- Always connect the INVERTEC® grounding lug (located at the rear of the case) to a proper safety (Earth) ground. INVERTEC® is for use on a 4 wire system with earthed neutral.

## SELECT SUITABLE LOCATION

This power source should not be subjected to falling water, nor should any parts of it be submerged in water. Doing so may cause improper operation as well as pose a safety hazard. The best practice is to keep the machine in a dry, sheltered area.

### CAUTION

The bottom of machine must always be placed on a firm, secure, level surface. There is a danger of the machine toppling over if this precaution is not taken.

Place the welder where clean cooling air can freely circulate in through the back louvers and out through the case sides. Water, dirt, dust or any foreign material that can be drawn into the welder should be kept to a minimum. Failure to observe these precautions can result in excessive operating temperatures and nuisance shutdowns.

Locate the INVERTEC® machine away from radio controlled machinery. Normal operation of the welder may adversely affect the operation of RF controlled equipment, which may result in bodily injury or damage to the equipment.

## INPUT POWER AND GROUNDING CONNECTION

### WARNING

Only a qualified electrician should connect the input leads to the INVERTEC®. Connections should be made in accordance with the connection diagram. Failure to do so may result in bodily injury or death.

Open the input box on the rear of the case. Use a three-phase supply line, the three live wires should go through the three holes of the input wire holder and be securely clamped and fixed. Connect L1, L2, L3 and ground according to the Input Supply Connection Diagram decal,

refer to Figure A.1 on this page.

Make sure the amount of power available from the input connection is adequate for normal operation of the machine. Refer to the Technical Specifications at the beginning of this Installation section for recommended fuse and wire sizes. Fuse the input circuit with the recommended super lug fuse or delay type breakers. Using fuses or circuit breakers smaller than recommended may result in “nuisance” shut-offs from welder inrush currents, even if the machine is not being used at high currents.

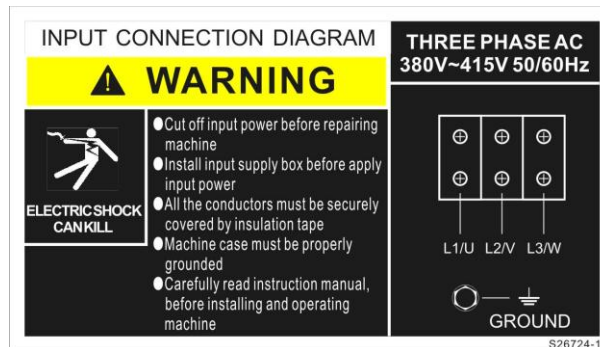


FIGURE A.1

## CABLE CONNECTIONS

Connect a couple of electrode and work leads with sufficient size between the proper output studs on the power source and the electrode or the work. Be sure the connection to the work makes tight metal to metal electrical contact. Poor work lead connections can result in poor welding performance.

To avoid interference problems with other equipment and to achieve the best possible operation, route all cables directly to the electrode and the work. Avoid excessive lengths and do not coil excess cable.

Cable sizes are increased for greater lengths primarily for the purpose of minimizing cable drop.

Minimum work and electrode cable sizes are as follows:

TABLE A.1

Current (60% Duty Cycle)	Minimum Copper Work Cable Size
200A	Up To 30m Length 30 mm <sup>2</sup>
300A	50 mm <sup>2</sup>
400A	70 mm <sup>2</sup>

Note: The recommended cable size may need to change depending on its quality. When the rated current flow goes through, the total voltage drop on ground cable and electrode cable must not exceed 4 volts.

**SAFETY PRECAUTIONS**

Read this entire section of operating instructions before operating the machine.

**WARNING**



**ELECTRIC SHOCK** can kill.

- Do not touch electrically live parts or electrode with skin or wet clothing.
- Insulate yourself from work and ground.

- Always wear dry insulating gloves.



**FUMES AND GASES** can be dangerous.

- Keep your head out of fumes.
- Use ventilation or exhaust to remove fumes from breathing zone.



**WELDING SPARKS** can cause fire or explosion.

- Keep flammable material away.
- Do not weld on closed containers.



**ARC RAYS** can burn eyes and skin.

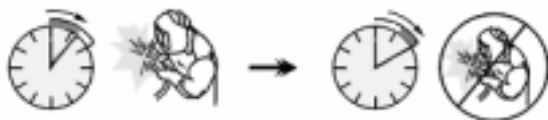
- Wear eye, ear and body protection.

PLEASE SEE ADDITIONAL WARNING INFORMATION AT THE FRONT OF THIS OPERATOR'S MANUAL.

**DUTY CYCLE**

The duty cycle of a welding machine is the percentage of time in a 10 minute cycle at which the welder can operate the machine at rated welding current.

60% duty cycle:



Weld for 6 minutes

Break for 4 minutes

Excessive extension of the duty cycle will maybe cause the thermal protection circuit to activate.

**THERMAL PROTECTION**

The INVERTEC<sup>®</sup> machine is equipped with a thermal protection device. When the machine has gone into thermal overload, the output will be turned off and the thermal indicator light will be turned "ON". When the machine has cooled to a safe temperature, the Thermal

Indicator Light will go out and the machine may resume normal operation.

**Note:**

The machine's welding output will be available after a thermal protection shutdown.

**GENERAL DESCRIPTION**

The INVERTEC CC400-S/-S PLUS is a 400A arc welding power source that utilizes three phases input power, to produce constant current output. The welding response of this INVERTEC has been optimized for stick (SMAW) and TIG (GTAW).

**OPERATIONAL FEATURES AND CONTROLS**

FRONT PANEL (SEE FIGURE B.1)

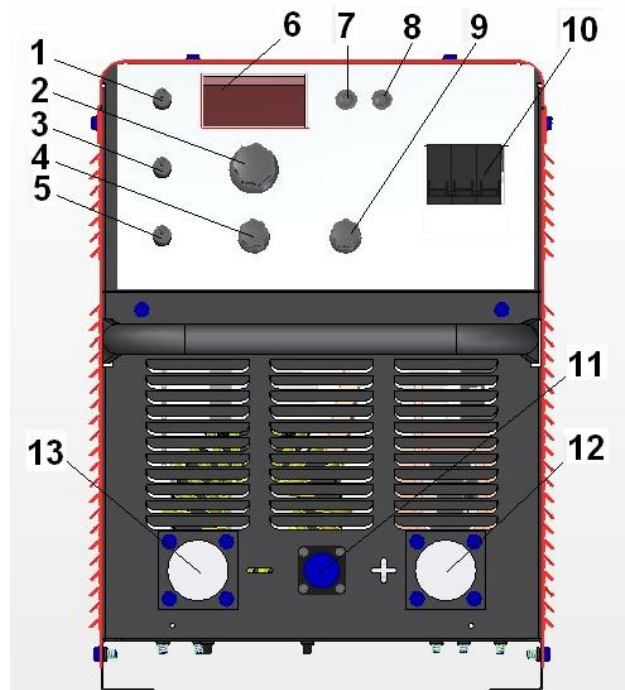


FIGURE B.1

**1. A/V DISPLAY SWITCH**

When the switch is in position "A" the meter will indicate preset current or actual output current; When the switch is in position "V" the meter will indicate actual output voltage.

**2. CURRENT CONTROL POT**

This controls the output current. This control may be adjusted while under load to change power source output. When using remote control this function becomes disabled.

**3. LOCAL/REMOTE SWITCH**

INVERTEC<sup>®</sup> CC400-S/-S PLUS





Place in the “LOCAL” position to allow output adjustment at the machine. Place in the “REMOTE” position to allow output adjustment at remote pot or amptrol.

**Note:**

The switch is unavailable on CC400-S machine.

**4. HOT START POT**

Controls the amount of starting energy in stick mode. The hot start can be either turned on or off. When on, it provides a striking current at 150% of the set current or 400A whichever is larger then quickly reverts to the set current in 0.5S.

**5. STICK/TIG SWITCH**

Stick mode for all stick welding. Output energized when machine is on.

TIG mode for touch start use. Short circuit current is limited to approximately 20A to aid in touch starting.

Mode	LOCAL/REMOTE SWITCH	DIP SWITCH 1	OUTPUT
Stick	LOCAL & REMOTE	OFF(DOWN)	ENERGIZED
Stick	REMOTE	ON(UP)	CONTROL BY REMOTE SWITCH
TIG	LOCAL & REMOTE	OFF(DOWN)	ENERGIZED
TIG	REMOTE	ON(UP)	CONTROL BY REMOTE SWITCH

**Note:**

The switch is unavailable on CC400-S machine.

**6. DIGITAL DISPLAY METER**

The meter displays preset and actual current or actual voltage.

**7. ALARM LIGHT**

The machine has these protection functions of overvoltage, undervoltage, overcurrent and disconnected relay. The alarm light will be ON when these troubles occurred, meanwhile the output will be shut down until fault goes away.

**8. THERMAL LIGHT**

The light will illuminate if an internal thermostat has been activated. Machine output will return after the internal components have returned to a normal operating temperature. For additional information see **Thermal Protection** section in this Operation chapter.

**9. ARC FORCE POT**

This controls functions in stick modes to adjust the arc force. The arc is soft at the minimum settings and more forceful or driving at the maximum settings. Higher spatter levels may be present at the maximum settings. Full range is from 0(soft) to 10(crisp).

**10. ON/OFF POWER SWITCH**

Place the lever in the upside position to energize the machine. When the power is on the output will be energized in STICK mode and TIG mode if the DIP SWITCH 1 is set to OFF(down). At power up the thermal

light and alarm light will flash for a short time and fan will start to run.

**11.REMOTE CONNECTOR**

The remote connector can be used for connecting to remote control box if customers would like to remotely control output current.

**Note:**

The remote connector is unavailable on CC400-S machine.

**12. POSITIVE OUTPUT TERMINAL**

**13.NEGATIVE OUTPUT TERMINAL**

**Note:**

These quick disconnect terminals provide connection points for the electrode and work cables. For positive polarity welding connect the electrode cable to the positive terminal and the work cable to the negative terminal. To weld negative polarity reverse the electrode and work cables.

**REAR PANEL (PLEASE SEE FIGURE B.2).**

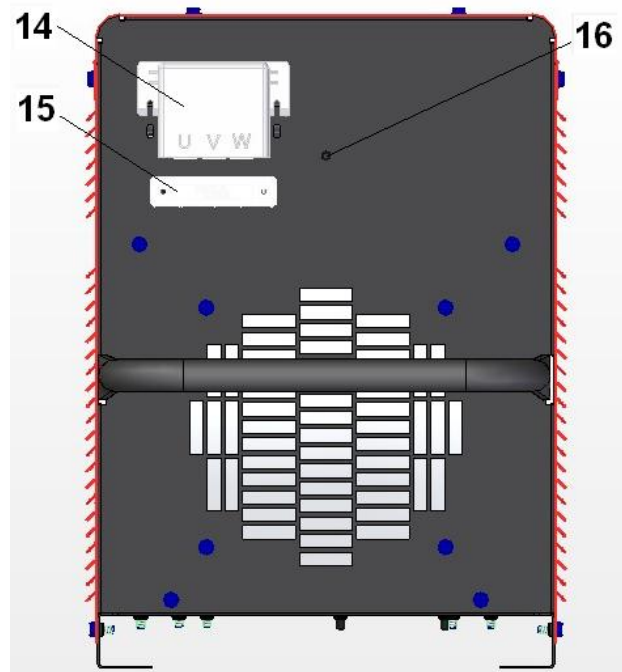


FIGURE B.2

**14. INPUT BOX**

This insulation box is used to cover the input connections.

**⚠ WARNING**

**This insulation box must be secure before turning on the main power supply.**

**15. INPUT CABLE HOLDING BRACKET**

This bracket securely holds the three phase power cables in place.

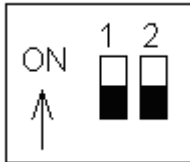


## 16. GROUND CABLE CONNECTION

Connect the ground cable to the paint-free location on the case back by securing its lug-end with the screw into the case hole.

## DIP SWITCHES

INVERTEC® CC400-S/-S PLUS machine offers a DIP switch on the control board, which allows user to have additional features. There are 2 individual switches integrated into this DIP switch ( Please see **FIGURE B.3** below ).



**FIGURE B.3**

### 1. DIP SWITCH 1

Controls when output power is available. Please see **5 STICK/TIG SWITCH** section in this Operation chapter for details.

### 2. DIP SWITCH 2

The DIP switch is for test mode. It should always be OFF (down)for customers.

## THERMAL PROTECTION

Thermostats protect the machine from excessive operating temperatures. Excessive temperatures maybe caused by a lack of cooling air or operating the machine beyond the duty cycle and output rating. If excessive operating temperature should occur, the thermostats will prevent output voltage or current.

Thermostats are self-resetting once the machine cools sufficiently.

## FAN

The fan will run anytime once the machine powers on.

## CONSTANT CURRENT PROCESSES

### MANUAL ARC WELDING (STICK)

The INVERTEC maybe utilized as a manual DC arc welder with the electrode cable, work cable, and electrode holder being the only equipment required.

#### Note:

If the electrode is shorted to the workpiece for longer than 5 seconds, the machine output current will phase back to 20A until electrode is taken off the workpiece. circuitry activated.

### AIR CARBON ARC CUTTING

Air carbon arc cutting maybe performed with the INVERTEC within its output rating using 5mm diameter carbon rods. Output cables, an air carbon arc electrode cable assembly, and a source of compressed air are required.

### TIG WELDING

The INVERTEC is capable of touch start TIG welding. An electrode cable, work cable, TIG torch, and gas supply with regulator are required.

Touch starting is done as follows:

1. Place the shield cup edge on the work piece.
2. Rock the tungsten down to touch.
3. Trigger the output, if using remote control.
4. Gently rock back the tungsten from the workpiece.

## OPTIONS/ACCESSORIES

### REMOTE CONTROL BOX

Consists of a control box with choice of three cable lengths. Permits remote adjustment of output, 6 pin connection.

Order **K69023-8M** for 8M or **K69023-15M** for 15M or **K69023-30M** for 30M.

### WELDING CABLE WITH ELECTRODE HOLDER

Order **K60077-50-3M** for 3M, or **K60077-50-15M** for 15M, or **K60077-50-30M** for 30M.

### WORK CABLE WITH CLAMP

Order **K60076-50-3M** for 3M.

### TIG TORCH WITH TWIST-MATE

Order **K60078-1** for 4M.

**CAUTION**

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your local authorized Lincoln Electric Field Service Facility for technical assistance.

Observe all Safety Guidelines detailed in the beginning and throughout this manual.

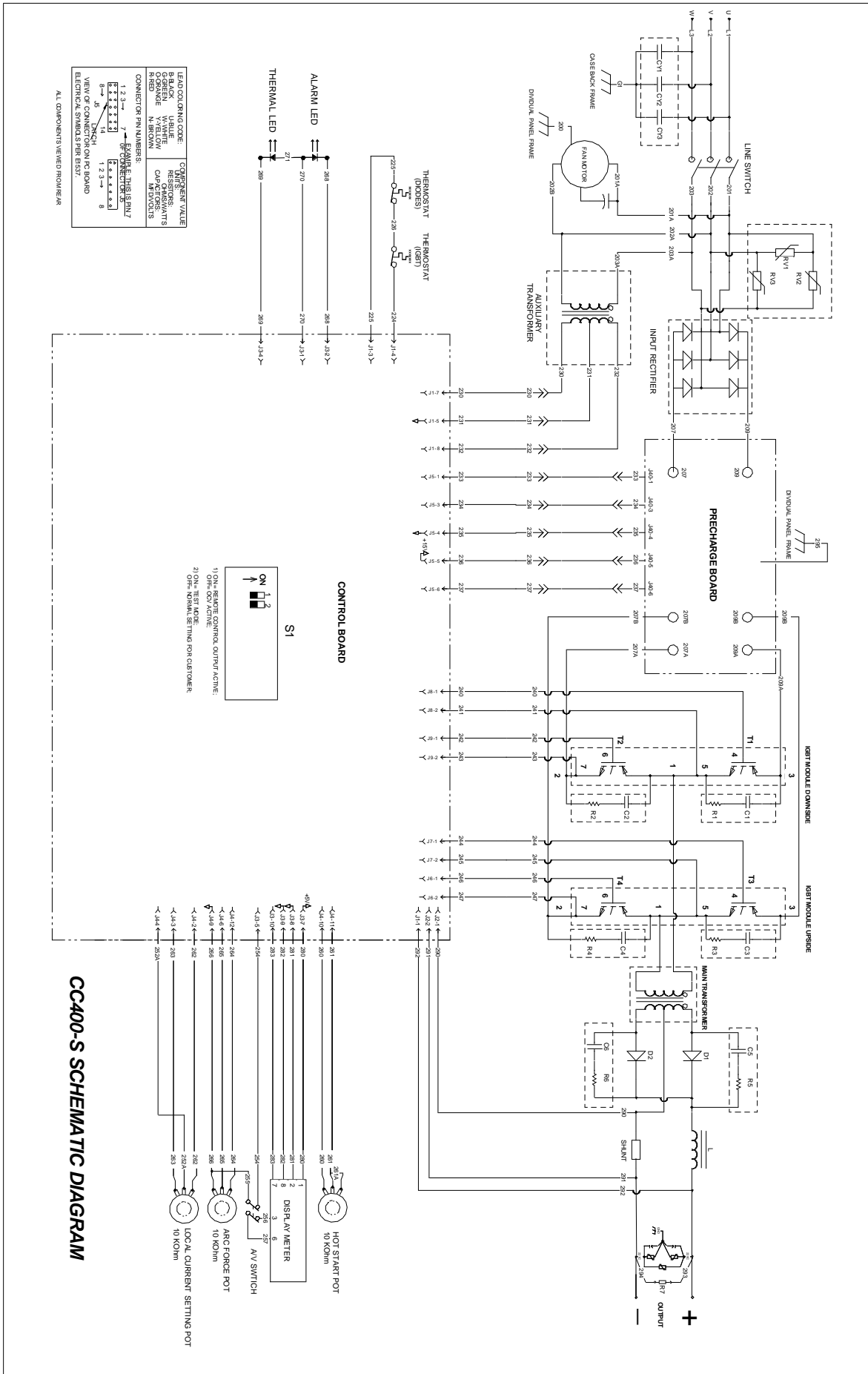
Problems (Symptoms)	Possible Areas of Misadjustment(s)	Recommended Course of Action
<b>Output Problems</b>		
Major physical or electrical damage is evident when the sheet metal covers are removed.	None	Contact your local authorized Lincoln Electric Field Service facility for technical assistance.
Input breaker keeps tripping	<ol style="list-style-type: none"> <li>1. Make certain that fuses or breakers are properly sized. See Installation section of this manual for recommended fuse and breaker sizes.</li> <li>2. Welding procedure is drawing too much output current, or duty cycle is too high. Reduce output current, duty cycle, or both.</li> <li>3. There is internal damage to the power source.</li> </ol>	If there is internal damage, contact an authorized Lincoln Electric Service facility for technical assistance.
Machine will not power up (no lights, no fan, etc.)	<ol style="list-style-type: none"> <li>1. Make certain that the power to the CC400-S/-S PLUS is energized and is within the CC400-S/-S PLUS operating range.</li> </ol>	In a typical installation the main power switch on the controller is the power switch.
Thermal LED is lit.	<ol style="list-style-type: none"> <li>1. Check for proper fan operation. (Fan should run whenever output power is on.) Check for material blocking intake or exhaust louvers, or for excessive dirt clogging cooling channels in machine.</li> <li>2. Machine may have been operated above it's duty cycle..</li> </ol>	Clear obstruction or repair fan  After machine has cooled, reduce load, duty cycle, or both
Machine won't weld, can't get any output.	<ol style="list-style-type: none"> <li>1. The ALARM light is lit, input voltage is too low or too high. Make certain that input voltage is proper, according to the Rating Plate.</li> <li>2. If the Thermal LED is also lit, see Thermal LED is Lit section.</li> </ol>	Contact your local authorized Lincoln Electric Field Service facility for technical assistance.
Machine won't produce full output.	<ol style="list-style-type: none"> <li>1. Input voltage may be too low, limiting output capability of the power source. Make certain that the input voltage is proper, according to the Rating Plate.</li> <li>2. Current or voltage display meter is not properly calibrated.</li> <li>3. Maybe the welding cable and work cable are too long, or their across area art too small.</li> </ol>	Correct input voltage level.  Contact your local authorized Lincoln Electric Field Service facility for technical assistance.  Please shorten welding cable and work cable, or use bigger size cables for reducing the voltage drop on cables.
General degradation of the weld performance	<ol style="list-style-type: none"> <li>1. Check for electrode holding problems, bad connections, excessive loops in cabling, etc.</li> <li>2. Verify weld mode is correct for</li> </ol>	If the machine need calibration, contact an authorized Lincoln Electric Service facility for technical

INVERTEC® CC400-S/-S PLUS



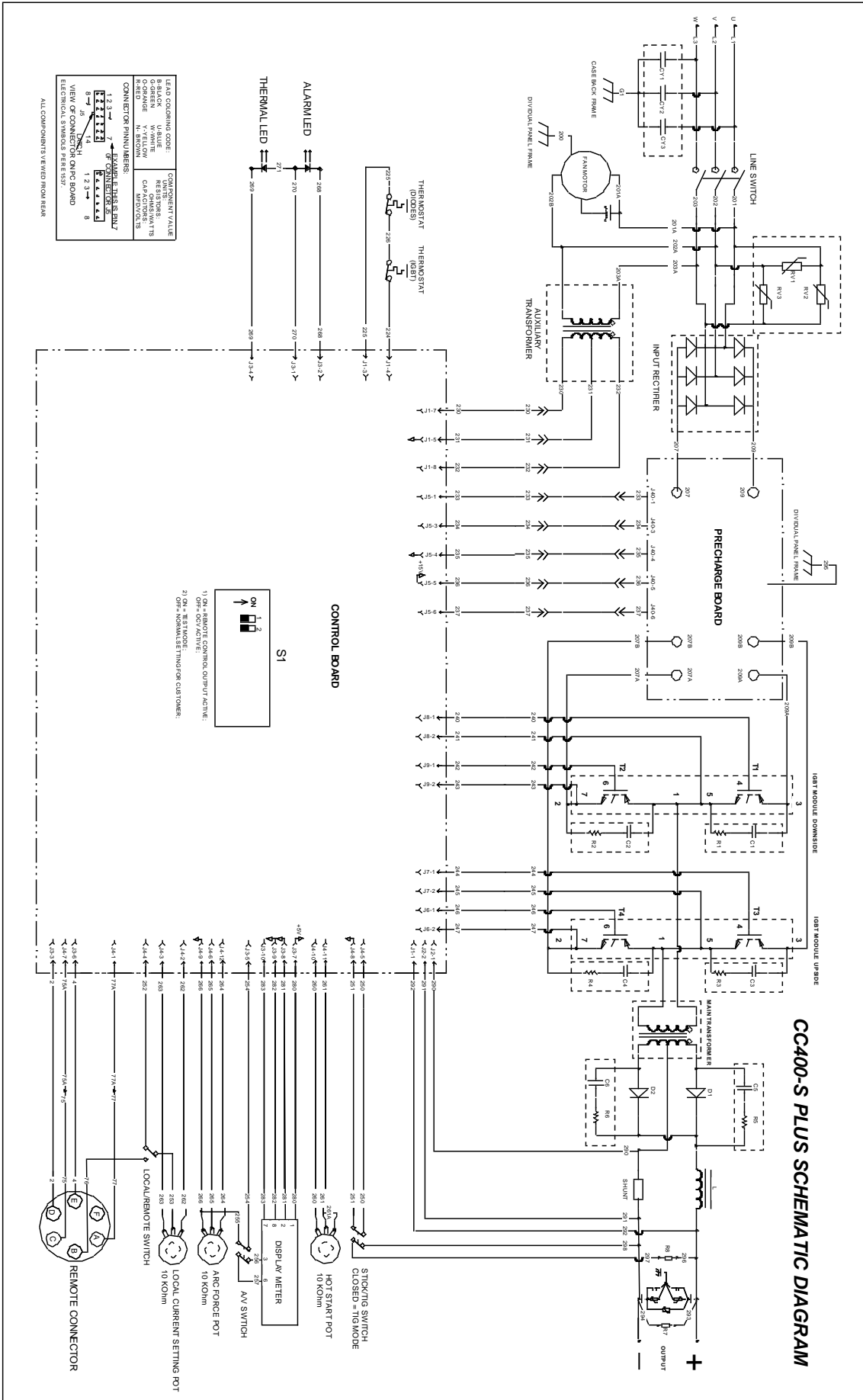
<b>CAUTION</b>	If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your local authorized Lincoln Electric Field Service Facility for technical assistance.
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Observe all Safety Guidelines detailed in the beginning and throughout this manual.		
Problems (Symptoms)	Possible Areas of Misadjustment(s)	Recommended Course of Action
	processes. 3. The power source may require calibration.	assistance.
The welding arc is not stable and soft.	1. Verify the proper polarity is being used for the weld procedure. 2. Check all electrode and work connections. 3. Verify the parameters of output current and shielding gas(TIG mode) are proper for the welding procedure. 4. Try to adjust arc force value on control panel. 5. PC board in machine possibly at fault.	If PC board in machine is at fault, contact an authorized Lincoln Electric Service facility for technical assistance.
Starting arc is difficult.	1. Verify the proper polarity is being used for the weld procedure. 2. Check all electrode and work connections. 3. Verify the parameters of output current and shielding gas(TIG mode) are proper for the welding procedure. 4. Try to adjust hot start value on control panel. 5. PC board in machine possibly at fault.	If PC board in machine is at fault, contact an authorized Lincoln Electric Service facility for technical assistance.
Remote output control not functioning. The machine operates normally on LOCAL control.	1. Make sure the Local/Remote switch is in the REMOTE position. 2. The remote control device may be faulty, Replace. 3. The Local/Remote switch must be in the LOCAL position unless a remote control device is attached to the remote receptacle.	
Poor stick electrode welding performance. The arc pops out.	1. Check for loose or faulty welding cables. 2. Is the electrode DRY? Try welding with another electrode from a different container. Make sure you have the correct electrode for the application. 3. Make sure the machine settings are correct for the weld process being used.	If all recommended possible areas of misadjustment have been checked and the problem persists, contact your local Lincoln Authorized Field Service Facility.
Poor welding, weld setting drift, or output power is low.	Make sure the machine settings are correct for the welding process being used. Check machine performance on LOCAL control. If OK then the remote control device maybe faulty. Check and replace. Check for loose or faulty welding cables.	



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