

ELECTROMAGNETIC COMPATIBILITY (EMC)

CONFORMANCE

Products displaying the CE mark are in conformity with European Community Council Directive. It was manufactured in conformity with a national standard that implements a harmonized standard: EN 60974-10 Electromagnetic Compatibility (EMC) Product Standard for Arc Welding Equipment. It is for use with other Lincoln Electric equipment. It is designed for industrial and professional use.

INTRODUCTION

All electrical equipment generates small amounts of electromagnetic emission. Electrical emission may be transmitted through power lines or radiated through space, similar to a radio transmitter. When emissions are received by other equipment, electrical interference may result. Electrical emissions may affect many kinds of electrical equipment; other nearby welding equipment, radio and TV reception, numerical controlled machines, telephone systems, computers, etc.

WARNING: This Class A equipment is not intended for use in residential locations where the electrical power is provided by the public low-voltage supply system. There may be potential difficulties in ensuring electro-magnetic compatibility in those locations, due to conducted as well as radiated disturbances.

INSTALLATION AND USE

The user is responsible for installing and using the welding equipment according to the manufacturer's instructions.

If electromagnetic disturbances are detected then it shall be the responsibility of the user of the welding equipment to resolve the situation with the technical assistance of the manufacturer. In some cases this remedial action may be as simple as earthing (grounding) the welding circuit, see Note. In other cases it could involve constructing an electromagnetic screen enclosing the power source and the work complete with associated input filters. In all cases electromagnetic disturbances must be reduced to the point where they are no longer troublesome.

NOTE: The welding circuit may or may not be earthed for safety reasons. Follow your local and national standards for installation and use. Changing the earthing arrangements should only be authorized by a person who is competent to assess whether the changes will increase the risk of injury, e.g., by allowing parallel welding current return paths which may damage the earth circuits of other equipment.

ASSESSMENT OF AREA

Before installing welding equipment the user shall make an assessment of potential electromagnetic problems in the surrounding area. The following shall be taken into account:

- a) other supply cables, control cables, signaling and telephone cables; above, below and adjacent to the welding equipment;
- b) radio and television transmitters and receivers;
- c) computer and other control equipment;
- d) safety critical equipment, e.g., guarding of industrial equipment;
- e) the health of the people around, e.g., the use of pacemakers and hearing aids;
- f) equipment used for calibration or measurement;
- g) the immunity of other equipment in the environment. The user shall ensure that other equipment being used in the

environment is compatible. This may require additional protection measures;

- h) the time of day that welding or other activities are to be carried out.

The size of the surrounding area to be considered will depend on the structure of the building and other activities that are taking place. The surrounding area may extend beyond the boundaries of the premises.

METHODS OF REDUCING EMISSIONS

Public Supply System

Welding equipment should be connected to the public supply system according to the manufacturer's recommendations. If interference occurs, it may be necessary to take additional precautions such as filtering of the system. Consideration should be given to shielding the supply cable of permanently installed welding equipment, in metallic conduit or equivalent. Shielding should be electrically continuous throughout its length. The shielding should be connected to the welding power source so that good electrical contact is maintained between the conduit and the welding power source enclosure.

Maintenance of the Welding Equipment

The welding equipment should be routinely maintained according to the manufacturer's recommendations. All access and service doors and covers should be closed and properly fastened when the welding equipment is in operation. The welding equipment should not be modified in any way except for those changes and adjustments covered in the manufacturer's instructions. In particular, the spark gaps of arc striking and stabilizing devices should be adjusted and maintained according to the manufacturer's recommendations.

Welding Cables

The welding cables should be kept as short as possible and should be positioned close together, running at or close to the floor level.

Equipotential Bonding

Bonding of all metallic components in the welding installation and adjacent to it should be considered. However, metallic components bonded to the work piece will increase the risk that the operator could receive a shock by touching these metallic components and the electrode at the same time. The operator should be insulated from all such bonded metallic components.

Earthing of the Workpiece

Where the workpiece is not bonded to earth for electrical safety, nor connected to earth because of its size and position, e.g., ship's hull or building steelwork, a connection bonding the workpiece to earth may reduce emissions in some, but not all instances. Care should be taken to prevent the earthing of the workpiece increasing the risk of injury to users, or damage to other electrical equipment. Where necessary, the connection of the workpiece to earth should be made by a direct connection to the workpiece, but in some countries where direct connection is not permitted, the bonding should be achieved by suitable capacitance, selected according to national regulations.

Screening and Shielding

Selective screening and shielding of other cables and equipment in the surrounding area may alleviate problems of interference. Screening of the entire welding installation may be considered for special applications.¹

¹ Portions of the preceding text are contained in EN 60974-10 "Electromagnetic Compatibility (EMC) product standard for arc welding equipment."

THANK YOU FOR SELECTING A QUALITY PRODUCT BY LINCOLN ELECTRIC.

PLEASE EXAMINE CARTON AND EQUIPMENT FOR DAMAGE IMMEDIATELY

When this equipment is shipped, title passes to the purchaser upon receipt by the carrier. Consequently, claims for material damaged in shipment must be made by the purchaser against the transportation company at the time the shipment is received.

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.

WARNING

This statement appears where the information must be followed exactly to avoid serious personal injury or loss of life.

CAUTION

This statement appears where the information must be followed to avoid minor personal injury or damage to this equipment.



KEEP YOUR HEAD OUT OF THE FUMES.

DON'T get too close to the arc. Use corrective lenses if necessary to stay a reasonable distance away from the arc.

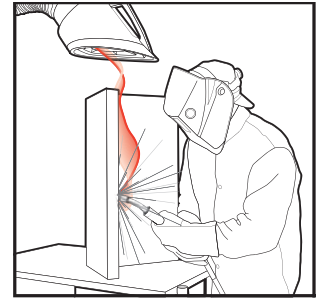
READ and obey the Safety Data Sheet (SDS) and the warning label that appears on all containers of welding materials.

USE ENOUGH VENTILATION or exhaust at the arc, or both, to keep the fumes and gases from your breathing zone and the general area.

IN A LARGE ROOM OR OUTDOORS, natural ventilation may be adequate if you keep your head out of the fumes (See below).

USE NATURAL DRAFTS or fans to keep the fumes away from your face.

If you develop unusual symptoms, see your supervisor. Perhaps the welding atmosphere and ventilation system should be checked.



WEAR CORRECT EYE, EAR & BODY PROTECTION

PROTECT your eyes and face with welding helmet properly fitted and with proper grade of filter plate (See ANSI Z49.1).

PROTECT your body from welding spatter and arc flash with protective clothing including woolen clothing, flame-proof apron and gloves, leather leggings, and high boots.

PROTECT others from splatter, flash, and glare with protective screens or barriers.

IN SOME AREAS, protection from noise may be appropriate.

BE SURE protective equipment is in good condition.

Also, wear safety glasses in work area **AT ALL TIMES.**



SPECIAL SITUATIONS

DO NOT WELD OR CUT containers or materials which previously had been in contact with hazardous substances unless they are properly cleaned. This is extremely dangerous.

DO NOT WELD OR CUT painted or plated parts unless special precautions with ventilation have been taken. They can release highly toxic fumes or gases.

Additional precautionary measures

PROTECT compressed gas cylinders from excessive heat, mechanical shocks, and arcs; fasten cylinders so they cannot fall.

BE SURE cylinders are never grounded or part of an electrical circuit.

REMOVE all potential fire hazards from welding area.

ALWAYS HAVE FIRE FIGHTING EQUIPMENT READY FOR IMMEDIATE USE AND KNOW HOW TO USE IT.



SECTION A: WARNINGS



CALIFORNIA PROPOSITION 65 WARNINGS



WARNING: Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects, or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an exposed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information go to www.P65warnings.ca.gov/diesel

WARNING: This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code § 25249.5 *et seq.*)



WARNING: Cancer and Reproductive Harm
www.P65warnings.ca.gov

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.

Read and understand the following safety highlights. For additional safety information, it is strongly recommended that you purchase a copy of "Safety in Welding & Cutting - ANSI Standard Z49.1" from the American Welding Society, P.O. Box 351040, Miami, Florida 33135 or CSA Standard W117.2-1974. A Free copy of "Arc Welding Safety" booklet E205 is available from the Lincoln Electric Company, 22801 St. Clair Avenue, Cleveland, Ohio 44117-1199.

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



FOR ENGINE POWERED EQUIPMENT.

- 1.a. Turn the engine off before troubleshooting and maintenance work unless the maintenance work requires it to be running.
- 1.b. Operate engines in open, well-ventilated areas or vent the engine exhaust fumes outdoors.
- 1.c. Do not add the fuel near an open flame welding arc or when the engine is running. Stop the engine and allow it to cool before refueling to prevent spilled fuel from vaporizing on contact



with hot engine parts and igniting. Do not spill fuel when filling tank. If fuel is spilled, wipe it up and do not start engine until fumes have been eliminated.

- 1.d. Keep all equipment safety guards, covers and devices in position and in good repair. Keep hands, hair, clothing and tools away from V-belts, gears, fans and all other moving parts when starting, operating or repairing equipment.
- 1.e. In some cases it may be necessary to remove safety guards to perform required maintenance. Remove guards only when necessary and replace them when the maintenance requiring their removal is complete. Always use the greatest care when working near moving parts.
- 1.f. Do not put your hands near the engine fan. Do not attempt to override the governor or idler by pushing on the throttle control rods while the engine is running.
- 1.g. To prevent accidentally starting gasoline engines while turning the engine or welding generator during maintenance work, disconnect the spark plug wires, distributor cap or magneto wire as appropriate.
- 1.h. To avoid scalding, do not remove the radiator pressure cap when the engine is hot.



ELECTRIC AND MAGNETIC FIELDS MAY BE DANGEROUS



- 2.a. Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding current creates EMF fields around welding cables and welding machines
- 2.b. EMF fields may interfere with some pacemakers, and welders having a pacemaker should consult their physician before welding.
- 2.c. Exposure to EMF fields in welding may have other health effects which are now not known.
- 2.d. All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:
 - 2.d.1. Route the electrode and work cables together - Secure them with tape when possible.
 - 2.d.2. Never coil the electrode lead around your body.
 - 2.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.
 - 2.d.4. Connect the work cable to the workpiece as close as possible to the area being welded.
 - 2.d.5. Do not work next to welding power source.



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 hands.
- 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, gratings 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 holders connected to two welders because voltage between the two can be the total of the open circuit voltage of both welders.
 - 3.i. When working above floor level, use a safety belt to protect yourself from a fall should you get a shock.
 - 3.j. Also see Items 6.c. and 8.



ARC RAYS CAN BURN.



- 4.a. 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 open arc welding. Headshield and filter lens should conform to ANSI Z87.1 standards.
- 4.b. Use suitable clothing made from durable flame-resistant material to protect your skin and that of your helpers from the arc rays.
- 4.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.



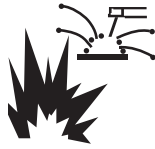
FUMES AND GASES CAN BE DANGEROUS.



- 5.a. Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. When welding, keep your head out of the fume. Use enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone. **When welding hardfacing (see instructions on container or SDS) or on lead or cadmium plated steel and other metals or coatings which produce highly toxic fumes, keep exposure as low as possible and within applicable OSHA PEL and ACGIH TLV limits using local exhaust or mechanical ventilation unless exposure assessments indicate otherwise. In confined spaces or in some circumstances, outdoors, a respirator may also be required. Additional precautions are also required when welding on galvanized steel.**
- 5.b. The operation of welding fume control equipment is affected by various factors including proper use and positioning of the equipment, maintenance of the equipment and the specific welding procedure and application involved. Worker exposure level should be checked upon installation and periodically thereafter to be certain it is within applicable OSHA PEL and ACGIH TLV limits.
- 5.c. Do not weld in locations near chlorinated hydrocarbon vapors coming from degreasing, cleaning or spraying operations. The heat and rays of the arc can react with solvent vapors to form phosgene, a highly toxic gas, and other irritating products.
- 5.d. 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.
- 5.e. Read and understand the manufacturer’s instructions for this equipment and the consumables to be used, including the Safety Data Sheet (SDS) and follow your employer’s safety practices. SDS forms are available from your welding distributor or from the manufacturer.
- 5.f. Also see item 1.b.



WELDING AND CUTTING 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. Where compressed gases are to be used at the job site, special precautions should be used to prevent hazardous situations. Refer to "Safety in Welding and Cutting" (ANSI Standard Z49.1) and the operating information for the equipment being used.
- 6.c. 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.d. 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". For information, purchase "Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping That Have Held Hazardous Substances", AWS F4.1 from the American Welding Society (see address above).
- 6.e. Vent hollow castings or containers before heating, cutting or welding. They may explode.
- 6.f. 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. Wear ear plugs when welding out of position or in confined places. Always wear safety glasses with side shields when in a welding area.
- 6.g. Connect the work cable to the work as close to the welding area as practical. Work cables connected to the building framework or other locations away from the welding area increase the possibility of the welding current passing through lifting chains, crane cables or other alternate circuits. This can create fire hazards or overheat lifting chains or cables until they fail.
- 6.h. Also see item 1.c.
- 6.i. Read and follow NFPA 51B "Standard for Fire Prevention During Welding, Cutting and Other Hot Work", available from NFPA, 1 Batterymarch Park, PO box 9101, Quincy, MA 022690-9101.
- 6.j. Do not use a welding power source for pipe thawing.



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. Cylinders 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.
- 7.g. Read and follow the instructions on compressed gas cylinders, associated equipment, and CGA publication P-1, "Precautions for Safe Handling of Compressed Gases in Cylinders," available from the Compressed Gas Association, 14501 George Carter Way Chantilly, VA 20151.



FOR ELECTRICALLY POWERED EQUIPMENT.



- 8.a. Turn off input power using the disconnect switch at the fuse box before working on the equipment.
- 8.b. Install equipment in accordance with the U.S. National Electrical Code, all local codes and the manufacturer's recommendations.
- 8.c. Ground the equipment in accordance with the U.S. National Electrical Code and the manufacturer's recommendations.

Refer to
<http://www.lincolnelectric.com/safety>
for additional safety information.

Table of Contents

- 1.0 SYSTEM OVERVIEW 1**
 - 1.1 GENERAL OVERVIEW1
 - 1.2 SYSTEM REQUIREMENTS.....1

- 2.0 PROGRAM WINDOWS 2**
 - 2.1 MAIN SCREEN TAB2
 - 2.1.2 WELD DATA PANEL3
 - 2.1.3 SENSOR DATA PANEL3
 - 2.2 SYSTEM CONFIG TAB4
 - 2.2.1 SENSOR CONFIGURATION PANEL4
 - 2.2.2 SYSTEM CONFIGURATION PANEL7
 - 2.2.3 SENSOR MODE PANEL 10

 - 2.3 WELD SUMMARY TAB 11

1.0 SYSTEM OVERVIEW

1.1 General Overview

The ArcTrack II program is designed to use with our weld data sensors and provides advance data logging function. It is designed to provide a simple GUI interface for weld data logging for manual weld procedure development and documentation. It provides a Sweep chart option to graphically monitor and collect welding data from our remote sensors. It provides both run time and summary data files that can be directly imported into Microsoft Excel for further evaluation. This program can be used with the following sensors; Micro ADM, Intella-DART, WireTrak, Smart Sensor, GFM, and the WDL-3.

1.2 System Requirements

Processor: 150mhz Pentium™ or higher microprocessor
Memory: 24 Megs minimum for Windows XP®, 7®, 10® or 11®
Hard Drive: 25 Megs of available hard drive space
Graphics: Minimum SVGA graphics. X VGA recommended
Serial Port: RS-232 serial port

2.0 PROGRAM WINDOWS

The Program Windows consist of three tab for viewing data during the weld, configuration setting for the sensor and the viewed welding data and file handling of saved welding data.

The three tabs are:

The **Main Screen** Tab provides the main user interface The **Weld Data Panel** displays all of the weld run time and the **Sensor Data Panel** displays the summary Sensor data, Sensor Communication Status and Data File Status.

The **System Config** Tab provides a User interface to all of the sensor Data, to Sensor setup parameters and communications configurations settings.

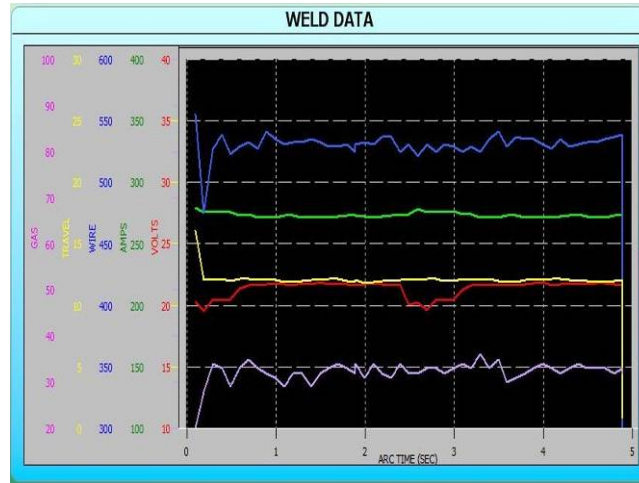
The **Welding Summary** Tab provides the user with a view data panel that can be used to display and print saved Weld/Summary data files.

2.1 MAIN SCREEN TAB



The Main Screen is divided into two Panels, the **Weld Data Panel** and the **Sensor Data Panel**.

2.1.2 Weld Data Panel



The **Weld Screen Tab** contains the **Weld Data Panel**. The Weld Data Panel allows the user to display run time data using a Mufti axis graphical chart. Up to Five (5) parameters can be displayed with individual scaling. To Configure the upper and lower range for the plotted parameters use the **Chart Parameters** Menu located in the **System Config** Tab. (see System Configuration Panel for detailed description) All of the run time data is plotted based on the Running “ARC ON” time. The sensor data plotted will remain on the graph until a new arc start is detected. At the next arc start the previous plotted data is cleared and the new ARC data is plotted. The Graphic panel has a manual scale feature. To change the Vertical axis scale place the mouse cursor on the vertical axis then press and hold the Left mouse button. Move mouse up to increase the scale or down to decrease the scale. The same scale change technique can be used on the horizontal axis. The user can define what parameters are displayed by using the **Chart Parameters** option menu located in the **System Config** Tab. (see System Configuration Panel for detailed description)

2.1.3 Sensor Data Panel

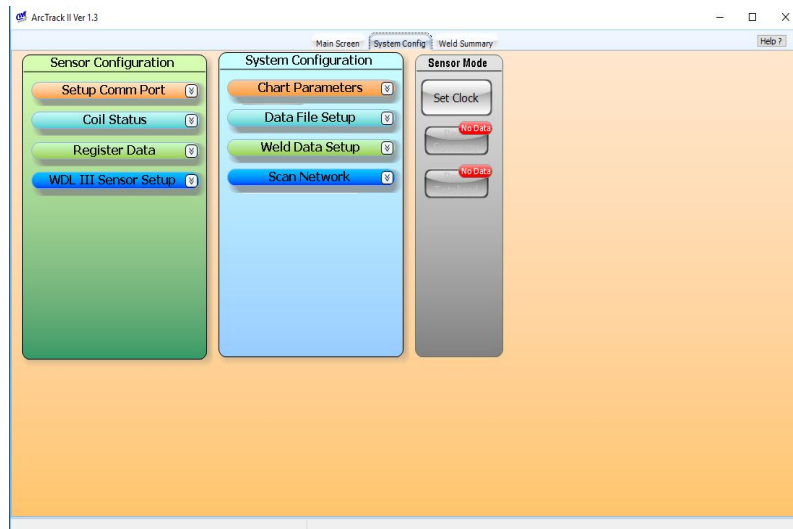


The Sensor Data Panel displays the available sensor data as an LED Panel meter during the Running “ARC ON” time and as Summary Weld Data at “ARC OFF” for the previous weld. All of the available welding data is displayed. If the Smart Sensor does not have one or more of the indicated parameters (such as Wire Feed Speed or Travel Speed) then the display will read zero for the unused parameter panel meter. When the ARC is OFF the Panel meters display the summary data for the last weld. The oval LED on the Top Right of the panel displays the sensor communications

status. If the LED is GREEN the sensor is communicating with the ARC Track II program. If the LED is RED the sensor is not communicating. Check the status bar at the bottom of the screen for any communications error messages.

If the Save All or Save Summary option is enabled the name is displayed below the Panel Meters.

2.2 SYSTEM CONFIG TAB

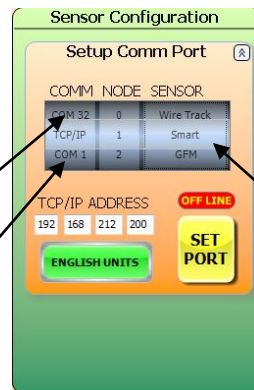


The **System Config Tab** provides the user with **Sensor Configuration**, **System Configuration** Options and **DATA Download** buttons. These Options provide configure of basic sensor and program features

2.2.1 Sensor Configuration Panel

The Sensor Configuration Panel provides several "drop down" menus. To expand any of the "drop down" menus place the cursor over the "*Down Arrow*" button on the right side of the menu bar and click the left mouse button. To collapse the menu place the cursor over the "*Up Arrow*" button on the right side of the menu bar and click the left mouse button.

Setup Comm Port Menu



Cursor here or here, click **Left mouse button** – current selection

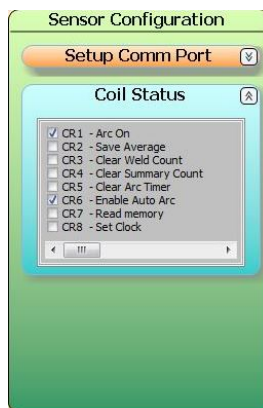
The **Setup Comm Port** menu is used to select the type of sensor, communications port, sensor node address, enter a TCP/IP Address and select English or Metric Units. To Select a COMM Port, NODE number or SENSOR type place the cursor above or below the center current selection window value and click the Left mouse button to rotate through the options.

Note: When the TCP/IP Port is selected a TCP/IP Address must be entered to establish communications.

Once the desired COMM, NODE, SENSOR are selected (and a TCP/IP Address is entered if required) click the SET PORT Button. The RED OFF-LINE LED should change to GREEN ON-LINE LED.

Use the UNITS button to change from ENGLISH UNITS to METRIC UNITS.

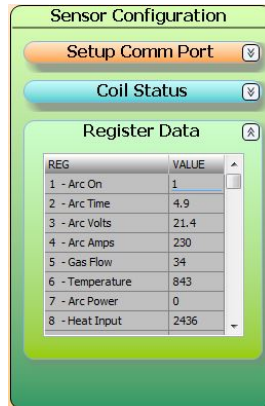
Coil Status Menu



The **Coils Status** menu displays all available Sensor Modbus Coils and the status of the coils. A Check in the box to the left of the coil indicates that the coil is active. To Force a coil Active or Inactive place the cursor over the coil box and click the Left

Mouse button. Caution should be exercised when setting or resetting coils in the sensor. An incorrect setting will result in unexpected results from the sensor or possible loss of welding data.

Register Data Menu

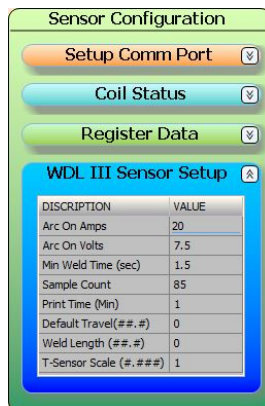


The screenshot shows the 'Sensor Configuration' menu with three options: 'Setup Comm Port', 'Coil Status', and 'Register Data'. The 'Register Data' option is selected, displaying a table of Modbus registers.

REG	VALUE
1 - Arc On	1
2 - Arc Time	4.9
3 - Arc Volts	21.4
4 - Arc Amps	230
5 - Gas Flow	34
6 - Temperature	843
7 - Arc Power	0
8 - Heat Input	2436

The **Register Data** menu displays all of the available Sensor Modbus Registers. These Registers are used to store Sensor Setup and collected weld data values. Caution should be exercised when changing Register Values in the sensor. An incorrect value will result in unexpected results from the sensor or possible loss of welding data.

Sensor Setup Menu



The screenshot shows the 'Sensor Configuration' menu with three options: 'Setup Comm Port', 'Coil Status', and 'Register Data'. The 'Register Data' option is selected, displaying a table of sensor setup parameters.

DISCRIPTION	VALUE
Arc On Amps	20
Arc On Volts	7.5
Min Weld Time (sec)	1.5
Sample Count	85
Print Time (Min)	1
Default Travel(##.##)	0
Weld Length (##.##)	0
T-Sensor Scale (#.###)	1

The **Sensor Setup** menu is a group of Sensor Modbus Registers used to configure the specific sensor operational parameters. The parameters displayed in this drop down manual will change depending on the type of sensor is selected in the **Setup Comm Port** menu. The parameters displayed are formatted to allow the user to easily configure the selected sensor. To change a sensor parameter, place the cursor on the desired value and click the Left Mouse Button to highlight the value. Use the keyboard

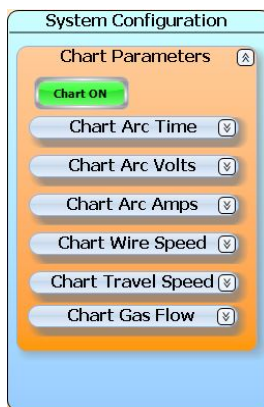
to edit the data. To send the data to the sensor, place the cursor over the new value and double click the left mouse button or press the "Enter" Key on the keyboard. Refer to the specific sensor operational manual for a complete description of the parameters displayed.

2.2.2 System Configuration Panel



The **System Configuration** provides several "drop down" menus. To expand any of the "drop down" menus place the cursor over the "*Down Arrow*" button on the right side of the menu bar and click the left mouse button. To collapse the menu place the cursor over the "*Up Arrow*" button on the right side of the menu bar and click the left mouse button.

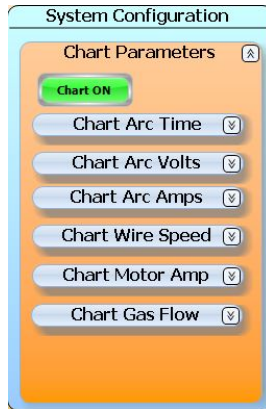
Chart Parameters Menu



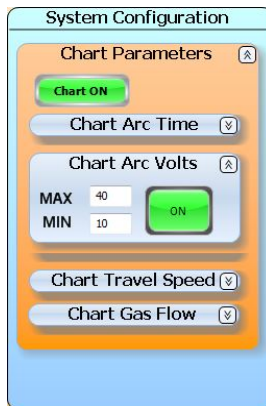
The **Chart Parameters** menu is used to configure the **Weld Data Panel** chart on the **MAIN SCREEN TAB**. Use the **CHART ON/OFF** button to Enable or Disable the **Weld Data Chart**. If the Weld Data Chart is OFF (Disabled) the chart will not display in the Weld Data Panel in the Main Screen Tab.

When using the ARC Track II Program with the Weld Central System the Chart Parameters Menu will display Motor Amp instead of Travel Speed.

Weld Central Cart Display

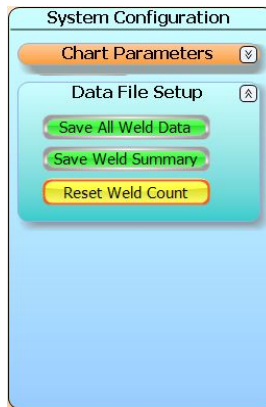


To configure the individual Weld Data Chart Parameters, use the parameter drop down menus. Each individual menu will provide parameter chart ON/OFF and MIN/MAX chart display values.



To scale the Parameter Chart to the collected run time weld data, used the chart MIN/MAX value windows.

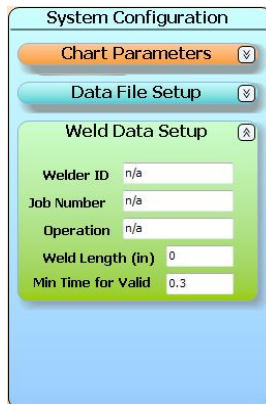
Data Setup Menu



The **Data Setup** menu allows the user to select what type of data is stored in Excel "CVS" flat files and to reset the weld counter in the ARC Trak II program and sensor. If the Save All Weld Data button is selected the individual weld run time data (raw) is save to the weld file. If the Save Weld Summary button is selected the individual weld summary (averaged) is saved to the weld file.

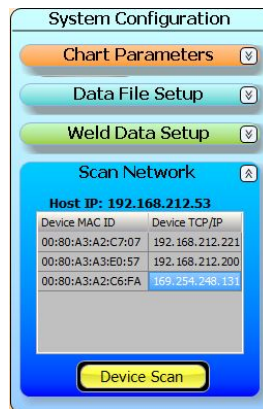
Note: The program and sensor Weld counts are automatically cleared (set to 0[Zero]) at the start of a new day.

Weld Data Setup Menu



The **Weld Data Setup** menu allows the user to enter welding specific items to be stored in the data file record.

Scan Network Menu



The **Scan Network** menu is used to find the available CWT TCP/IP devices that are connected to the local network. To scan the network click on the Device scan button. The button will illuminate green indicating an active scan. When the scan is complete the button will illuminate yellow. As devices are found they are added and displayed in the list box. The MAC ID and current TCP/IP address for each driver device will display. To establish a TCP/IP connection to an active device listed place the cursor over the desired IP address and double click the left mouse button. The program will try and connect to the selected device. This scanner will only find devices on the local network.

Warning - Do not attempt to scan for a device unless the user has configured the Comm port to use the TCP/IP mode.

2.2.3 Sensor Mode Panel

The Sensor Mode Panel provides a button used to Upload Saved Weld Summary's and Totalized Data if available from the selected sensor. The Save Summary and Save Totalize functions must be enabled in the sensor.



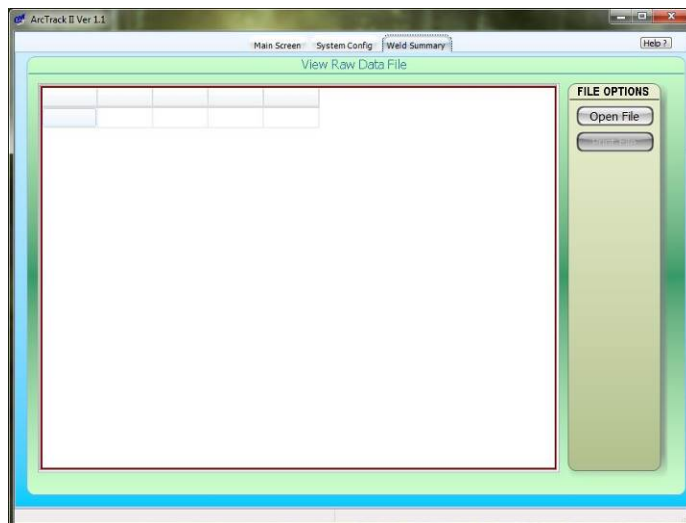
Save Summary and Totalize Disabled – No data available in sensor



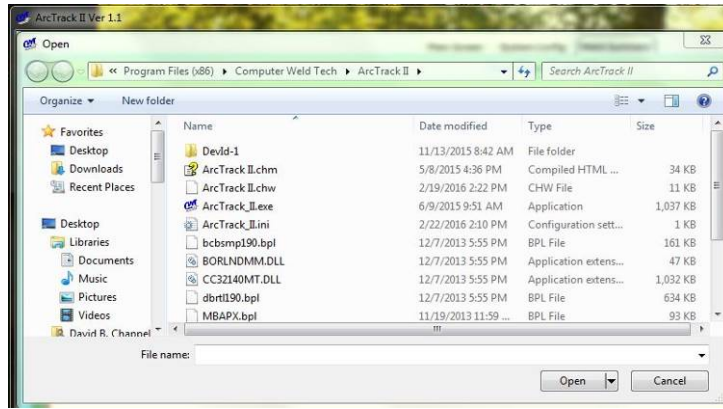
Save Summary and Totalize Enabled – Data available in sensor

If the Read Summary button or the Read Totalize button is Green, click on the button and the data is Uploaded into the Upload folder for Weld Summary and the Totalize Folder for Totalized Data found in the Weld Summary Tab.

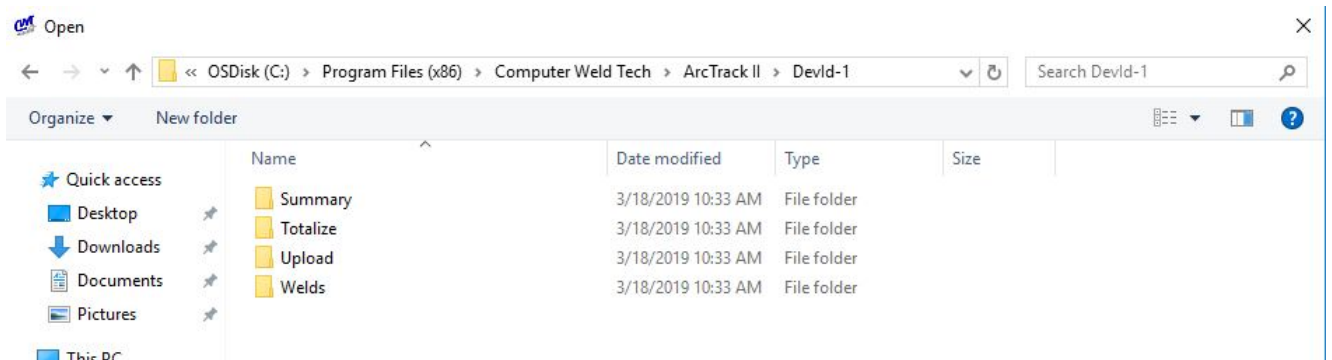
2.3 Weld Summary TAB



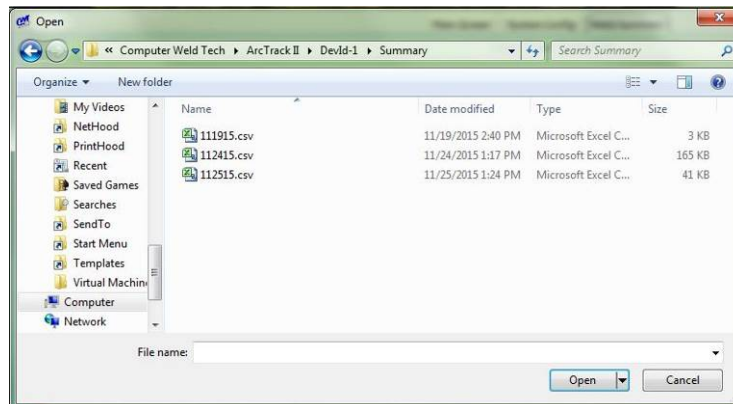
The Weld summary Tab is used to display and print stored raw weld data and weld summary files. To view a data file click the Open File button and an open file dialog window will appear.



The Data is stored by default on the local hard drive of the computer, in the ArcTrackII folder. When the ARC Track II program connects to a device it opens a device ID folder to store the collected data. When the DevID folder is opened, you will see four data folders, one for Welds (raw weld data), one for Summary (averaged weld data), one for Upload (Saved Weld Summaries read from sensor) and one for Totalize (Totalized Data read from the sensor).



Place the mouse cursor over the desired folder to open and double click the Left mouse button or then high lite the desired folder and click the Open button.



The **Summary Weld Data** is stored by weld number, date and time for a 24 hour period. The window provides a grid array similar to an Excel spread sheet. You can only view the data or print the data from this screen. You cannot edit or modify the displayed values.

Weld No.	Date	Time	Amps	Voltage	Wire (mm)	Arc On (Sec)	Travel (mm)	Flux (g)	Length (m)	Heat (KJ)	Travel (mm)	Air Flow
1	14/08/2014	14:20:22	248	20.8	108	5.9	11.1	25.30	0.93	27.28	1	10%
2	14/08/2014	14:20:23	269	21.3	108	5.9	11.8	28.96	0.97	29.24	2	10%
3	14/08/2014	14:20:43	266	21.3	108	4.9	11.0	23.75	0.96	26.46	3	10%
4	14/08/2014	14:20:53	289	21.3	108	5	11.0	27.58	0.97	28.55	4	10%
5	14/08/2014	14:20:53	269	21.4	108	4.9	11.7	25.45	0.95	26.58	5	10%
6	14/08/2014	14:21:13	264	21.3	108	4.9	11.0	23.51	0.95	26.87	6	10%
7	14/08/2014	14:21:23	273	21.3	108	4.9	11.8	26.30	0.96	28.08	7	10%
8	14/08/2014	14:21:33	267	21.3	108	4.9	11.7	25.62	0.96	28.15	8	10%
9	14/08/2014	14:21:43	263	21.3	108	4.9	11.9	27.41	0.97	28.75	9	10%
10	14/08/2014	14:21:53	294	21.3	108	5	11.0	27.01	0.97	28.55	10	10%
11	14/08/2014	14:22:03	278	21.4	108	4.9	11.8	26.73	0.97	28.23	11	10%
12	14/08/2014	14:22:13	267	21.4	108	4.9	11.9	27.03	0.97	28.37	12	10%
13	14/08/2014	14:22:23	261	21.3	108	5	11.8	25.99	0.97	28.02	13	10%
14	14/08/2014	14:22:33	268	21.3	108	5	11.7	26.49	0.97	28.32	14	10%
15	14/08/2014	14:22:43	276	21.4	108	4.9	11.0	26.28	0.97	28.15	15	10%
16	14/08/2014	14:22:53	267	21.3	108	4.9	11.8	27.06	0.97	28.86	16	10%
17	14/08/2014	14:23:03	261	21.3	108	5	11.7	26.11	0.97	28.34	17	10%
18	14/08/2014	14:23:13	261	21.3	108	5	12.1	27.76	0.91	27.81	18	10%
19	14/08/2014	14:23:23	270	21.3	108	4.9	11.8	26.32	0.97	28.17	19	10%
20	14/08/2014	14:23:33	263	21.3	108	4.9	11.0	23.76	0.98	26.10	20	10%
21	14/08/2014	14:23:43	263	21.3	108	5	11.7	26.81	0.96	28.05	21	10%
22	14/08/2014	14:23:53	272	21.4	108	4.9	11.7	25.40	0.96	28.79	22	10%

To print the data click the Print button and a Print Dialog window will appear. Select the desired printer and click the Print button on Print Dialog Window.

The **Weld Data (raw)** is stored in individual weld files by weld number, date and time for a 24 hour period. The window provides a grid array similar to an Excel spread sheet. You can only view the data or print the data from this screen. You cannot edit or modify the displayed values.

Weld No.	Date	Time	Amps	Voltage	Wire (mm)	Arc On (Sec)	Travel (mm)	Air Flow	Length (m)	Heat (KJ)	Travel (mm)	Air Flow
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0	211	10%
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		
1	14/08/2014	08:40:39	340	0	0	25	21.5	0	0	0		

To print the data click the Print button and a Print Dialog window will appear. Select the desired printer and click the Print button on Print Dialog Window.

The **Upload Weld Data** is stored by weld ID number, date and time for the summary file saved in the Sensor. The window provides a grid array similar to an Excel spread

sheet. You can only view the data or print the data from this screen. You cannot edit or modify the displayed values.

Weld No.	Date	Time	Gas	Amps	Volts	Wire (pm)	Arc On (sec)	Travel (pm)	Kjoules	Length (n)	Heat (Kj/in)	Weld ID	Job No.	Welder ID	Operation	Heat/Time	
1	03/18/19	10:35:27	0	190	23.6	0	6.1	39.3	4.484	0	6.845801526	1	Totalize	Smasher	Weld Test	0.03	0.02
3	03/18/19	10:40:47	0	190	23.6	0	8.4	28.5	4.484	0	9.44	3	Totalize	Smasher	Weld Test	0.03	0.02
6	03/18/19	10:42:50	0	190	23.5	0	9.4	25.5	4.465	0	10.50588235	6	Totalize	Smasher	Weld Test	0.03	0.02

The **Totalized** Weld Data is stored by the first Weld ID in the totalized data group, date and time for a 24 hour period. The window provides a grid array similar to an Excel spread sheet. You can only view the data or print the data from this screen. You cannot edit or modify the displayed values.

Weld No.	Date	Time	Gas	Amps	Volts	Wire (pm)	Arc On (sec)	Travel (pm)	Kjoules	Length (n)	Heat (Kj/in)	Weld ID	Job No.	Welder ID	Operation
1	03//18//19	10:35:27	0	190	23.6	0	6.1	39.3	4.484	0	6.845801526	1	Totalize	Smasher	Weld Test
3	03//18//19	10:40:47	0	190	23.6	0	8.4	28.5	4.484	0	9.44	3	Totalize	Smasher	Weld Test
6	03//18//19	10:42:50	0	190	23.5	0	9.4	25.5	4.465	0	10.50588235	6	Totalize	Smasher	Weld Test

To print the data click the Print button and a Print Dialog window will appear. Select the desired printer and click the Print button on Print Dialog Window.

			
WARNING	<ul style="list-style-type: none"> ● Do not touch electrically live parts or electrode with skin or wet clothing. ● Insulate yourself from work and ground. 	<ul style="list-style-type: none"> ● Keep flammable materials away. 	<ul style="list-style-type: none"> ● Wear eye, ear and body protection.
Spanish AVISO DE PRECAUCION	<ul style="list-style-type: none"> ● No toque las partes o los electrodos bajo carga con la piel o ropa mojada. ● Aíslese del trabajo y de la tierra. 	<ul style="list-style-type: none"> ● Mantenga el material combustible fuera del área de trabajo. 	<ul style="list-style-type: none"> ● Protéjase los ojos, los oídos y el cuerpo.
French ATTENTION	<ul style="list-style-type: none"> ● Ne laissez ni la peau ni des vêtements mouillés entrer en contact avec des pièces sous tension. ● Isolez-vous du travail et de la terre. 	<ul style="list-style-type: none"> ● Gardez à l'écart de tout matériel inflammable. 	<ul style="list-style-type: none"> ● Protégez vos yeux, vos oreilles et votre corps.
German WARNUNG	<ul style="list-style-type: none"> ● Berühren Sie keine stromführenden Teile oder Elektroden mit Ihrem Körper oder feuchter Kleidung! ● Isolieren Sie sich von den Elektroden und dem Erdboden! 	<ul style="list-style-type: none"> ● Entfernen Sie brennbares Material! 	<ul style="list-style-type: none"> ● Tragen Sie Augen-, Ohren- und Körperschutz!
Portuguese ATENÇÃO	<ul style="list-style-type: none"> ● Não toque partes elétricas e electrodos com a pele ou roupa molhada. ● Isole-se da peça e terra. 	<ul style="list-style-type: none"> ● Mantenha inflamáveis bem guardados. 	<ul style="list-style-type: none"> ● Use proteção para a vista, ouvido e corpo.
Japanese 注意事項	<ul style="list-style-type: none"> ● 通電中の電気部品、又は溶材にヒフやぬれた布で触れないこと。 ● 施工物やアースから身体が絶縁されている様にして下さい。 	<ul style="list-style-type: none"> ● 燃えやすいものの側での溶接作業は絶対にしてはなりません。 	<ul style="list-style-type: none"> ● 目、耳及び身体に保護具をして下さい。
Chinese 警告	<ul style="list-style-type: none"> ● 皮膚或濕衣物切勿接觸帶電部件及鎢條。 ● 使你自己與地面和工件絕緣。 	<ul style="list-style-type: none"> ● 把一切易燃物品移離工作場所。 	<ul style="list-style-type: none"> ● 佩戴眼、耳及身體勞動保護用具。
Korean 위험	<ul style="list-style-type: none"> ● 전도체나 용접봉을 젖은 형갑 또는 피부로 절대 접촉치 마십시오. ● 모재와 접지를 접촉치 마십시오. 	<ul style="list-style-type: none"> ● 인화성 물질을 접근시키지 마십시오. 	<ul style="list-style-type: none"> ● 눈, 귀와 몸에 보호장구를 착용하십시오.
Arabic تحذير	<ul style="list-style-type: none"> ● لا تلمس الاجزاء التي يسري فيها التيار الكهربائي أو الألكترود بجسدك أو بالملابس المبللة بالماء. ● ضع عازلا على جسمك خلال العمل. 	<ul style="list-style-type: none"> ● ضع المواد القابلة للاشتعال في مكان بعيد. 	<ul style="list-style-type: none"> ● ضع أدوات وملابس واقية على عينيك وأذنيك وجسمك.

READ AND UNDERSTAND THE MANUFACTURER'S INSTRUCTION FOR THIS EQUIPMENT AND THE CONSUMABLES TO BE USED AND FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.

SE RECOMIENDA LEER Y ENTENDER LAS INSTRUCCIONES DEL FABRICANTE PARA EL USO DE ESTE EQUIPO Y LOS CONSUMIBLES QUE VA A UTILIZAR, SIGA LAS MEDIDAS DE SEGURIDAD DE SU SUPERVISOR.

LISEZ ET COMPRENEZ LES INSTRUCTIONS DU FABRICANT EN CE QUI REGARDE CET EQUIPMENT ET LES PRODUITS A ETRE EMPLOYES ET SUIVEZ LES PROCEDURES DE SECURITE DE VOTRE EMPLOYEUR.

LESEN SIE UND BEFOLGEN SIE DIE BETRIEBSANLEITUNG DER ANLAGE UND DEN ELEKTRODENEINSATZ DES HERSTELLERS. DIE UNFALLVERHÜTUNGSVORSCHRIFTEN DES ARBEITGEBERS SIND EBENFALLS ZU BEACHTEN.

			
<ul style="list-style-type: none"> ● Keep your head out of fumes. ● Use ventilation or exhaust to remove fumes from breathing zone. 	<ul style="list-style-type: none"> ● Turn power off before servicing. 	<ul style="list-style-type: none"> ● Do not operate with panel open or guards off. 	WARNING
<ul style="list-style-type: none"> ● Los humos fuera de la zona de respiración. ● Mantenga la cabeza fuera de los humos. Utilice ventilación o aspiración para gases. 	<ul style="list-style-type: none"> ● Desconectar el cable de alimentación de poder de la máquina antes de iniciar cualquier servicio. 	<ul style="list-style-type: none"> ● No operar con panel abierto o guardas quitadas. 	Spanish AVISO DE PRECAUCION
<ul style="list-style-type: none"> ● Gardez la tête à l'écart des fumées. ● Utilisez un ventilateur ou un aspirateur pour ôter les fumées des zones de travail. 	<ul style="list-style-type: none"> ● Débranchez le courant avant l'entretien. 	<ul style="list-style-type: none"> ● N'opérez pas avec les panneaux ouverts ou avec les dispositifs de protection enlevés. 	French ATTENTION
<ul style="list-style-type: none"> ● Vermeiden Sie das Einatmen von Schweißrauch! ● Sorgen Sie für gute Be- und Entlüftung des Arbeitsplatzes! 	<ul style="list-style-type: none"> ● Strom vor Wartungsarbeiten abschalten! (Netzstrom völlig öffnen; Maschine anhalten!) 	<ul style="list-style-type: none"> ● Anlage nie ohne Schutzgehäuse oder Innenschutzverkleidung in Betrieb setzen! 	German WARNUNG
<ul style="list-style-type: none"> ● Mantenha seu rosto da fumaça. ● Use ventilação e exaustão para remover fumo da zona respiratória. 	<ul style="list-style-type: none"> ● Não opere com as tampas removidas. ● Desligue a corrente antes de fazer serviço. ● Não toque as partes elétricas nuas. 	<ul style="list-style-type: none"> ● Mantenha-se afastado das partes moventes. ● Não opere com os painéis abertos ou guardas removidas. 	Portuguese ATENÇÃO
<ul style="list-style-type: none"> ● ヒュームから頭を離すようにして下さい。 ● 換気や排煙に十分留意して下さい。 	<ul style="list-style-type: none"> ● メンテナンス・サービスに取りかかる際には、まず電源スイッチを必ず切して下さい。 	<ul style="list-style-type: none"> ● パネルやカバーを取り外したままで機械操作をしないで下さい。 	Japanese 注意事項
<ul style="list-style-type: none"> ● 頭部遠離煙霧。 ● 在呼吸區使用通風或排風器除煙。 	<ul style="list-style-type: none"> ● 維修前切斷電源。 	<ul style="list-style-type: none"> ● 儀表板打開或沒有安全罩時不準作業。 	Chinese 警告
<ul style="list-style-type: none"> ● 얼굴로부터 용접가스를 멀리하십시오. ● 호흡지역으로부터 용접가스를 제거하기 위해 가스제거기나 통풍기를 사용하십시오. 	<ul style="list-style-type: none"> ● 보수전에 전원을 차단하십시오. 	<ul style="list-style-type: none"> ● 판넬이 열린 상태로 작동치 마십시오. 	Korean 위험
<ul style="list-style-type: none"> ● ابعد رأسك بعيداً عن الدخان. ● استعمل التهوية أو جهاز ضغط الدخان للخارج لكي تبعد الدخان عن المنطقة التي تتنفس فيها. 	<ul style="list-style-type: none"> ● اقطع التيار الكهربائي قبل القيام بأية صيانة. 	<ul style="list-style-type: none"> ● لا تشغيل هذا الجهاز اذا كانت الاغطية الحديدية الواقية ليست عليه. 	Arabic تحذير

LEIA E COMPREENDA AS INSTRUÇÕES DO FABRICANTE PARA ESTE EQUIPAMENTO E AS PARTES DE USO, E SIGA AS PRÁTICAS DE SEGURANÇA DO EMPREGADOR.

使う機械や溶材のメーカーの指示書をよく読み、まず理解して下さい。そして貴社の安全規定に従って下さい。

請詳細閱讀並理解製造廠提供的說明以及應該使用的銀焊材料，並請遵守貴方的有關勞動保護規定。

이 제품에 동봉된 작업지침서를 숙지하시고 귀사의 작업자 안전수칙을 준수하시기 바랍니다.

اقرأ بتمعن وافهم تعليمات المصنع المنتج لهذه المعدات والمواد قبل استعمالها واتبع تعليمات الوقاية لصاحب العمل.

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.



THE LINCOLN ELECTRIC COMPANY

22801 St. Clair Avenue • Cleveland, OH • 44117-1199 • U.S.A.
Phone: +1.216.481.8100 • www.lincolnelectric.com