Power Wave® R500

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

Product Number
K3169-1

See back for complete specs

Compact Multi-Process Robotic Power Source
The Power Wave® R500, with built-in wire feeder control, is especially designed for use in robotic welding applications. It provides an extremely fast arc response, includes over 65 standard welding waveforms for optimized performance on almost any application and efficiently converts input power to reduce operational costs – all in a compact, rugged case.

FEATURES
- Built-In Feeder Control - Standard internal control for compatible wire feeders, allowing the user to modify settings at the robot pendant.
- PowerConnect™ Technology (patent pending) – Automatically adjusts to input power while maintaining a constant welding output throughout the entire input voltage range.
- Tribrid™ Power Module – Exceptional welding performance with high power factor and efficiency.
- CheckPoint™ – A cloud-based system to view or analyze your welding data. Track equipment usage, store weld data, configure fault limits and more.
- Auxiliary Power Surge Blocker™ Technology (patent pending) – Welding performance is not compromised by simultaneous use of grinders and other devices requiring high starting current (60A or more peak surge current) using the standard 115V (10A) AC duplex auxiliary power receptacle.
- Weld Data Monitoring – Compatible with Checkpoint, this tool provides the ability to view and analyze your welding data, track equipment usage, store weld data, configure fault limits and more.

APPLICATIONS
- Robotic Fabrication

FEATURES, CONT'D.
- Compact and Durable Case - IP23 rated to withstand harsh environments.
- Standard Ethernet – Allows easy software upgrades through powerwavesoftware.com.

WAVEFORM CONTROL TECHNOLOGY® PROCESS CAPABILITIES
- Pulse
- Pulse-on-Pulse®
- Power Mode®
- RapidArc®
- Rapid X™
- Upgradeable for additional processes to be developed in the future.

INPUT
- 3 Phase
- 50/60 Hz

OUTPUT
- CC/CV
- DC

Two Year Extended Warranty Available in the U.S.A. and Canada.

Certification Mark:
ISO 9001:2008
ISO 14001:2004

THE LINCOLN ELECTRIC COMPANY
22801 St. Clair Avenue • Cleveland, OH • 44117-1199 • U.S.A.
PH: 216-481-8100 • www.lincolnelectric.com

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Built-In Wire Feeder Control - Streamlined component systems approach eliminates a user interface at the power source or at the feeder. Instead, wire feeder setting changes, including wire feed speed and other parameters, are consolidated at the robot pendant.

Modular Components - Take advantage of the R500’s modular component design and add an STT® (Surface Tension Transfer®) module for exceptional arc control on thin sheet metal or critical pipe welding applications.
**ArcLink® XT Features**

**New Standard Features** - Ethernet capability is standard on the Power Wave® R500 with no additional hardware or kit costs. CheckPoint™, a cloud based data monitoring solution, allow for welding process monitoring, analysis and reporting.

**Performance Based Design** - The fast 100Mbps, full duplex Ethernet interface offers a reliable and consistent hardware platform for industrial environments and makes software upgrades and expansion easy.

**Lower Purchase Costs** - System costs are reduced for multi-equipment (multi-arm) applications. Multiple Power Wave® R500 units for multiple robotic arm applications can be used together without the addition of an outboard network Ethernet switch. No additional cards or hardware are required.

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**DETAILS**

**Tribrid™ Power Module**

Patent pending Tribrid™ Power Module features Lincoln Electric’s PowerConnect™ technology, Planar Transformer™ Technology and 120kHz output to provide exceptional welding performance while still maintaining a high power factor and efficiency.

**iARC™ High Speed Digital Controls**

iARC™ (Intelligent Architecture for Regulation and Control) digital welding controls are more than 10 times faster than the previous generation, with 128 times more RAM, and 8 times more flash memory. It also features 100Mbps Full Duplex Ethernet to support CheckPoint™ and run with advanced diagnostics.

**Rugged Reliability**

Like all Lincoln Electric welding equipment, the Power Wave® R500 was tested under severe conditions to ensure proper operation in the harshest environments:

- Extreme Temperature Ranges
- Extreme Humidity
- Rain
- Dirt and Dust
- IP23 Rated Performance

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**CheckPoint™**

CheckPoint, cloud server-based and mobile delivery solutions, is the welding industry’s most advanced weld data collection and monitoring tool, allowing fabricators to analyze their welding operations and processes. These tools can provide necessary data for customer ISO, Six Sigma, statistical process control (SPC), quality cost delivery (QCD), overall equipment effectiveness (OEE) and lean manufacturing efforts. CheckPoint is offered at no charge with every Power Wave purchase.
**REQUIRED ACCESSORIES**

<table>
<thead>
<tr>
<th>Description</th>
<th>Cable Length ft. (m)</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>For use with FANUC® arms having integrated cable</td>
<td>16 (4.8)</td>
<td>K1785-16</td>
</tr>
<tr>
<td></td>
<td>25 (7.6) heavy duty</td>
<td>K1785-25</td>
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<tr>
<td></td>
<td>50 (15.2)</td>
<td>K1785-50</td>
</tr>
<tr>
<td></td>
<td>100 (30.4)</td>
<td>K1785-100</td>
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<tr>
<td>For external dress of FANUC® arm or hard automation</td>
<td>25 (7.6)</td>
<td>K2709-25</td>
</tr>
<tr>
<td></td>
<td>50 (15.2)</td>
<td>K2709-50</td>
</tr>
<tr>
<td></td>
<td>100 (30.4)</td>
<td>K2709-100</td>
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</tbody>
</table>

**RECOMMENDED ACCESSORIES**

**GENERAL OPTIONS**

DeviceNet™ Kit
The kit allows DeviceNet™ connectivity to control the power source. Includes internal harness and 5-pin DeviceNet™ receptacle for mounting on power source back panel.
Order K3827-2

S-Series User Interface Kit
This kit allows local control of stick, TIG and wire processes from the power source control panel. Includes TIG Solenoid and Remote Control Connector.
Order K3001-2

Sense Lead Kit
Recommended for extended cable length. Application allows machine to sense voltage directly at the work piece for improved arc performance.
Order K3840-25 for 25 ft. (7.6 m)
Order K940-75 for 75 ft. (23 m)

Welding Fume Extractors
Lincoln Electric offers a wide variety of welding fume extraction environmental system solutions, ranging from portable systems easily wheeled around the shop to shopwide central systems servicing many dedicated welding stations. Request Publication MC08-70.

AutoDrive® 4R100
The AutoDrive® 4R100 is a compact wire drive featuring the MAXTRAC® Wire Drive System. Designed for robotic and hard automation applications, the AutoDrive® 4R100 is optimized for the FANUC® ARC Mate 100iC arm. The 4R100’s small, light weight package maximizes arm speed and working envelope. Learn more in publication E10.12.
Order K3802-2

**PRODUCT SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Product Number</th>
<th>Input Voltage</th>
<th>Input Current @ Rated Output</th>
<th>Rated Output Current/Voltage/Duty Cycle</th>
<th>Output Range</th>
<th>H x W x D inches (mm)</th>
<th>Net Weight lbs. (kg)</th>
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</thead>
</table>


**CUSTOMER ASSISTANCE POLICY**

The business of 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 customer 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 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.

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