Power Wave® S700

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

Product Number
K3279-1 Power Wave® S700

Input Power
380-415/440-460/500/575/3/50/60

Rated Output (60Hz)
GMAW: 700A/44V/100%
GMAW: 900A/44V/60%

Input Current @ Rated Output (60Hz)
3 Ph / 100% Duty Cycle: 55/46/42/38

Output Range
20-900A

Weight
385 lbs. (175 kg)

Dimensions (H x W x D)
30.1 x 19.1 x 36.7 in.
(765 x 485 x 932 mm)

Flexible Configuration. Endless Possibilities.
Choose the Power Wave® S700 model for high amperage, high duty cycle applications in the heavy equipment, transportation and other fabrication industries. Typically recommended for 1/16 inch (1.6 mm) wire diameter and up, the Power Wave® S700 can be used in semiautomatic, hard automation or robotic environments — even for high deposition synchronized tandem welding applications. The machine is also suitable for arc gouging.

FEATURES
- Wide Input Voltage Range – Set up operations almost anywhere (380-575 VAC, 3 phase, 50/60Hz voltage).
- Add AutoDrive® 19 Tandem modules to access waveform modes specifically designed for Synchronized Tandem MIG multi-arc applications. A sync connection is provided for easy tandem power source operation.
- Low Operating Cost – Operates at a high 88% efficiency with a 95% minimum power factor (at rated output).
- Severe Duty – Can be stored outdoors. IP23 rated to withstand harsh environments.
- iARC™ Digital Control – 90 times faster than the previous generation, delivering a responsive arc.
- Standard ArcLink®, Ethernet, and DeviceNet™ Communication – Offers remote process monitoring, control and troubleshooting.
- True Energy™ – Measures, calculates and displays instantaneous energy in the weld for critical heat input calculations.
- Checkpoint™ – A cloud-based data collection tool allows customers to view and analyze welding data. Track equipment usage, store weld data, configure fault limits and more.
- Fan-As-Needed™ (F.A.N.) – Reduces power consumption and the amount of debris that gets drawn into the machine by shutting the fan down when it is not needed.
- Standard 115V (10A) AC Duplex Auxiliary Power Receptacle – Features patent pending Surge Blocker™ Technology to ensure simultaneous welding performance is not compromised by high starting current devices such as grinders (typically requiring 60A or more peak surge current).

APPLICATIONS
- Semiautomatic
- Automation
- Hard Automation
- Heavy Equipment
- Transportation
- Fabrication

FEATURES, CONT’D.
- CE Filter for CE Territory Operations.
- Recommended semiautomatic wire feeders: Power Feed® 84 Bench and Boom, Power Feed® 25M.
- Recommended automatic and robotic wire feeders and controllers: Power Feed® 10R, AutoDrive® 19, AutoDrive® 19 Tandem, AutoDrive® 4R220.

UNIT REQUIRES
- Recommended semiautomatic wire feeders: Power Feed® 84 Bench and Boom, Power Feed® 25M.
- Recommended automatic and robotic wire feeders and controllers: Power Feed® 10R, AutoDrive® 19, AutoDrive® 19 Tandem, AutoDrive® 4R220.

THE LINCOLN ELECTRIC COMPANY
22801 St. Clair Avenue • Cleveland, OH U.S.A. • 44117-1199
PH: +1.216-481-8100 • www.lincolnelectric.com

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

FRONT
1. Power Switch: On/Off
2. Status LED
3. Thermal Indicator LED
4. Access Panel
5. Positive Output Studs
6. Negative Output Studs

BACK
7. DeviceNet™ Connector
8. ArcLink® (5-pin)
9. Sync Tandem Connector
10. Work Sense Lead Connector (4-pin)
11. Ethernet Connector
12. Circuit Breaker for 115V Auxiliary Output Receptacle
13. Circuit Breaker for ArcLink® Receptacle
14. 115V/10A Auxiliary Output Receptacle

Shown with front stud cover panel open
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.

Coaxial Transformer Technology™

Eliminates inefficiency and power loss. Regardless of the size (power level), a coaxial transformer has superior coupling and efficiency. This is obtained through the coaxial orientation of the primary and secondary windings. The benefits for the customer include:
- Higher power capabilities with a less complex design.
- Higher efficiency (reduced energy costs).
- Higher reliability (lower stresses on components).
- Proven reliability.

Rugged Reliability

Like all Lincoln Electric welding equipment, the Power Wave® S700 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

True Energy™

Get Easy, Accurate Heat Input Calculations

- Built-in to ALL Lincoln Electric Power Wave® power sources.
- Easily comply with upcoming ASME code changes TODAY!
- No extra equipment or measuring tools necessary.

CheckPoint™

CheckPoint™ cloud server-based and mobile delivery solutions are the welding industry’s most advanced weld data collection and monitoring tools, allowing fabricators to analyze their welding operations and processes. CheckPoint™ 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™ Standard Edition is offered at no charge with every Power Wave® purchase. An advanced capability Premium Subscription Edition is also available.
SYSTEM CONFIGURATIONS

MIG Process Set-up

Deluxe Adjustable Gas Regulator and Hose Kit K586-1

ArcLink® Control Cable K1543-XX

Power Feed® 84 or Power Feed® 10M Wire Feeder

Cool-Arc® 55 Water Cooler K3086-1

Water Cooler Hoses (CGA to CGA)

Power Feed® 84 or Power Feed® 10M Wire Feeder

Water Connection Kit K590-6

Magnum® Water-Cooled Gun Assembly

Water-Cooled MIG Process Set-up

Deluxe Adjustable Gas Regulator and Hose Kit K586-1

ArcLink® Control Cable K1543-XX

Power Feed® 84 or Power Feed® 10M Wire Feeder
SYSTEM CONFIGURATIONS

Stick Process Set-up

ArcLink® Control Cable K1543-XX
Power Feed® 84 or Power Feed® 10M Wire Feeder
Remote Output Control K857
Stick Electrode Holder, Work Clamp, Cable & Twist-Mate™ Set K2394-1

Synchronized Tandem Set-up

ArcLink® Control Cable K1543-XX
AutoDrive® 19 Tandem
Control Cable K2709-XX or K1785-XX
Synchronous Tandem Interface Cable included with AutoDrive® 19 Tandem
AutoDrive® 19 Tandem
Control Cable K2709-XX or K1785-XX
To Feeder
To Feeder
SYSTEM CONFIGURATIONS

Robotic Single Arm Process Set-up

AutoDrive® Wire Feeder

Control Cable K2709-XX or K1785-XX

AutoDrive® 19 Controller

Work Voltage Sense Lead Kit

Weld Power Cable

ArcLink® Control Cable K1543-XX

Weld Power Cable

Analog Interface Box Set-up

AutoDrive® 19 Controller

Control Cable K1785-XX or K2709-XX

To Wire Drive

ArcLink® Control Cable K1543-XX

ArcLink® Control Cable K1543-XX

Analog Interface
## ARCLINK®/LINC-NET™ CONTROL CABLES

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 ft. (2.5 m) Without weld cable</td>
<td>K1543-8</td>
</tr>
<tr>
<td>25 ft. (7.6 m) Without weld cable</td>
<td>K1543-25</td>
</tr>
<tr>
<td>50 ft. (15.2 m) Without weld cable</td>
<td>K1543-50</td>
</tr>
<tr>
<td>100 ft. (30.4 m) Without weld cable</td>
<td>K1543-100</td>
</tr>
<tr>
<td>25 ft. (7.6 m) Heavy Duty – Without weld cable</td>
<td>K2683-25</td>
</tr>
<tr>
<td>50 ft. (15.2 m) Heavy Duty – Without weld cable</td>
<td>K2683-50</td>
</tr>
<tr>
<td>100 ft. (30.4 m) Heavy Duty – Without weld cable</td>
<td>K2683-100</td>
</tr>
</tbody>
</table>

## WELD POWER CABLES

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lug to Lug, 3/0, 600A, 60% Duty Cycle, 10 ft. (3.1 m)</td>
<td>K1842-10</td>
</tr>
<tr>
<td>Lug to Lug, 3/0, 600A, 60% Duty Cycle, 35 ft. (10.7 m)</td>
<td>K1842-35</td>
</tr>
<tr>
<td>Lug to Lug, 3/0, 600A, 60% Duty Cycle, 60 ft. (18.3 m)</td>
<td>K1842-60</td>
</tr>
<tr>
<td>Lug to Lug, 4/0, 600A, 60% Duty Cycle, 110 ft. (33.5 m)</td>
<td>K1842-110</td>
</tr>
<tr>
<td>Lug to Lug, 4/0, 35 ft. (10.7 m)</td>
<td>K2163-35(1)</td>
</tr>
<tr>
<td>Lug to Lug, 4/0, 60 ft. (18.3 m)</td>
<td>K2163-60(1)</td>
</tr>
</tbody>
</table>

(1) Two cables per package.

## 14-PIN TO 14-PIN CONTROL CABLES

### For use with FANUC® arms having integrated cable

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>18 in. (0.45 m)</td>
<td>K1785-2</td>
</tr>
<tr>
<td>2 ft. (0.61 m)</td>
<td>K1785-3</td>
</tr>
<tr>
<td>4 ft. (1.2 m)</td>
<td>K1785-4</td>
</tr>
<tr>
<td>12 ft. (3.6 m)</td>
<td>K1785-12</td>
</tr>
<tr>
<td>16 ft. (4.8 m)</td>
<td>K1785-16</td>
</tr>
<tr>
<td>25 ft. (7.6 m)</td>
<td>K1785-25</td>
</tr>
<tr>
<td>40 ft. (12.2 m)</td>
<td>K1785-40</td>
</tr>
<tr>
<td>50 ft. (15.2 m)</td>
<td>K1785-50</td>
</tr>
<tr>
<td>100 ft. (30.4 m)</td>
<td>K1785-100</td>
</tr>
</tbody>
</table>

### For external dress of FANUC® arm or hard automation

<table>
<thead>
<tr>
<th>Description</th>
<th>Order Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>25 ft. (7.6 m)</td>
<td>K2709-25</td>
</tr>
<tr>
<td>50 ft. (15.2 m)</td>
<td>K2709-50</td>
</tr>
<tr>
<td>100 ft. (30.4 m)</td>
<td>K2709-100</td>
</tr>
</tbody>
</table>
RECOMMENDED ACCESSORIES

GENERAL OPTIONS

CE Filter
High power filter that enables a Power Wave® CE “ready” machine to conform to the EMC standards of Europe and Australia.
Order K2444-4

Deluxe Adjustable Gas Regulator and Hose Kit
Accommodates CO2, argon, or argon-blend gas cylinders. Includes a cylinder pressure gauge, dual scale flow gauge and 4.3 ft. (1.3 m) gas hose.
Order K986-1

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

Work Voltage Sense Lead Kit
Required to accurately monitor voltage at the arc.
Order K1811-50 for 25 ft. (7.6 m)
Order K1811-100 for 50 ft. (15.2 m)
Order K1811-100 (shown) for 100 ft. (30.5 m)

WIRE FEEDER OPTIONS

Cool Arc® 55 Water Cooler
Designed to integrate directly with Power Wave® S-Series power sources, the Cool Arc® 55 is a rugged, reliable water cooler capable of cooling torches rated up to 500 amps. It is recommended for robotic and hand-held MIG, TIG and plasma cutting applications. Input power: 115V/1/60.
Order K3086-1

Water Cooler Hoses (CGA to CGA)
For 5/8 inch (15.9 mm) LH CGA fitting applications at both cooler and wire feeder. Kit contains two 25 ft. (7.6 m) hoses with 5/8 inch left hand CGA fittings on both ends of hose.
Order K1859-2

Water Connection Kit
Includes quick connect fittings on front and back of wire drive for use with water-cooled guns and coolers. Kit provides for one gun.
Order K590-6

AutoDrive® 19 Controller
Relays wire feed commands from Power Wave® S-Series power source to any AutoDrive® Series robotic wire drive for automated welding operation. Not compatible with Power Wave® R-Series power sources.
Order K3004-1

AutoDrive® 19 Tandem Controller
Relays wire feed commands from Power Wave® S-Series power source to any AutoDrive® Series robotic wire drive for automated tandem welding operations.
Order K3171-1


Manufactured at a facility with certified ISO Quality and Environmental Management Systems.

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 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 using these products, including, but not limited to, 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.

PRODUCT SPECIFICATIONS

<table>
<thead>
<tr>
<th>Product Name</th>
<th>Product Number</th>
<th>Input Power Voltage/Phase/Hertz</th>
<th>Rated Output Current/Voltage/Duty Cycle</th>
<th>Input Current @ Rated Output</th>
<th>Output Range</th>
<th>H x W x D inches (mm)</th>
<th>Net Weight lbs. (kg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Wave® S700</td>
<td>K3279-1(^{(1)})</td>
<td>380-415/440-460/500/575/3/50/60</td>
<td>700A / 44V / 100% (900A / 44V / 60%)</td>
<td>55A/46A/42A/38A (74A/60A/56A/49A)</td>
<td>20 - 900A</td>
<td>30.1 x 19.1 x 36.7 (765 x 485 x 932)</td>
<td>385 (175)</td>
</tr>
</tbody>
</table>

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