

2022 International Equipment and Consumable Products

Manufactured In North America

LINCOLN[®]
ELECTRIC



LINCOLN ELECTRIC NORTH AMERICAN EQUIPMENT & CONSUMABLE PRODUCTS



Who We Are and What We Do

Lincoln Electric is the world leader in the design, development and manufacture of arc welding products, robotic arc welding systems, plasma and oxyfuel cutting equipment and has a leading global position in the brazing and soldering alloys market. Headquartered in Cleveland, Ohio, Lincoln Electric has 55 manufacturing locations, including operations and joint ventures in 18 countries, and a worldwide network of distributors and sales offices covering more than 160 countries. For more information about Lincoln Electric and its products and services, visit the company's website at www.lincolnelectric.com.

Innovation

Lincoln Electric provides cutting-edge products and solutions, and has a long history of innovation in new technology and processes for arc welding equipment and consumables. The Company operates the industry's most comprehensive research and product development program, supported by its R&D centers around the world, including the advanced David C. Lincoln Technology Center in Cleveland, Ohio.

Lincoln Electric Delivers A Wide Array Of Products:

- Equipment
- Consumables
- Personal Protection Equipment
- Plasma Cutting Systems
- Automation
- Weld Fume Control



North American Export Products

This catalog contains Lincoln Electric products manufactured in North America which are most commonly exported to customers around the world.

Highlighted are our **Flagship Export Products** which are exclusively made in North America.

To see our complete line of welding and cutting products, visit our U.S. website at www.lincolnelectric.com. Additionally, click on "Select Your Country" to see the entire line of Lincoln Electric products available in your region, made at our various global manufacturing facilities.



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Icons

Output Icons



For constant current stick and TIG processes



Alternating current welding output



Peak auxiliary power output



2-Roll Wire Feeder



For constant voltage MIG, flux-cored and subarc processes



Direct current welding output



Surge auxiliary power output



4-Roll Wire Feeder



For multiprocess constant current or constant voltage applications



Alternating or direct current welding output



Continuous auxiliary power output



CrossLinc® Technology

Input Icons



Single phase input power



115 Volt AC Wire feeder input power



50 Hertz input power



Engine Driven: Diesel, Gas or LPG



Three phase input power



42 Volt AC Wire feeder input power



60 Hertz input power



115 V INPUT



230 V INPUT



Single or three phase input power



40 Volt DC Wire feeder input power



50/60 Hertz input power

Warranty Commitment



3 Year Warranty

You have a right to expect that the welding and cutting equipment, electrode and flux you purchase will be free of defects in workmanship and material. Standing behind the high quality of our products, Lincoln Electric's warranty commitment to its customers leads the industry in breadth and scope.

For example, our limited warranty extends to 7 Years on many of our main power rectifiers. With few exceptions, all industrial welders and power sources carry a full 3 Year Lincoln Electric warranty. Electrode, wire and flux are warranted for 1 full year, as are environmental systems.



Quality Systems

Choose welding suppliers wisely . . . look for third party certifications on the companies and products you select. In fact, some of your projects or customers may require it. Many Lincoln Electric manufacturing sites have been inspected and registered to the world's ISO standards. In fact, Lincoln Electric was the first welding manufacturer to be registered to the tough ISO 9001 and 14001 standards.

However, there's more. Equipment destined for harsh environments is often tested to IP21, IP23 and IP23S standards. Products intended for the Canadian market meet stringent CSA (Canadian Standards Association) standards. Electrode is tested to comply with AWS (American Welding Society) and often ASME Boiler Pressure codes, ABS (American Bureau of Shipping), CWB/CSA (Canadian Welding Bureau) and MIL qualifications. Certificates of Conformance are available at our web site.

Operator Manuals and Replacement Parts Lists

Service Navigator - Electronic Parts Catalog

Quickly navigate to service documentation for a particular machine by utilizing the code number filter. Access to all the product information you need is just a click away - operator's manuals, parts lists and more at parts.lincolnelectric.com.

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 information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

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.

Availability and/or specifications of products listed in this catalog are subject to change at any time without notice.



ADVANCED PROCESS WELDERS

POWER WAVE® PRODUCTS

Power Wave® Family

- Advanced Waveform Control Technology® computer driven power sources and wire feeders for optimum arc performance and control of your welding
- Control welding as a process – Implement, Control, Verify
- Multi-process power sources for stick, DC TIG, AC TIG, MIG, AC MIG, flux-cored and arc gouging, with additional wire feeder, modules and accessories
- 350 amp, 500 amp and 700 amp capacity machines with state of art Inverter technology
- Ideal arc characteristics and wire feeding equipment for most base metals; carbon and low-alloy steels, stainless steels, aluminum, nickel alloys, copper alloys, etc.
- Digital, synergic “one-knob” control of welding procedures and adaptive output to improve productivity with less experienced welders



POWER WAVE® FAMILY OVERVIEW

MODEL	OUTPUT			PROCESS											INPUT		FEATURES		
	Mode	Polarity	Current Range (Amps)	Stick	TIG	AC/DC TIG	MIG	STT® MIG	HyperFill™	AC MIG	Pulsed MIG	Low Fume Pulse™	Flux-Cored	Arc Gouge	Phase	Hertz	Waveform Control Technology®	ArkLink® Digital Communication	Inverter Efficiency
PIPEFAB™	CC/CV	DC	5-400	●	●		●	●	●		●	●	●	⬮	3	50/60	●	●	●
Power Wave® 300C Advanced	CC/CV	AC/DC	5-350	●	●	●	●	●		●	●	●	●	⬮	1,3	50/60	●	●	●
Power Wave® S350	CC/CV	DC	5-350	●	●	○	●	○		○	●		●		1,3	50/60	●	●	●
Power Wave® S500	CC/CV	DC	5-550	●	●	○	●	○	●	○	●	○	●	⬮	3	50/60	●	●	●
Power Wave® S700	CC/CV	DC	20-900	●	●		●		●		●		●	●	3	50/60	●	●	●
Power Wave® Advanced Module	CC/CV	AC/DC	NA			●		●		●		●			NA	NA	●	●	●
Power Wave® STT® Module	STT®	DC	NA					●				●			NA	NA	●	●	●

KEY: Excellent ● Good ● Optional ○ Included •

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then “Equipment” tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>

LINCOLN ELECTRIC

Advanced MIG (GMAW) Processes

Your local Lincoln Electric distributor and Lincoln Electric Technical Sales Representative, backed by our Applications Engineering Department, can help you select the advanced process and equipment that can improve your results. Request a demo to see how we can help reduce costs, enhance quality or increase productivity in your operations.

PROCESS	DESCRIPTION	PRODUCT
CV	Steel, Stainless & Aluminum » CV is the conventional mode for MIG welding. This general purpose MIG welding mode uses constant voltage for short arc, globular and spray transfer.	Power Wave® 300C, S350, R450, S500, S700 PIPEFAB™
STT®	Steel, Stainless & High Nickel » This precision MIG mode delivers premium and consistent root pass results on pipe with low reject rates and excellent gap bridging capabilities. STT® can also be used to reduce spatter and control heat input on sheet metal applications.	Power Wave® 300C*, S350, R450, S500 all w/STT® or Advanced Module PIPEFAB™
AC-STT®	Steel » Based off of the patented STT® process, AC-STT® combines the proven spatter-reducing technology of the STT® waveform with the balanced heat-input characteristics of AC GMAW, producing an advanced shortcircuit process optimized specifically for thin-gauge materials.	Power Wave® 300C*, S350, R450, S500 all w/Advanced Module PIPEFAB™
Pulse	Steel, Stainless, Aluminum & more » Traditional MIG pulse mode uses a pulse for the metal transfer, which avoids a short and allows for a wide operating range, characterized by low to high wire feed speed, many different materials and virtually no spatter.	Power Wave® 300C, S350, R450, S500, S700
Low Fume Pulse™	Steel » Low Fume Pulse™ simplifies the balancing act between weld-fume control and weld floor productivity. Developed to be a win-win solution, this advanced pulsed welding process maximizes arc performance while effectively controlling heat-input.	Power Wave® 300C*, R450, S500 all w/STT® or Advanced Module PIPEFAB™
Smart Pulse™	Steel & Stainless » Enhanced MIG pulse mode that maximizes pulse welding performance and simplicity by auto-adjusting the pulse waveform based on machine settings. Set a low WFS and Smart Pulse™ auto-adjusts for a narrow, focused arc. Set a high WFS, Smart Pulse auto-adjusts for a wide, soft arc.	PIPEFAB™, Power Wave 300C*
Precision Pulse™	Steel & Stainless » This enhanced MIG pulse mode features a tight, focused arc for fast vertical up welding and outstanding out-of-position puddle control.	Power Wave® 300C, S350, R450, S500
Pulse-on-Pulse®	Aluminum » This arc modulation MIG pulse mode can deliver a TIG (GTAW)-like bead appearance.	Power Wave S350, R450, S500
AC Precision Pulse™	Aluminum » With the help of the Power Wave® Advanced Module, GMAW aluminum welding results can be improved over traditional DC positive aluminum MIG welding. By switching the polarity of the arc, heat input is reduced and deposition rates are enhanced.	Power Wave® 300C*, S350, R450, S500 all w/Advanced Module
RapidArc®	Steel & Stainless » RapidArc® is an accelerated MIG pulse mode with a short arc length compared to pulse and CV-spray for high travel speed applications.	Power Wave® 300C, S350, R450, S500, S700
Rapid X™	Steel & Stainless » Rapid X™ is a premium MIG pulse mode designed to deliver higher travels speeds and extremely low spatter levels.	Power Wave® 300C*, S350, R450, S500 all w/STT® or Advanced Module
Rapid Z™	Zinc » Rapid Z™ is a process designed to increase stability and travel speeds, while reducing spatter and internal porosity on Zinc coated materials.	Power Wave® S350, R450, S500 all w/STT® or Advanced Module
Power Mode®	Steel, Stainless & Aluminum » This enhanced MIG mode can deliver excellent arc stability with reduced spatter at high travels speeds, resulting from an extended short arc range at higher wire feed speed procedures. It also yields a tight and stable arc in spray transfer.	Power Wave® S350, R450, S500
HyperFill™	Steel » Patented Twin Wire GMAW process designed to increase the usable deposition rate of GMAW operations without the setup difficulty. Process uses two wires but a single power source, single wire feeder, single gun liner and single contact tip.	Power Wave® R450, S500, S700 PIPEFAB™
Synchronized Tandem MIG®	Steel » Synchronized Tandem MIG® overcomes deposition rate limitations of a single wire by using two wires and specific waveforms. The result is deposition rates nearly double rates possible with a single wire as well as faster travel speeds.	

* Power Wave 300C Advanced only. STT or Advanced Module not necessary.

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>.



POWER WAVE® PRODUCTS

Power Wave® 300C

The Ultimate All-In-One Machine

- Best-In-Class 300A 100% Duty Cycle Performance
- True all-process versatility including advanced weld modes and integrated high frequency and AC/DC capabilities
- Intelligent, operator-focused interface and powerful Industry 4.0 capabilities including CheckPoint® Production Monitoring



Processes

- Stick
- AC TIG*
- DC TIG
- MIG
- STT MIG*
- AC MIG
- Pulsed MIG
- Low Fume Pulse*
- Flux-Cored
- Arc Gouge

Output



Input



Literature

E5.102

Product Name	Product Number	Input Power Voltage /Phase/Hertz	Output Range	Rated Output: Current/Voltage/Duty Cycle	Input Current @ Rated Output	H x W x D in (mm)	Net Wt. lb (kg)
Power Wave® 300C Standard	K4487-1	200-208/220-230/380-415/ 460/575/1/3/50/60	5-350A	GMAW: 350A / 31.5 V / 40% GMAW: 300A / 29 V / 100%	3ph /1ph /40% Duty Cycle: 44/40/25/20/16.5	39.67 x 20.65 x 39.60 (1007.6 x 524.5 x 1005.8)	193 (87.5)
Power Wave® 300C Advanced	K4488-1			SMAW: 325A / 33V / 40% SMAW: 280A / 31.2V/100%			226 (102.5)
Power Wave® 300C Advanced Education One-Pak®	K4934-1			FCAW: 350A / 31.5 V / 40% FCAW: 300A / 29 V / 100%	3ph /1ph/100% Duty Cycle: 35/32/19.5/16/14		
Power Wave® 300C Standard CE	K4489-1			GTAW: 325A / 23V / 40% GTAW: 300A / 22V / 100%			
Power Wave® 300C Advanced CE	K4490-2						

* Only available on the Power Wave® 300C Advanced (K4488-1).

PIPEFAB™

The Ideal Setup for Pipe & Vessel Fabrication

- Breakthrough Arc Performance
- Straightforward & Simple
- Industry-Driven Design
- Trusted Expertise & Support



Processes

- Stick
- TIG
- MIG
- STT® MIG
- Pulsed MIG
- Flux-Cored
- HyperFill™
- Low Fume Pulse™

Output



Input



Literature

E5.13

Product Name	Product Number	Input Power Voltage/Phase/Hertz	Rated Output: Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	H x W x D in (mm)	Net Wt. lb (kg)
PIPEFAB™ Power Source	K3731-1	200-208/220-230/380-415/460/575	STICK: 55-400A/36V/100% MIG: 40-400A/26V/100% FLUX-CORE: 40-400A/26V/100% TIG: 5-400A/26V/100%	53/46/26/24/19	5-400A	22.1 X 17.5 X 34.8 (561.3 X 444.5 X 883.9)	206.5 (93.7)
PIPEFAB™ Feeder	K3735-1	40V DC				14.5 in x 22 in x 30.2 (368.3 x 558.8 x 767)	80 (36.3)
Ready-Pak®	K3734-1	—				43.5 x 30.9 x 48.5 (1104.9 x 784.9 x 1231.9)	340 (154.2)

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>.

POWER WAVE® PRODUCTS

Power Wave® S350

Portable, Versatile, Powerful

- Equipped with a complete portfolio of high-performance wave forms, providing flexibility to tackle any welding application
- Comes standard with Power Wave Manager software tools, simplifying welding setup and operation
- CheckPoint™ software allows you to track equipment usage, store weld data, configure fault limits and more
- Compact and durable case is IP23-rated to withstand harsh environments



Processes

- Stick
- DC TIG
- Pulsed DC TIG
- MIG
- Pulsed MIG
- Flux-Cored

Output



Input



Literature

E5.110

Product Name	Product Number	Input Power Voltage/Phase/Hertz	Rated Output: Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	H x W x D in (mm)	Net Wt. lb (kg)
Power Wave® S350 Base Model	K2823-3	208/230/380-415/460/575/1/3/50/60	GMAW: 350A/31.5V/40% ⁽¹⁾ 300A/29V/100%	3-Ph/40% Duty Cycle: 39/35/19/17/14A	5-350A ⁽³⁾	20.40 x 14 x 24.80 [518 x 356 x 630]	85 [38.6]
Ready-Pak® Pkg. (Steel)	K3005-3		SMAW: 325A/33V/40% ⁽¹⁾ 250A/30V/100%	3-Ph/100% Duty Cycle: 31/28/15/14/11A		52 x 39 x 26 [1321 x 991 x 660]	450 [204.1]
Air-Cooled Magnum® PRO Pistol Grip Aluminum 25 ft. (7.6 m) One-Pak® Pkg.	K3553-1		GTAW-DC: 350A/24V/40% 300A/22V/100%	1-Ph/40% Duty Cycle: 60/67 ⁽²⁾ /na/na/na			
Water-Cooled Magnum® PRO Pistol Grip Aluminum 25 ft. (7.6 m) One-Pak® Pkg.	K3554-1			1-Ph/100% Duty Cycle: 60/53/na/na/na			

⁽¹⁾230 Volt/1-Phase Input: the peak rating is at 30% duty cycle, except for GTAW. ⁽²⁾Based on the U.S. National Electrical Code. ⁽³⁾On 208 Volt inputs, the maximum output are limited to 300 amps.

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>.

POWER WAVE® PRODUCTS

Power Wave® S500

Multi-Process Power and Versatility

- Equipped with a complete portfolio of high-performance wave forms, providing flexibility to tackle any welding application
- Comes standard with Power Wave Manager software tools, simplifying welding setup and operation
- CheckPoint™ software allows you to track equipment usage, store weld data, configure fault limits and more
- Compact and durable case is IP23-rated to withstand harsh environments



- Processes**
- Stick
 - DC TIG
 - Pulsed DC TIG
 - MIG
 - Pulsed MIG
 - Flux-Cored

Output



Input



Literature

E5.115

Product Name	Product Number	Input Power Voltage/Phase/Hertz	Rated Output: Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	H x W x D in (mm)	Net Wt. lb (kg)	
Power Wave® S500 Base Model	K2904-1	208/230/380-415/ 460/575/3/50/60	GMAW: 550A/41.5V/40% 450A/36.5V/100%	3-Ph/40% Duty Cycle: 81/73/41/37/29A	5-550A	22.5 x 14 x 24.8 (571 x 355 x 630)	150 (68)	
w/Power Feed® 84 Ready-Pak® Pkg.	K3187-2		SMAW: 550A/42V/40% 450A/38V/100%	3-Ph/100% Duty Cycle: 60/54/31/27/21A		51.7 x 34.4 x 53.4 (1313 x 874 x 1356)	376 (171)	
w/Power Feed® 84 One-Pak® Pkg.	K3186-2		GTAW-DC: 550A/32V/40% 450A/38V/100%			—	—	
HyperFill® Reveal™ Power Feed® 84 Dual Ready-Pak®, Single Cart	K4650-4						450 (204)	
HyperFill® Reveal™ Power Feed® 84 Single Ready-Pak	K4650-5							
HyperFill® Reveal™ Power Feed® 84 Dual Ready-Pak®, Dual Cart	K4650-6							

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>.



POWER WAVE® PRODUCTS

Power Wave® S700

High Output Power for
Automated Environments

- Intended for high amperage, high duty cycle semiautomatic, mechanized or robotic applications in the heavy equipment, transportation and other industries
- Add AutoDrive® 19 Tandem modules to access waveform modes specifically designed for Synchronized Tandem MIG



Processes

- Stick
- TIG
- MIG
- Pulsed MIG
- Flux-Cored
- Tandem MIG®
- Carbon Arc Gouging

Output



Input



Literature

E5.120

Product Name	Product Number	Input Power Voltage/Phase/Hertz	Rated Output: Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	H x W x D in (mm)	Net Wt. lb (kg)
Power Wave® S700	K3279-1 ⁽¹⁾	380-415/440-460/500/575/3/50/60	700/44/100% [900A/44/60%]	55/46/42/38A [74/60/56/49A]	20-900A	30.1 x 19.1 x 36.7 [765 x 485 x 932]	385 [175]

⁽¹⁾Internal filter is required to meet CE conducted emission requirements. K2444-4 CE Filter must be used with K3279-1.

Power Wave® STT® Module

Add STT® for Exceptional Arc Control

- Add STT® (Surface Tension Transfer®) process capability to any S-Series Power Wave for enhanced puddle and burnthrough control
- Improve performance on thin metal or critical pipe root pass welding applications
- Modular design allows easy connection and fast digital communication with compatible Power Wave® models



Processes

- GMAW-STT®
- Low Fume Pulse™
[S500 or R450]

Output



Input



Literature

E5.190

Product Name	Product Number	Input Power Voltage/Phase/Hertz	Rated Output: Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	H x W x D in (mm)	Net Wt. lb (kg)
Power Wave® STT® Module	K2902-1 US/Int'l Model	40V DC	100% Duty Cycle ⁽¹⁾ : 450A	n/a	n/a	11.5 x 14 x 24.8 [292 x 356 x 630]	47 [21.3]
	K2921-1 CE Model		60% Duty Cycle ⁽¹⁾ : 500A 40% Duty Cycle ⁽¹⁾ : 550A Peak [Max] ⁽¹⁾ : 750A				

⁽¹⁾Dependent on host welding power source output.

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>

POWER WAVE® PRODUCTS

Power Wave® Advanced Module

Expand Your Welding Capabilities

- Adds AC waveform control for Pulsed MIG, and Gas Tungsten Arc (TIG) Welding
- Hi-frequency starting for TIG welding capability
- Modular design allows easy connection and fast digital communication with compatible Power Wave® models
- Includes STT® process capability, making this module ideal for automotive, pipe and thin metal applications



Processes

- GMAW-STT®
- AC-GMAW-P
- GTAW: AC, DC-, AC/DC

Output



Input



Literature

E5.191

Product Name	Product Number	Input Power Voltage/Phase/Hertz	Rated Output: Current/Voltage/Duty Cycle	Input Current @ Rated Output	Output Range	H x W x D in (mm)	Net Wt. lb (kg)
Power Wave® Advanced Module	K3685-1	40V DC	100% Duty Cycle ⁰¹ : 300A @ 32V 40% Duty Cycle ⁰¹ : 350A @ 34V Peak (Max) ⁰¹ : 600A	n/a	n/a	11.5 x 14 x 25 (292 x 356 x 635)	70.5 (32)

⁰¹Host welding power source will be limited to these outputs.

CWT WDL-3™

Weld Data Logger

- Lightweight, portable data acquisition system that enables accurate measuring and documenting of all basic welding parameters
- Ideal for inspectors to easily transport and provide instantaneous data on current welding conditions
- No need for jobsite connectivity - log up to 4,000 weld summaries to internal memory
- Print out a hard copy without a PC at the jobsite of all logged welds
- Digital download all the logged welds for further analytics



Connectivity

- Ethernet
- USB
- Serial printer

Literature

E8.502

Product Name	Product Number	Input Power	H x W x D in (mm)	Net Weight lbs (kg)
WDL-3 - USB	A0A0171-USB	12 - 32vdc @ 0.5 amps (nominal 24 VDC input)	7.50 W x 4.50 D x 2.50 H (51 x 165 x 280)	4 (1.8)
WDL-3 - Ethernet	A0A0171-ETH	12 - 32vdc @ 0.5 amps (nominal 24 VDC input)	7.50 W x 4.50 D x 2.50 H (51 x 165 x 280)	4 (1.8)

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>.

POWER WAVE® PRODUCTS

Power Wave® Wireless Connectivity Module

Simplifying Machine Connectivity

- Plant-Wide Connection – Easily connect existing or remote Power Wave® systems for complete visibility to your welding operation.
- Quick & Easy Installation – Modular design allows for hassle-free installation without the need for extensive machine downtime.
- Local Display - Convenient voltage and amperage metering directly on the power source



FLAGSHIP PRODUCT

Connection

- Wi-Fi 802.11 a/b/g/n [Wi-Fi 1/2/3/4]
- Bluetooth 4.1
- Ethernet

Compatible Power Sources

- Power Wave® S350
- Power Wave® S500
- Power Wave® R450
- Power Wave® S700

Literature

MC18-12

Product Name	Product Number	Connectivity	Encryption
Power Wave® Wireless Connectivity Module	K4352-1	Wi-Fi 802.11 a/b/g/n @ 2.4 GHz Bluetooth 4.1 and earlier Ethernet Port	WEP WPA WPA2 WPA ENT
Power Wave® Wireless Connectivity Module (S700 only)	K4352-2		

APEX® 30S Mechanized Controller

Superior Control Systems for Mechanized Welding

- One platform for multiple welding processes including FCAW, GMAW, GTAW, and Hot Wire GTAW
- Extremely precise mechanized welding control for fixed and out-of-position in orbital or flat track applications
- Integrated gas solenoid and flow sensor for reduced footprint and cable clutter
- Intuitive, lightweight pendant provides straightforward operation and provides lowest learning curve in the industry



Processes

- MIG
- Pulsed MIG
- Flux-Cored
- GMAW- STT®
- GTAW
- Hot Wire GTAW

Output

24
VDC

Input

40
VDC

Literature

E9.624

Product Name	Product Number	Input Power	Dimensions L x W x H in (mm)	Net Weight
APEX® 30S Mechanized Controller	K52217-1	40 VDC	25.33 x 11 x 14.33 (644.4 x 279.4 x 363.2)	36 (lbs) 16 (kg)

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>

POWER WAVE® PRODUCTS



APEX® 30M Mechanized Controller

Portable Control for Mechanized Welding

- Portable mechanized control with integrated wire feeder for a lightweight, mobile solution for the shop or the field
- Designed with the patented MAXTRAC® Wire Drive System, for superior wire-feeding performance
- Extremely precise mechanized welding control for fixed and out-of-position applications
- Intuitive, lightweight pendant provides straightforward operation and provides lowest learning curve in the industry



Processes

- MIG
- Pulsed MIG
- Flux-Cored
- GMAW – STT®

Output



Input



Literature

E9.623

Product Name	Product Number	Input Power	Rated Output Current / Duty Cycle	Wire Feed Speed ipm (m/min)	Wire Spool Size lb (kg)	H x W x D in (mm)	Net Weight lb (kg)
APEX® 30M Mechanized Controller	K52160-1	40VDC	500A / 60% 450A / 100%	30-1200 (76-3048)	10 - 33 (4.5 - 15)	14.4 x 11.0 x 25.4 (366 x 279 x 645)	49 (22)

HELIX® M85 Weld Head

Next Generation Mechanized Weld Head

- Incorporates digital capabilities in an intuitive, ergonomic design
- Tool-less torch adjustments - Choose any position on three axes, with in/out, up/down and circumferential adjustment
- Lightweight – mounts in seconds to our patented orbital and flat tracks.



Processes

- MIG
- Pulsed MIG
- Flux-Cored
- GMAW-STT®
- GTAW
- Hot Wire GTAW

Input



Literature

E9.616

Product Name	Product Number	Input Power	Input Current	Travel Speed ipm (mm)	Clearance in (mm)		Oscillation Stroke in. (mm)	Motorized Height Control Stroke in (mm)	Lead/Lag	Torch Tilt		H x W x D in (mm)
					Radial	Axial				In	Out	
HELIX® M85 Weld Head	K52101-1	24V DC	9A Max	0.1 min-120 max (2.54 min-3048 max)	8.5 (215.9)	19.75 (501.7)	2.00 (50.8)	2.00 (50.8)	360°	60° max	30° max	8.33 x 14.25 x 6.85 (211.6 x 362.0 x 174.0)

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>



FLAGSHIP PRODUCT

POWER WAVE® PRODUCTS

HELIX® M45 Weld Head

Low Profile Mechanized Weld Head

- Low profile design for precise mechanized welding in areas of limited space and physical constraints
- Improved application flexibility with low radial clearance of 4.5 in (114 mm)
- Lightweight – mounts in seconds to our patented orbital and flat tracks.



Processes

- MIG
- Pulsed MIG
- Flux-Cored
- GMAW-STT®
- GTAW
- Hot Wire GTAW

Input



Literature

E9.615

Product Name	Product Number	Input Power	Input Current	Travel Speed in/min [cm/min]	Clearance - in (mm)		Oscillation Stroke in (mm)	Motorized Height Control Stroke	Lead/Lag Range	Torch Tilt		Dimensions H x W x D in (mm)
					Radial in. (mm)	Axial in. (mm)				In	Out	
HELIX® M45 Weld Head	K52224-1	24V DC	9A max	0.10 - 120 [0.25 - 305]	4.50 [114.3]	14 [355.6]	5.00 [127]	1.96 [49.784]	+/- 45°	45° max	45° max	5.08 x 16.63 x 19.70 [129.0 x 422.4 x 500.4]

HELIX® M627 Weld Head

Orbital Clamp-On Weld Head

- 500 Amp, 100% Duty Cycle, clamp-on weld head
- On-board wire feeder for improved ease-of-use
- Intelligent connectivity with auto calibration on power up



Processes

- GTAW

Input



Product Name	Product Number	Input Power	Travel Speed rpm	Wire Feed Speed ipm [cm/min]	Wire Size Range in (mm)	Clearance - in (mm)		Oscillation Stroke in (mm)	Motorized Height Control Stroke	Electrode to Front in (mm)	Dimensions H x W x D in (mm)	Net Weight lb (kg)
						Radial in. (mm)	Axial in. (mm)					
HELIX® M627 Weld Head	K52283-1	24V DC	.04-4.76	3-300 [76-762]	0.030-0.045 [0.8-1.2]	2.87 [72.9]	8.32 [211.3]	1.00 [25.4]	3.79 [96.3]	0.75 [19.1]	8.32 x 11.4 x 26.0 [211.3 x 290 x 660]	32 [14.5]

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>

What's Included

Base Model/Unit Includes » Some base models include a set of specific standard accessories

One-Pak® Packages » Assembly required

Ready-Pak® Packages » Fully assembled

Power Wave® 300C

Base Model [K4487-1]

- Magnum® PRO Curve™ 300 Gun Ready-Pak® [K2951-2-6-45]
- Harris® Flowmeter/Regulator and Hose Kit [3100211]
- Work Lead [K1803-3]
- .035/.045 in. Combination V-Groove Drive Rolls [Included in Wire Drive Assembly] [KP1696-1]

Advanced [K4488-1]

- Magnum® PRO Curve™ 300 Gun Ready-Pak® [K2951-2-6-45]
- Harris® Flowmeter/Regulator and Hose Kit [3100211]
- Work Lead [K1803-3]
- 0.035/0.045 in. [0.9/1.1 mm] Combination V-Groove Drive Rolls [Included in Wire Drive Assembly] [KP1696-1]

Advanced Education One-Pak® [K4934-1]

- Power Wave® 300C Advanced [K4488-1]
- Magnum® PRO Curve™ 300 Gun Ready-Pak® [K2951-2-6-45]
- Harris® Flowmeter/Regulator and Hose Kit [3100211]
- Work Lead [K1803-3]
- PTA-17F TIG Torch Ready-Pak [12.5 ft, 1 pc.] [K1782-14]
- Foot Amptrol™ - 25 ft. (7.6m), 12-pin [K870-2]
- Stick Electrode Holder, Cable (w/ Twist Mate) [K2374-1]
- 0.035/0.045 in. [0.9/1.1 mm] Combination V-Groove Drive Rolls [Included in Wire Drive Assembly] [KP1696-1]

Power Wave® S350

Base Model [K2823-3]

- Input Power Cord, 10 ft. (3.0 m)

Steel Ready-Pak® Package [K3005-3]

- Power Wave® S350 [K2823-3]
- Power Feed® 84 Bench Model [K3328-13]
- 0.035 in. [0.9 mm] and 0.040-0.045 in. [1.0-1.1 mm] Drive Roll & Wire Guide Kits [KP1505-035S, KP1505-045S]
- Magnum® PRO Curve™ 400 Gun Pkg., 15 ft. (4.5 m) [K2952-2-10-45]
- Work & Wire Feeder Power Cables Pkg. [K1803-2]
- Inverter and Wire Feeder Cart [K3059-4]
- Harris® Gas Regulator/Flowmeter & 10 ft. (3.0 m) Hose Kit [3100211]

Air-Cooled Magnum® PRO Pistol Grip Aluminum 25 ft. (7.6 m) One-Pak® Package [K3553-1]

- Power Wave® S350 [K2823-3]
- Power Feed® 25M for Aluminum [K4191-1]
- Inverter and Wire Feeder Cart [K3059-4]
- Harris® Aluminum Flow/Regulator [3100546]
- Magnum® PRO AL Pistol Grip Push/Pull Air-Cooled Gun w/25 ft. (7.6 m) Cable [K3478-2]
- Various Magnum® Gun Accessories
- Work & Wire Feeder Power Cable Pkg. [K1803-2]
- ArcLink® Cable 8 ft. (2.4 m) [K1543-8]

Water-Cooled Magnum® PRO Pistol Grip Aluminum 25 ft. (7.6 m) One-Pak® Package [K3554-1]

- Power Wave® S350 [K2823-3]
- Power Feed® 25M for Aluminum [K4191-1]
- Inverter and Wire Feeder Cart [K3059-4]
- Harris® Aluminum Flow/Regulator [3100546]
- Magnum® PRO AL Pistol Grip Push/Pull Water-Cooled Gun w/25 ft. (7.6 m) Cable [K3479-2]
- CoolArc® 55 Aluminum Water Cooler [K3086-1]
- Magnum Pro Coolant [KP3379-4]
- Various Magnum® Gun Accessories
- Work & Wire Feeder Power Cable Pkg. [K1803-2]
- ArcLink® Cable 8 ft. (2.4 m) [K1543-8]



Shown:
Power Wave® 300C
Education Ready-Pak® Pkg.



Shown:
Power Wave® S350/Power Feed® 25M
w/Air-Cooled Magnum® PRO Gun
Aluminum One-Pak® Pkg.

⁽¹⁾Power Wave S350 Aluminum Air-Cooled Ready-Pak® and One-Paks® include the following accessories:

Drive Roll Kits; Diffusers; Nozzles; Tips; Liners; Work Lead Package. [K4184-5 Advanced Module One-Pak® also includes: Foot Pedal, TIG Torch and TIG Kit].

Power Wave® S350 Aluminum Water-Cooled One-Paks® include the following accessories: Drive Roll Kits, Coolant, Tips, Liners, Work Lead Package.

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>

What's Included

Base Model/Unit Includes » Some base models include a set of specific standard accessories

One-Pak® Packages » Assembly required

Ready-Pak® Packages » Fully assembled

Power Wave® S500

Power Feed® 84 One-Pak® Package (K3186-2)

- Power Wave® S500 (K2904-1)
- Power Feed® 84 Bench Model (K3328-13)
- 0.040-0.045 (1.0-1.1 mm) Drive Roll & Wire Guide Kit (KP1505-045S)
- Work Lead Package (K2149-1)
- Harris® Gas Regulator/Flowmeter & 10 ft. (3.0 m) Hose Kit (3100211)
- Magnum® PRO Curve 400 Gun Pkg., 15 ft. (4.5 m) (K2952-2-10-45)
- Weld Cable, 10 ft. (3.0 m) (K1842-10)

Power Feed® 84 Ready-Pak® Package (K3187-2)

- Everything listed above (K3186-2)
- Inverter & Wire Feeder Cart (K3059-4)
- Cart Mounting Bracket (K4068-1)

HyperFill™ Single Feeder Ready-Pak® Package (K4650-2)

- Power Wave® S500 (K2904-1)
- Power Feed® 84 Wire Feeder (K3328-3)
- Cool Arc® 55 Water Cooler (K3086-1)
- Magnum® PRO Water-Cooled 500A Gun (K4522-2-10-45)
- 7 ft. (2.1 m) Water Hose Kit (K4544-7)
- HyperFill™ Dual Reel Cart Kit (K4630-1)
- 4-Ball Inlet Guide (K1551-2)
- HyperFill™ 0.035-0.040 (0.9-1.0 mm) Drive Roll Kit (KP4388-1)
- HyperFill™ Diffuser (KP4481-1)
- HyperFill™ 0.035 (0.9 mm) Contact Tip (KP4482-035)
- 1/8 in. (3.2 mm) Recess Nozzle (KP4523-1-75R)
- 15 ft. (4.6 m), 5/64 in. (2.0 mm) Liner (KP44-564-15)
- Work Lead Package (K2149-1)
- Electrode Cable (K1842-10)
- ArcLink® Cable (K1543-8)
- Inverter and Wire Feeder Cart (K3059-4)

HyperFill™ Dual Feeder Ready-Pak® Package (K4650-1)

- Power Wave® S500 (K2904-1)
- Power Feed® 84 Dual Wire Feeder (K3330-3)
- Cool Arc® 55 Water Cooler (K3086-1)(1)
- Magnum® PRO Water-Cooled 500A Gun (K4522-2-10-45)
- 7 ft. (2.1 m) Water Hose Kit (K4544-7)
- HyperFill™ Dual Reel Cart Kit (K4630-1)
- 4-Ball Inlet Guide (K1551-2)
- HyperFill™ 0.035-0.040 (0.9-1.0 mm) Drive Roll Kit (KP4388-1)
- HyperFill™ Diffuser (KP4481-1)
- HyperFill™ 0.035 (0.9 mm) Contact Tip (KP4482-035)
- 1/8 in. (3.2 mm) Recess Nozzle (KP4523-1-75R)
- 15 ft. (4.6 m), 5/64 in. (2.0 mm) Liner (KP44-564-15)
- Standard Duty Wire Reel Stand (K3342-1)
- Magnum® PRO Curve™ 300A Gun (K2951-2-10-45)
- Standard 0.040-0.045 (1.0-1.1 mm) Drive Roll Kit (KP1505-045S)
- Work Lead Package (K2149-1)
- Electrode Cable (K1842-10)
- ArcLink® Cable (K1543-8)
- Inverter and Wire Feeder Cart (K3059-4)

Power Wave® STT® Module

Base Model (US/International) (K2902-1)

- Power Source Output Pigtail Adapter Cable (Tweco®-style)
- Remote Voltage Sense Lead, 25 ft. (3.7 m)

Power Wave® Advanced Module

Base Model (K3685-1)

- Power Source Output Pigtail Adapter Cable (Tweco®-style)
- 25 ft. (7.6 m) Remote Voltage Sense Lead
- ArcLink® Output Receptacle
- Differential Input and Output (Sync Tandem Output)
- Shielding Gas Input



Shown:
HyperFill™ Dual Feeder Single Bottle
Cart Ready-Pak®

⁽¹⁾Power Wave S350 Aluminum Air-Cooled Ready-Pak® and One-Paks® include the following accessories:

Drive Roll Kits, Diffusers, Nozzles, Tips, Liners, Work Lead Package. (K4184-5 Advanced Module One-Pak® also includes: Foot Pedal, TIG Torch and TIG Kit).

Power Wave® S350 Aluminum Water-Cooled One-Paks® include the following accessories: Drive Roll Kits, Coolant, Tips, Liners, Work Lead Package.

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E110) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>

What's Included

Base Model/Unit Includes » Some base models include a set of specific standard accessories

One-Pak® Packages » Assembly required

Ready-Pak® Packages » Fully assembled

Power Wave® S500, APEX® 30M

APEX® 30M S500 Ready-Pak® K52165-2

- Power Wave® S500 K2904-1
- APEX® 30M Portable Controller and Feeder K52160-1
- HELIX® M85 Weld Held K52101-1
- APEX® 3 Series MIG Pendant K52113-1
- 550A Gun Assembly K52106-15
- APEX® 30M System Cart K52166-1
- HELIX® Control Cable K52107-15
- Pendant Cable K52130-25
- ArcLink® Cable K1543-8
- Power Cable M24307-96

Power Wave® S500, APEX® 30S

APEX® 30S HELIX® M85 MIG Ready-Pak® K52257-1

- Power Wave® S500 K2904-1
- APEX® 30S Mechanized Controller K52217-1
- HELIX® M85 Weld Held K52101-1
- HELIX® SF70A-1 Onboard Wire Feeder K52230-1
- APEX® 3 Series MIG Pendant K52113-1
- 550A Gun Assembly K52223-25C
- Inverter Wire Feeder Cart K3059-4
- Pendant Cable K52130-25

APEX® 30S HELIX® M45 MIG Ready-Pak® K52264-1

- Power Wave® S500 K2904-1
- APEX® 30S Mechanized Controller K52217-1
- HELIX® M45 Weld Held K52224-1
- HELIX® SF70A-1 Onboard Wire Feeder K52248-1
- APEX® 3 Series MIG Pendant K52113-1
- 550A Gun Assembly K52250-25C
- Cool Arc® 55 S Water Cooler K3086-2
- Inverter Wire Feeder Cart K3059-4
- Pendant Cable K52130-25

APEX® 30S HELIX® M85 TIG Ready-Pak® K52260-1

- Power Wave® S500 K2904-1
- APEX® 30S Mechanized Controller K52217-1
- HELIX® M85 Weld Held K52101-1
- HELIX® SF70A-1 Onboard Wire Feeder K52230-1
- APEX® 3 Series TIG Pendant K52216-1
- 500A Mechanized TIG Torch Assembly K52229-25C
- Torch Holder Assembly K52222-138
- Wire Manipulator Assembly K52231-1
- Wire Guide Torch Clamp Kit K52232-1
- Cool Arc® 55 S Water Cooler K3086-2
- Inverter Wire Feeder Cart K3059-4
- Pendant Cable K52130-25

APEX® 30S M45 TIG Ready-Pak® K52265-1

- Power Wave® S500 K2904-1
- APEX® 30S Mechanized Controller K52217-1
- HELIX® M45 Weld Held K52224-1
- HELIX® SF70A-1 Onboard Wire Feeder K52248-1
- APEX® 3 Series TIG Pendant K52216-1
- 500A Mechanized TIG Torch Assembly K52249-25C
- Wire Manipulator Assembly K52254-1
- Cool Arc® 55 S Water Cooler K3086-2
- Inverter Wire Feeder Cart K3059-4
- Pendant Cable K52130-25

Power Wave® S500, APEX® 30S Hot Wire TIG

APEX® 30S M85 Hot Wire TIG Ready-Pak® K52266-1

- Power Wave® S500 K2904-1
- Power Wave® Advanced Module K3685-1
- APEX® 30S Mechanized Controller K52217-1
- HELIX® M85 Weld Held K52101-1
- HELIX® SF70A-1 Onboard Wire Feeder K52230-1
- APEX® 3 Series TIG Pendant K52216-1
- 500A Mechanized TIG Torch Assembly K52229-25C
- Torch Holder Assembly K52222-138
- Wire Manipulator Assembly K52231-1
- Wire Guide Torch Clamp Kit K52232-1
- Cool Arc® 55 S Water Cooler K3086-2
- APEX® Lift Cart K52236-1
- Pendant Cable K52130-25
- ArcLink® Cable K1543-8
- Hot Wire TIG Sense Lead Adapter K52228-1
- Hot Wire TIG Weld Cable M23131-28

APEX® 30S M45 Hot Wire TIG Ready-Pak® K52267-1

- Power Wave® S500 K2904-1
- Power Wave® Advanced Module K3685-1
- APEX® 30S Mechanized Controller K52217-1
- HELIX® M45 Weld Held K52224-1
- HELIX® SF70A-1 Onboard Wire Feeder K52248-1
- APEX® 3 Series TIG Pendant K52216-1
- 500A Mechanized TIG Torch Assembly K52249-25C
- Wire Manipulator Assembly K52254-1
- Cool Arc® 55 S Water Cooler K3086-2
- APEX® Lift Cart K52236-1
- Pendant Cable K52130-25
- ArcLink® Cable K1543-8
- Hot Wire TIG Sense Lead Adapter K52228-1
- Hot Wire TIG Weld Cable M23131-28



Shown:
APEX® 30M S500 Ready-Pak®



Shown:
APEX® 30S HELIX® M85
TIG Ready-Pak®



HELIX® Tracks are available for flat plate, orbital OD and ID pipe welding
- See literature E9.617

⁽¹⁾Power Wave® S350 Aluminum Air-Cooled Ready-Pak® and One-Paks® include the following accessories:

Drive Roll Kits, Diffusers, Nozzles, Tips, Liners, Work Lead Package. (K4184-5 Advanced Module One-Pak® also includes: Foot Pedal, TIG Torch and TIG Kit).

Power Wave® S350 Aluminum Water-Cooled One-Paks® include the following accessories: Drive Roll Kits, Coolant, Tips, Liners, Work Lead Package.

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>

WELD SEQUENCER™

PROCESS CONTROL SOLUTIONS

Process Control Step-by-Step

Digitally enhance your weld instructions

- Easy-to-follow graphic interface clearly guides operators through each step of the assembly process, simplifying complex work instructions.
- Automatic, step-by-step weld sequencing clearly defines the assembly of each part and placement of each weld, reducing possible quality errors.

Easily verify your performance and quality

- On-screen verification provides instant operator feedback, ensuring all welds are present and within operating ranges prior to the assembly leaving the weld cell.
- Weld Sequencer automatically syncs with Lincoln Electric's CheckPoint® Production Monitoring solution for real-time production data anywhere in the world, at any time.

Maximum Performance Weld-to-Weld

Optimize your settings for each weld

- Advanced programming provides complete power source control, automatically dialing in the right procedure and parameters for each weld with zero operator interaction – delivering maximum productivity without compromising quality.

INPUT SETTINGS | Standardize Process



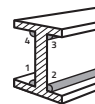
LOCATION OF WELDS
(WITH VISUALS)



WELD
REQUIREMENTS



WELDING
PROCEDURES



WELDING ORDER
PART IDENTIFIERS



[SERIAL NUMBERS &
OPERATOR ID]

REVIEW RESULTS | Information in Real Time



DEPOSITION



MONITOR CYCLE TIME



MONITOR ARC TIME



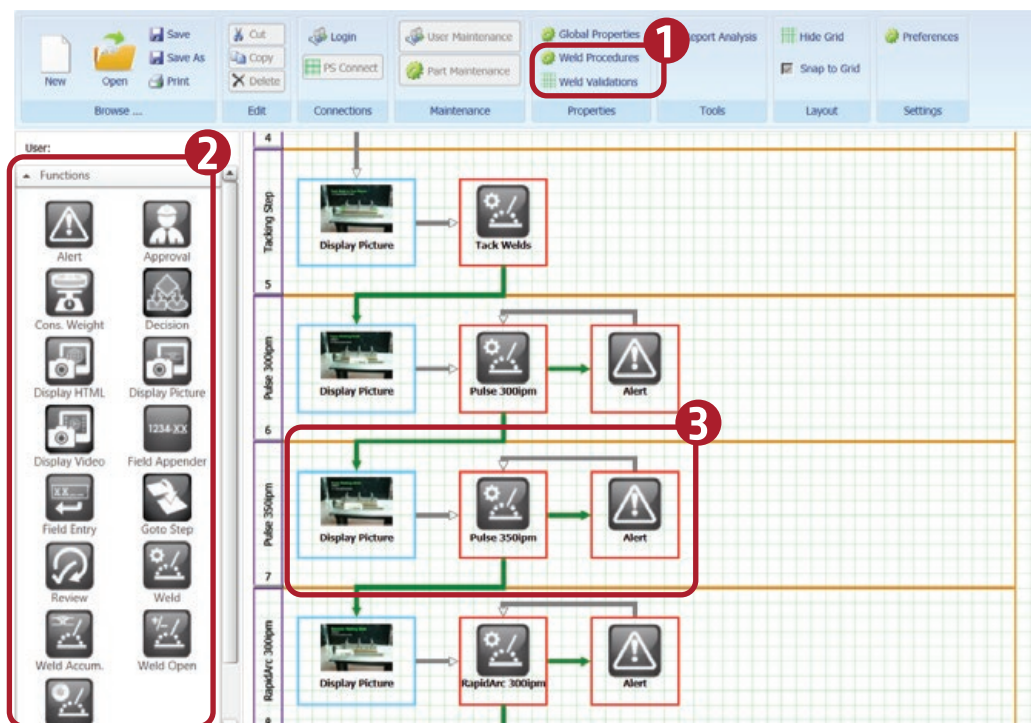
PERFORMANCE
EVALUATION



WELD COUNT

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>.

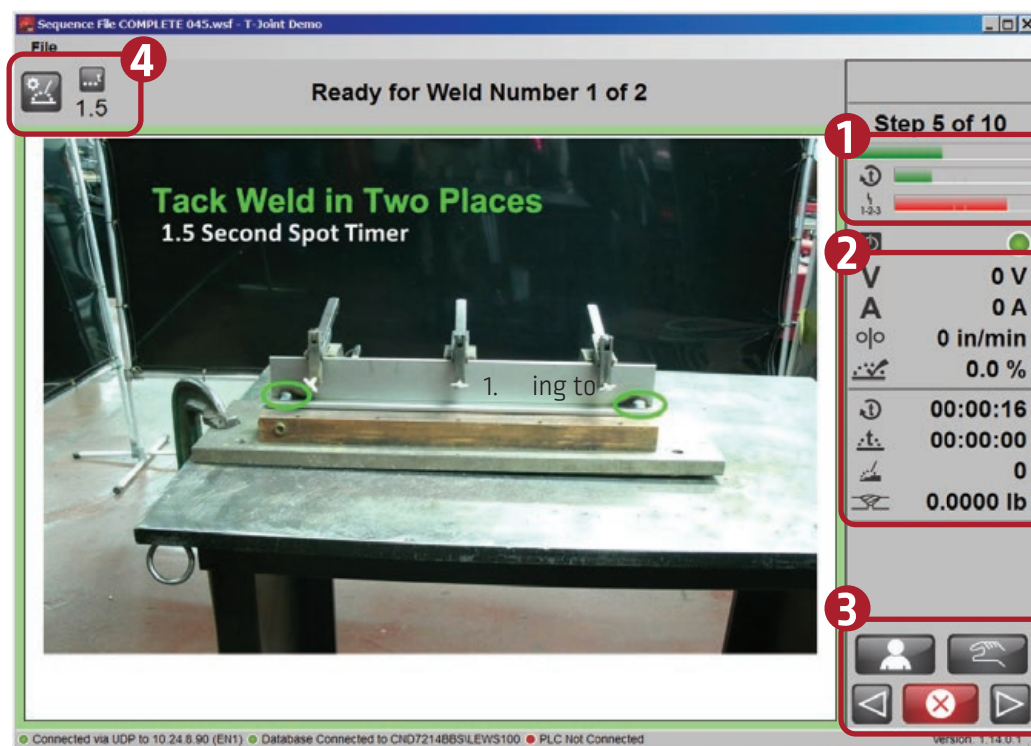
Fast, Simple, Intuitive Sequence Creation



1. Build a database of all your weld procedures and welding validations
2. Drag and drop functional blocks for simple programming
3. Intuitive ladder logic flow-chart type sequencing

Simple, Intuitive, Powerful Operator Interface

Weld Sequencer Initial License (1 Year), Order K5175-1, Weld Sequencer Renewal License (1 Year), Order K5176-1



1. Track part cycle time and performance part to part
2. Real-time parameter feedback for the operator and quality control
3. Navigate the sequence simply by clicking the trigger on ANY welding torch
4. Complete visibility to background settings (like Spot Timer or Pre-flow)

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>

CHECKPOINT®

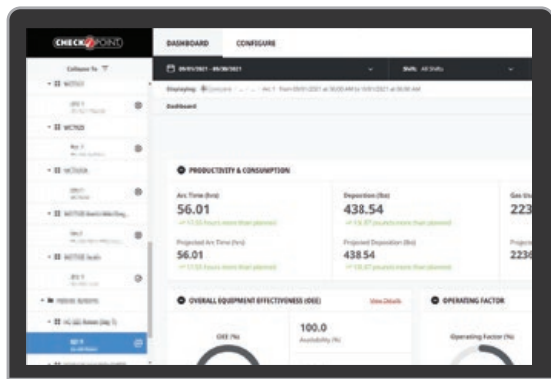
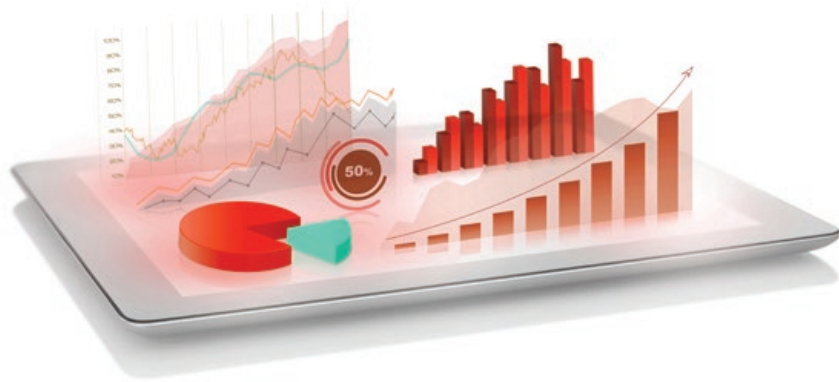
INFORMATION THAT LEADS TO SOLUTIONS

Information that Leads to Solutions™

CheckPoint® technology changes the way you look at your welding operations. More than just a data collection tool, CheckPoint® is a full production monitoring solution that delivers the precise information you need for maximizing welding productivity and performance

CheckPoint® allows you to:

- Identify the True Cost of Welding
- Evaluate the True Quality of Welding
- Deliver to True Performance of Welding



Powerful Data, Quick and Easy

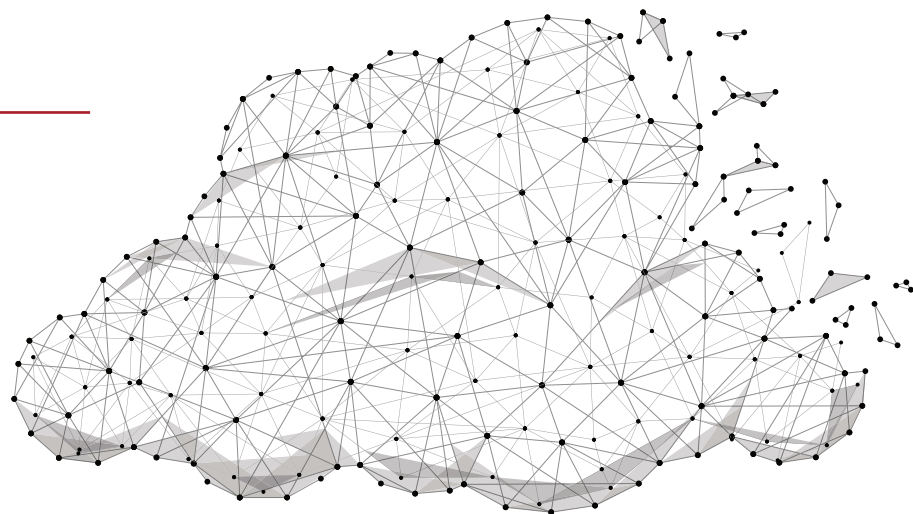
CheckPoint provides full visibility of your welding operation faster, cleaner and more efficiently. From real-time dashboard snapshots to in-depth weld analytics, CheckPoint's framework is built to provide essential welding data the way you need it for whatever your role may be.

- Operator arc on time
- OEE metrics
- Material consumption
- Weld and assembly information
- Information tailored to functional areas

Secure Access — Anywhere, Any Device

CheckPoint's secure, cloud-based access allows key stakeholders to view and track welding operations anywhere in the world, on any device.

- No setup or software installation required
- Track real-time weld production data 24/7
- Create custom alerts and notifications



For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>

INFORMATION FOR EVERY ROLE

Production Foreman

- OEE
- Weld listing
- Productivity
- Part tracking



Welding Engineer

- Consumption metrics
- Operating metrics
- Personnel details

The screenshot shows the CHECKPOINT software interface with the 'CONFIGURE' tab selected. The 'Report: Weld Listing' is displayed. The main table is titled 'WELD LISTING' and contains the following data:

Production Station	Equipment Role	Start of Weld	Arc Time (sec)	Deposition (lbs)	Avg. Current (amps)
01-01-01-01-01-01	Arc 1	09/30/2021, 08:11:14 PM	2.6	0.0064	223.9
01-01-01-01-01-01	Arc 1	09/30/2021, 08:11:11 PM	2.3	0.0057	233.2
01-01-01-01-01-01	Arc 1	09/30/2021, 08:11:07 PM	2.0	0.0074	232.4
01-01-01-01-01-01	Arc 1	09/30/2021, 08:11:03 PM	3.3	0.0062	232.5
01-01-01-01-01-01	Arc 1	09/30/2021, 08:11:00 PM	2.8	0.0063	241.2
01-01-01-01-01-01	Arc 1	09/30/2021, 08:10:56 PM	2.6	0.0064	232.7
01-01-01-01-01-01	Arc 1	09/30/2021, 08:04:55 PM	2.7	0.0067	222.9

Quality Assurance

- Welding limits
- Non-conformances

The screenshot shows the CHECKPOINT software interface with the 'CONFIGURE' tab selected. The 'Report: Overview' is displayed. The main table is titled 'OVERVIEW' and contains the following data:

Production Station	Start of Last Weld	Operating Factor (%)	Weld Count	Arc Time (Actual / Expected) (hrs)	Deposition (Actual / Expected) (lbs)
Transformer Robot WCH08...	10/01/2021, 09:58:26 AM	18.8	94058	97.85 / 11.83	348.14 / 141.60
AC-325 Robot (Bay 7)	09/30/2021, 08:11:14 PM	25.2	42719	56.01 / 38.46	438.54 / 307.67
EHF_Power_Raise_5500	09/30/2021, 09:48:16 PM	1.6	240	2.67 / 0.00	0.00 / 11.72
WCH85 South	09/30/2021, 01:17:48 PM	2.7	9682	5.97 / 7.46	0.00 / 0.00
WCH040 Weld Sequencer	09/29/2021, 07:20:15 AM	0.0	214	0.33 / 3.27	2.18 / 157.08
WCH85 #3	--	0.0	8	0.00 / 2.10	0.00 / 13.57
WCH85 #4	--	0.0	8	0.00 / 2.10	0.00 / 12.57

For more detailed information on this equipment, including all models and all optional accessories, please see the comprehensive Lincoln Electric 2022 Equipment Catalog (publication E1.10) or visit the U.S.A. website and then "Equipment" tab at <http://www.lincolnelectric.com/en-us/Pages/default.aspx>



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