

LACI Production Monitoring Module

OPERATOR'S MANUAL



ENGLISH



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THANKS! For having chosen the QUALITY of the Lincoln Electric products.

- Please Examine Package and Equipment for Damage. Claims for material damaged in shipment must be notified immediately to the dealer.
- For future reference record in the table below your equipment identification information. Model Name, Code & Serial Number can be found on the machine rating plate.

Model Name:	
.....	
Code & Serial number:	
.....
Date & Where Purchased:	
.....











ENGLISH INDEX






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WARNING

This equipment must be used by qualified personnel. Be sure that all installation, operation, maintenance and repair procedures are performed only by qualified person. Read and understand this manual before operating this equipment. Failure to follow the instructions in this manual could cause serious personal injury, loss of life, or damage to this equipment. Read and understand the following explanations of the warning symbols. Lincoln Electric is not responsible for damages caused by improper installation, improper care or abnormal operation.

	<p>WARNING: This symbol indicates that instructions must be followed to avoid serious personal injury, loss of life, or damage to this equipment. Protect yourself and others from possible serious injury or death.</p>
	<p>READ AND UNDERSTAND INSTRUCTIONS: Read and understand this manual before operating this equipment. Arc welding can be hazardous. Failure to follow the instructions in this manual could cause serious personal injury, loss of life, or damage to this equipment.</p>
	<p>ELECTRIC SHOCK CAN KILL: Welding equipment generates high voltages. Do not touch the electrode, work clamp, or connected work pieces when this equipment is on. Insulate yourself from the electrode, work clamp, and connected work pieces.</p>
	<p>ELECTRICALLY POWERED EQUIPMENT: Turn off input power using the disconnect switch at the fuse box before working on this equipment. Ground this equipment in accordance with local electrical regulations.</p>
	<p>ELECTRICALLY POWERED EQUIPMENT: Regularly inspect the input, electrode, and work clamp cables. If any insulation damage exists replace the cable immediately. Do not place the electrode holder directly on the welding table or any other surface in contact with the work clamp to avoid the risk of accidental arc ignition.</p>
	<p>ELECTRIC AND MAGNETIC FIELDS MAY BE DANGEROUS: Electric current flowing through any conductor creates electric and magnetic fields (EMF). EMF fields may interfere with some pacemakers, and welders having a pacemaker shall consult their physician before operating this equipment.</p>
	<p>CE COMPLIANCE: This equipment complies with the European Community Directives.</p>
 <p><small>Optical radiation emission Category 2 (EN 12191)</small></p>	<p>ARTIFICIAL OPTICAL RADIATION: According with the requirements in 2006/25/EC Directive and EN 12198 Standard, the equipment is a category 2. It makes mandatory the adoption of Personal Protective Equipments (PPE) having filter with a protection degree up to a maximum of 15, as required by EN169 Standard.</p>
	<p>FUMES AND GASES CAN BE DANGEROUS: Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. To avoid these dangers the operator must use enough ventilation or exhaust to keep fumes and gases away from the breathing zone.</p>
	<p>ARC RAYS CAN BURN: Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing. Use suitable clothing made from durable flame-resistant material to protect you skin and that of your helpers. Protect other nearby personnel with suitable, non-flammable screening and warn them not to watch the arc nor expose themselves to the arc.</p>

	<p>WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION: Remove fire hazards from the welding area and have a fire extinguisher readily available. Welding sparks and hot materials from the welding process can easily go through small cracks and openings to adjacent areas. Do not weld on any tanks, drums, containers, or material until the proper steps have been taken to insure that no flammable or toxic vapors will be present. Never operate this equipment when flammable gases, vapors or liquid combustibles are present.</p>
	<p>WELDED MATERIALS CAN BURN: Welding generates a large amount of heat. Hot surfaces and materials in work area can cause serious burns. Use gloves and pliers when touching or moving materials in the work area.</p>
	<p>CYLINDER MAY EXPLODE IF DAMAGED: 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. Always keep cylinders in an upright position securely chained to a fixed support. Do not move or transport gas cylinders with the protection cap removed. Do not allow the electrode, electrode holder, work clamp or any other electrically live part to touch a gas cylinder. Gas cylinders must be located away from areas where they may be subjected to physical damage or the welding process including sparks and heat sources.</p>
	<p>MOVING PARTS ARE DANGEROUS: There are moving mechanical parts in this machine, which can cause serious injury. Keep your hands, body and clothing away from those parts during machine starting, operating and servicing.</p>
	<p>SAFETY MARK: This equipment is suitable for supplying power for welding operations carried out in an environment with increased hazard of electric shock.</p>

The manufacturer reserves the right to make changes and/or improvements in design without upgrade at the same time the operator's manual.

Installation and Operator Instructions

General Description

The Lincoln ArcLink Communication Interface (LACI) Module is designed to connect your Welding Power Source to your computer or the network.

Using Power Wave® Manager application, LACI allows you to configure and manage a multitude of settings and configuration options within the full range of the Lincoln Electric Speedtec line of Welding Power Source.

LACI also allows to use the newest technology like CheckPoint™ and Production Monitoring™. Read this entire section before installation or operation of the machine.

Controls and Operational Features



1. Remote Control Receptacle
2. Status Led:
3. Ethernet Connector:

Default TCP/IP settings of the LACI board

LACI is equipped with an ethernet communication interface.

LACI default factory settings	
DHCP	off
IP Address	192.168.0.2
Subnet Mask	255.255.255.0
Default gateway	192.168.0.1

Default LACI settings are designated to Direct Connection where IP address of the PC is set to range 192.168.0.[3...254]

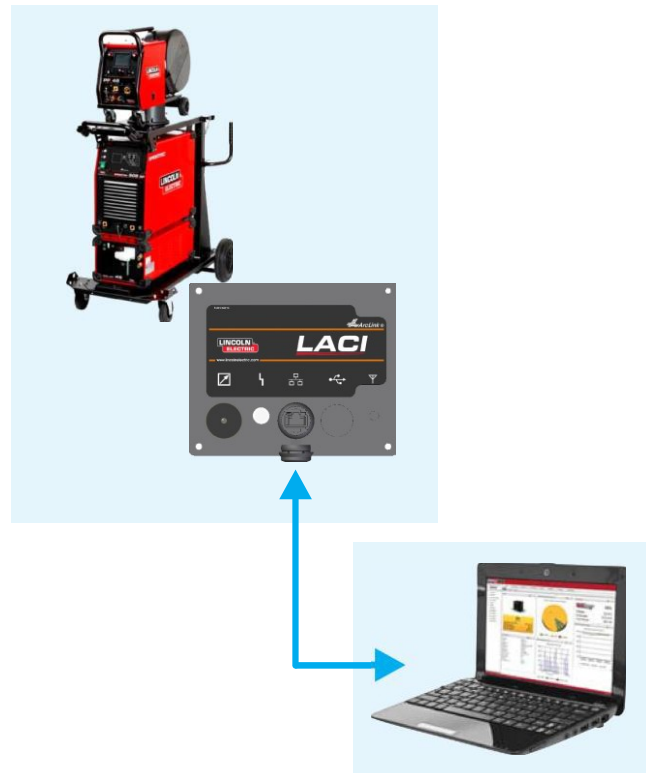
Download Power Wave Manager software from www.powerwavesoftware.com section *Power Wave® Utilities* in order to change default configuration of the LACI.

LACI with PC Connection

According to network infrastructure we can distinguish 2 different connection types:

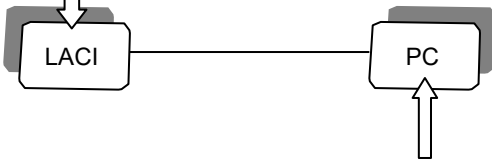
- a) Direct Connection
- b) Local Area Network
 - i) with static IP addresses
 - ii) with dynamic IP addresses (DHCP server, e.g. Router).

Direct Connection



The simplest case where LACI is connected to PC with one, common ethernet cable.

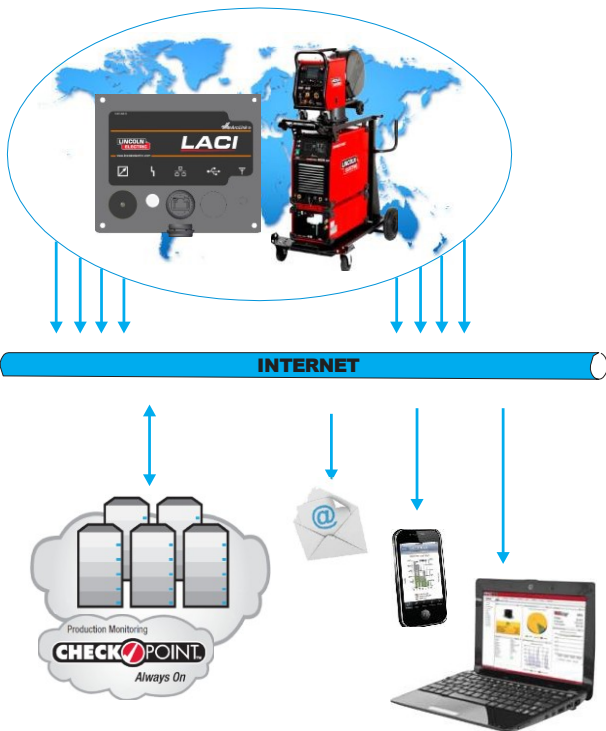
LACI default factory settings	
DHCP	off
IP Address	192.168.0.2
Subnet Mask	255.255.255.0
Default gateway	192.168.0.1



PC network settings	
DHCP	off
IP Address	192.168.0.3
Subnet Mask	255.255.255.0
Default gateway	192.168.0.1

Use above network settings for your PC.
Please refer guide how to change TCP/IP settings (*IP address*) in your PC operating system available in your system help or internet.

Local Area Network

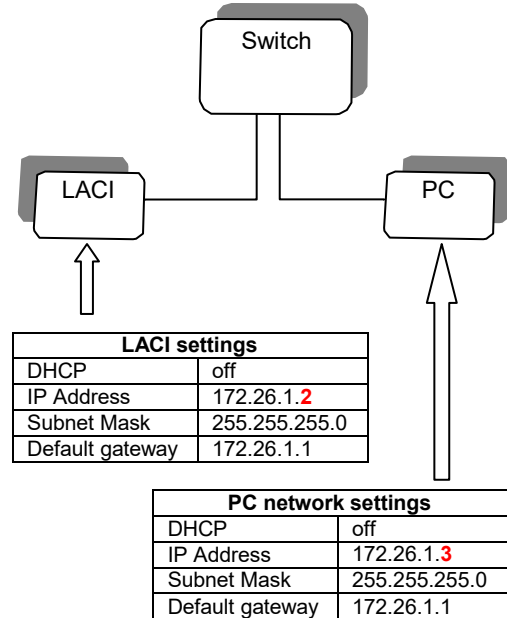


Static IP Addresses

When LACI is connected to the network which is equipped with a Hub or Switch (**no DHCP server**) it is required to set proper IP address from the actual subnet range to LACI and PC.

Example:

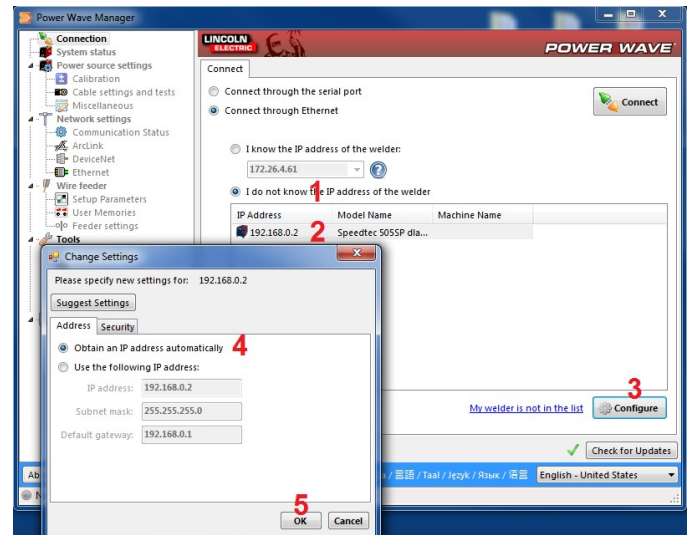
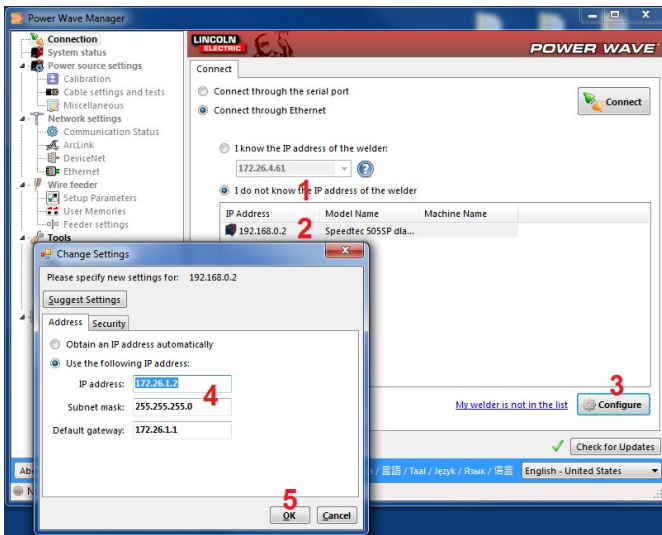
no DHCP server in network	
DHCP	Off
IP Addresses range	172.26.1.[2..255]
Subnet Mask	255.255.255.0
Default gateway	172.26.1.1



Please refer guide how to change TCP/IP settings (*IP address*) in your PC operating system available in your system help or internet.

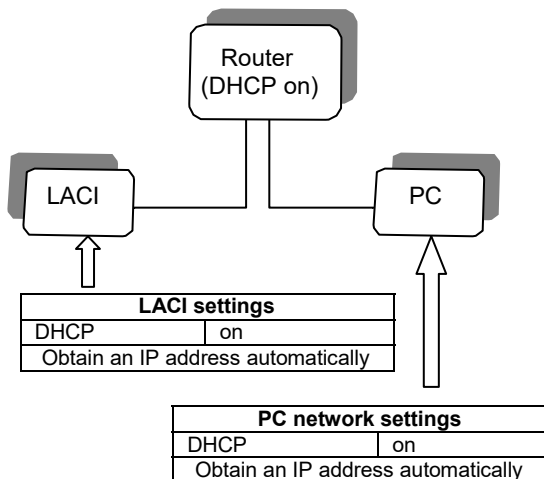
In order to change LACI IP address use Direct Connection first (see chapter a) to change LACI configuration.

- connect to LACI by Direct Connection
- run Power Wave Manager software on your PC (available on www.powerwavesoftware.com)
- Step 1: choice "I do not know the IP address of the welder"
- Step 2: click on row with LACI IP Address and Model Name
- Step 3: click on "Configure" button
- Step 4: change IP address, Subnet mask, Default gateway
- Step 5: click "OK" button
- Confirm new settings by clicking "Yes". Machine will be restarted.
- Connect LACI to Network Switch.



Dynamic IP Addresses (DHCP Server, e.g. Router)

When LACI is connected to the network which is equipped with DHCP server it is required to set proper configuration of the LACI and PC.

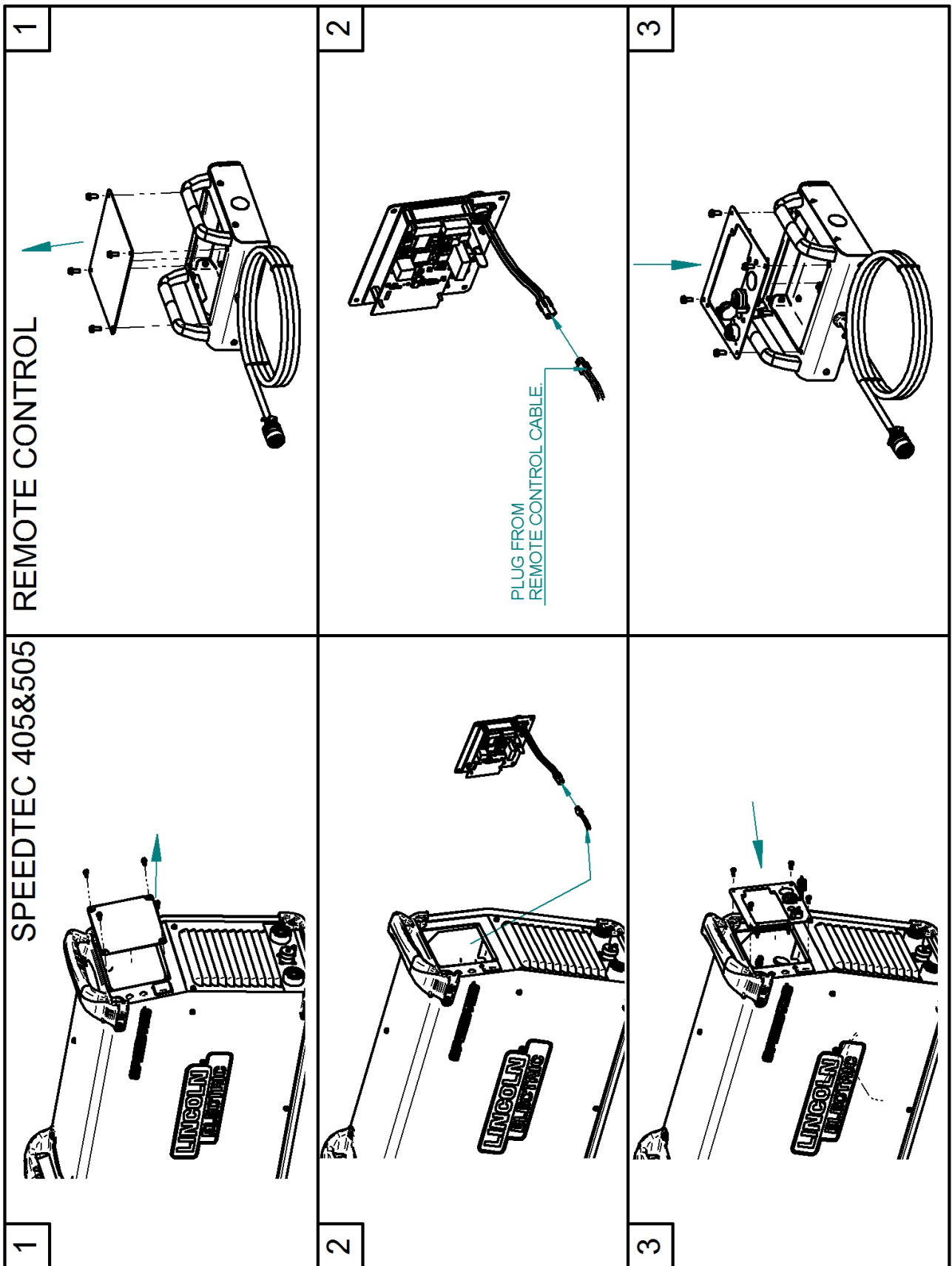


Please refer guide how to change TCP/IP settings to *Obtain an IP address automatically* in your PC operating system available in your system help or internet.

In order to switch LACI to “Obtain an IP address automatically” use Direct Connection first (see chapter a) to change LACI configuration.

- connect to LACI by Direct Connection
- run Power Wave Manager software on your PC (available on www.powerwavesoftware.com)
- Step 1: choice “I do not know the IP address of the welder”
- Step 2: click on row with LACI IP Address and Model Name
- Step 3: click on “Configure” button
- Step 4: choice “Obtain an IP address automatically”
- Step 5: click “OK” button
- Confirm new settings by clicking “Yes”. Machine will be restarted.
- Connect LACI to Network Router.

Mounting Instruction



Maintenance

WARNING

For any repair operations, modifications or maintenances, it is recommended to contact the nearest Technical Service Center or Lincoln Electric. Repairs and modifications performed by unauthorized service or personnel will cause the loss of the manufacturer's warranty.

Any noticeable damage should be reported immediately and repaired.

Routine maintenance (everyday)

- Check condition of insulation and connections of the work leads and insulation of power lead. If any insulation damage exists replace the lead immediately.
- Remove the spatters from the welding gun nozzle. Spatters could interfere with the shielding gas flow to the arc.
- Check the welding gun condition: replace it, if necessary.
- Check condition and operation of the cooling fan. Keep clean its airflow slots.

Periodic maintenance (every 200 working hours but at least once a year)

Perform the routine maintenance and, in addition:

- Keep the machine clean. Using a dry (and low pressure) airflow, remove the dust from the external case and from the cabinet inside.
- If it is required, clean and tighten all weld terminals.

The frequency of the maintenance operations may vary in accordance with the working environment where the machine is placed.

WARNING

Do not touch electrically live parts.

WARNING

Before the case of machine will be removed, the machine has to be turned off and the power lead has to be disconnected from mains socket.

WARNING

Mains supply network must be disconnected from the machine before each maintenance and service. After each repair, perform proper tests to ensure safety.

Customer Assistance Policy

The business of The Lincoln Electric Company is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time. Lincoln Electric is not in a position to warrant or guarantee such advice, and assumes no liability, with respect to such information or advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customer's particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to www.lincolnelectric.com for any updated information.

WEEE

07/06



Do not dispose of electrical equipment together with normal waste!
In observance of European Directive 2012/19/EC on Waste Electrical and Electronic Equipment (WEEE) and its implementation in accordance with national law, electrical equipment that has reached the end of its life must be collected separately and returned to an environmentally compatible recycling facility. As the owner of the equipment, you should get information on approved collection systems from our local representative.

By applying this European Directive you will protect the environment and human health!

Spare Parts

12/05

Part List reading instructions

- Do not use this part list for a machine if its code number is not listed. Contact the Lincoln Electric Service Department for any code number not listed.
- Use the illustration of assembly page and the table below to determine where the part is located for your particular code machine.
- Use only the parts marked "X" in the column under the heading number called for in the assembly page (# indicate a change in this printing).

First, read the Part List reading instructions above, then refer to the "Spare Part" manual supplied with the machine, that contains a picture-descriptive part number cross-reference.

Authorized Service Shops Location

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- The purchaser must contact a Lincoln Authorized Service Facility (LASF) about any defect claimed under Lincoln's warranty period.
- Contact your local Lincoln Sales Representative for assistance in locating a LASF or go to www.lincolnelectric.com/en-gb/Support/Locator.

Electrical Schematic

Refer to the "Spare Part" manual supplied with the machine.

Suggested Accessories

K14124-1	Case of remote control (PENDANT).
K14132-1	5-PIN/12-PIN adapter.
K14131-1	ArcLink® "T" Connector Kit.

Connection Diagram

