SERVO DRIVEN WIRE FEEDER FOR ROBOTIC WELDING
AutoDrive® S
The Evolution of Speed and Precision

AutoDrive® S

Sometimes less is more, even when it comes to robotic welding in automotive fabrication and other industries. AutoDrive S is designed and built with this principle in mind. It reduces inconsistent or failed starts, spatter, burnback and other mishaps associated with pre-programmed wire feeding.

AutoDrive S employs touch-retract starting technology, a system that touches the wire to the work, senses the touch and retracts the wire, initiating the arc at a lower current. The softer start minimizes spatter or eliminates it altogether, and extends the life of the consumable. This reduces operating costs over the long term, and when there is little or no spatter to remove after the weld, up time and productivity improve dramatically.
Get In Touch

Precise Starts, Increased Production
Get the right touch when you need it. AutoDrive S is engineered with touch-retract starting technology that reduces arc start failures and increases arc-on time. This improves up time and productivity, and reduces operating costs over the long term.

Minimal Spatter, Longer Life
Don’t let spatter drive up your costs. AutoDrive S ensures the cleanest possible start and minimizes damage to the contact tip. Less wear and tear on the tip means longer life, fewer replacement tips and less downtime – all of which improves the bottom line.

More Control, Better Quality
Not all welding tasks are created equal. The AutoDrive S delivers higher quality welds that are more consistent throughout the entire length, producing the best results for the more challenging welding applications.
In a standard robotic starting routine, the wire feeder and the welding power supply work together, but operate independent of each other. This can cause inconsistency from one start to another.

**AutoDrive S Touch-Retract Starting**
Creates perfect synergy between the Power Wave® platform and the wire feeder, providing absolute control over the acceleration and deceleration of wire feed speed.

**The Precision of the AutoDrive S**
in combination with the fast communication speed and welding capability of the Power Wave platform, results in nearly flawless arc initiation every time.

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**Normal Start Photos**

**Touch Retract Start Photos**
Improved Weld Consistency

Inconsistent weld profiles are a common result of poor starts.

**AutoDrive S Touch-Retract Starting**
Improved control between the feeder and power supply results in higher quality welds that are consistent from start to finish.

Dog bone created by standard robotic weld

Weld created with AutoDrive S Touch-Retract Starting.
The standard robotic starting routine can generate a high volume of spatter, typically of a larger diameter and containing wire fragments.

**AutoDrive S Touch-Retract Starting**

Results in 85% less spatter, which means:

- No post-weld cleaning
- Less spatter on tooling and control cables
- Less cell cleanup required

**Reduced Spatter**

**85% Less Spatter**
Improved Contact Tip Life

Consumables used in robotic welding processes can wear out easily due to higher starting currents and spatter buildup. These issues lead to fused contact tips, constricted gas coverage and more frequent cleaning cycles.

**AutoDrive S Touch-Retract Starting:**
Provides consistent, controlled starting, which results in:
- Longer consumable life
- Less time spent on consumable cleaning routines
- More consistent gas coverage from one weld to the next
Patent Pending Anti-Seize™ Tip and Diffuser
Flattened thread profile increases the thread cross-section where heat typically concentrates and tips fail. The result is reduced melting, fusion and seizing.

Lincoln Copper Plus® Contact Tips
More copper than the leading competition for better heat dissipation, resulting in longer tip life.

The Magnum® PRO Advantage

<table>
<thead>
<tr>
<th>Contact Tip Brand/Series</th>
<th>Pounds of Wire Per Contact Tip*</th>
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<tr>
<td>Magnum® PRO Copper Plus® 550 Extended Life KP2745-045R</td>
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<td>Magnum® PRO Copper Plus 550 KP2745-045</td>
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<td>Tregaskiss™ Heavy Duty TOUGH LOCK® 403-20-45</td>
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<td>Tweco® Standard 14-45</td>
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<td>Bernard® CENTERFIRE™ T-045</td>
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* Results based on the following test parameters:
.045 SuperArc® L-56 on 60 lb. spools. Two spools of wire per tip. Pulse program. 350 ipm wire feed speed (approx. 16 welding hours per tip). 100% duty cycle. Contact tip usage values based on replacing tip after 10% wear. Your actual results may vary.

The trademark Tregaskiss™ and TOUGH LOCK™ are the property of Tregaskiss™, wholly owned subsidiary of Illinois Tool Works Inc. Bernard® and CENTERFIRE™ are trademarks of Illinois Tool Works Inc. The trademark Tweco® is the property of Thermadyne® Industries Inc. Actual testing was completed by Lincoln Electric personnel in Cleveland, Ohio in December 2009. Testing results were complete and accurate at the time of publication.
1. Cable assembly designed to improve system connectivity
2. Wire Conduit Connection
3. Weld Cable Connection
4. Gas Connection
5. ArcLink® Connection
6. Water Connections
7. Rear loading liner-simplifies replacement process
8. Drive Roll System—bearings contained within drive rolls themselves resulting in simplified preventative maintenance
### PRODUCT SPECIFICATIONS

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<tr>
<th>Product Name</th>
<th>Product Number</th>
<th>Input Power</th>
<th>Rated Output</th>
<th>Input Current</th>
<th>Output Range</th>
<th>H x W x D (in [mm])</th>
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<tr>
<td>AutoDrive® S Feeder</td>
<td>K4303-1</td>
<td>N/A</td>
<td>500A @100% Duty Cycle</td>
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<td>7.09 x 7.5 x 10.8 (177.8 x 190.5 x 274.3)</td>
<td>14.5 (6.58)</td>
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* The AutoDrive S is compatible only with Magnum® welding torches
* Note: ‘A’ refers to air-blast torch function. ‘W’ refers to wire brake torch function.

### Compatible Power Sources

- Power Wave® S350
- Power Wave R350
- Power Wave S500
- Power Wave R500
- Power Wave i400
- Power Wave R600
### WHAT'S INCLUDED

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### CABLES

- **AutoDrive S Cable Fanuc 100ic**: KP4305-100ic
- **AutoDrive S Cable Fanuc 100ic/6L**: KP4305-100ic/6L
- **AutoDrive S Cable Fanuc 120ic**: KP4305-120ic
- **AutoDrive S Cable Fanuc 120ic/10L**: KP4305-120ic/10L
- **AutoDrive S Cable Motoman 1440**: KP4305-MA1440
- **AutoDrive S Cable Motoman 2010**: KP4305-MA2010

### FEEDER INSULATOR

- **AutoDrive S Feeder Insulator for Fanuc 100ic**: KP313-100ic
- **AutoDrive S Feeder Insulator for Fanuc 120ic**: KP313-120ic

### MOUNTING BRACKET

- **AutoDrive S Mounting Bracket for Fanuc 100ic and 120ic**: K4254-3
- **AutoDrive S Mounting Bracket for Motoman 1440**: K4254-1
- **AutoDrive S Mounting Bracket for Motoman 2010**: K4254-2
- **Housing**: K4308-3
- **Housing**: K4308-4
- **Nose Cone**: K4307-1
- **Nose Cone**: K4307-2
- **Gun Tube**: KP3355-45

### DRIVE ROLL KITS

- **.035 in. Drive Roll Kit**: KP4335-.035S
- **.040 in. Drive Roll Kit**: KP4335-.040S
- **.045 in. Drive Roll Kit**: KP4335-.045S
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