

Invertec[®] STT[®] II

STT - Surface Tension Transfer[®]

Tired of spatter, smoke, burnthrough, or poor fit-up slowing down productivity? The revolutionary STT II power source can solve your welding problems by combining high frequency inverter technology with advanced Waveform Control Technology™ in place of traditional short arc MIG welding.

The STT II's precise control of the electrode current during the entire welding cycle significantly reduces smoke, spatter and grinding time. In addition, the unit offers independent control of wire feed speed and current.

All of these features add up to produce superior performance and clean, high quality welds time after time.



Processes

MIG-STT

Advantage Lincoln

- Current is provided independent of wire feed speed unlike conventional machines.
- Operates with larger diameter wires to potentially lower electrode costs.
- Requires less operator skill and minimal training.
- Produces less smoke to help protect workers and the environment.
- Hot start control to provide arc starting precision.
- Eliminates cold lapping on open root joints for pipe and pressure vessels.
- Designed for optimum arc performance with 100% CO₂.
- Accurate control of heat input reduces distortion and burnthrough.
- Minimal spatter reduces cleaning time of parts and fixuring.
- Background tailout current controls beadshape, penetration and the overall heat input.
- Peak and Background current LED meters for accurate procedure setting.

Description



Recommended Options

Power Source Remote Output Control, Welding Cable Connectors, STT Sense Lead Kit, Drive Roll Kit, Magnum Gun and Cable Assembly, Magnum Connector Kit, Inverter and Wire Feeder Cart

Recommended Wire Feeders

STT-10 Wire Feeder, LN-742 Wire Feeder

Order

K1525-1 STT-II 208/230/460/3/60

K1526-1 STT-II 200/220/380/415/440/3/50/60

Technical Specifications

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current@ Rated Output	Output Range	Dimensions H x W x D inches (mm)	Weight lbs. (kg)
Invertec STT II	K1525-1	208/230/460/3/60	225A / 29V / 60% 200A/28V/100%	32/30/16A	Peak Current: 0-450A Background Current: 0-125A Max. OCV: 85V	23.2 x 13.2 x 24.4 (589 x 336 x 620)	117 (53)
	K1526-1	200/220/380/415/ 440/3/50/60		33/30/18/ 17/16A			

(1) NEMA Class 1 Rated Output/Based on a 10 minute period.

Advantage Lincoln con't.

- Peak current controls arc length and promotes good fusion.
- Line voltage compensation for maintaining weld consistency even with line voltage changes of $\pm 10\%$.
- Electronic and thermostatic protection from current overload and excessive temperatures with thermal indicator light.
- Lightweight and compact design for maximum shop floor flexibility.
- Ships with 10 ft. and 25 ft. voltage sense leads.
- Manufactured under a quality system certified to ISO 9001 requirements.
- 3 year warranty on parts and labor.

A Closer Look

1. Tailout Control
2. Hot Start Control
3. Peak Current LED Meter
4. Peak Current Control
5. 10 Pin Remote Control for Peak and Background Current
6. 14 Pin Wire Feeder Control with 42V/115V Auxiliary Power
7. Twist-Mate Output Connectors (2 Twist-Mate Plugs Included with System)
8. Power Switch
9. Background Current Control
10. Background Current LED Meter
11. Wire Mode Switch



STT - Surface Tension Transfer®

Surface Tension Transfer® (STT®) is a controlled short-circuiting transfer process that adapts its waveform (shown in Figure 1) to the physics of the welding arc and metal transfer. It reduces spatter by cutting back the pinch force (current) when the liquid bridge of a short is about to break into an arc. The bridge is broken by surface tension and fluid mechanical inertia at low current.

By utilizing Lincoln Waveform Control Technology™, STT II has the capability of delivering and changing electrode current in the order of microseconds. Precise control of the electrode current during the entire welding cycle minimizes or eliminates the main disadvantages of conventional GMAW short arc welding.

The STT process has advantages when welding on thin-gauge materials and open root pass for pipe.

The process is effective for welding stainless steel and related alloys, as well as mild and high-strength steels. On steel, it offers the ability to use 100% CO₂ shielding gas and produces a low hydrogen weld. On stainless and other alloys, various shielding gases may be used, including blends with argon and helium. Superior metallurgical properties can be achieved when welding duplex stainless steel.

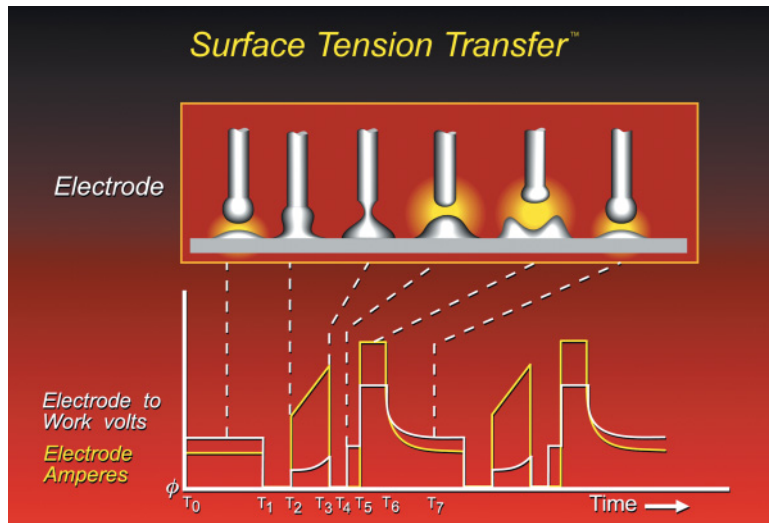


Figure 1



Conventional Short-Arc Welding Process



STT II Surface Tension Transfer™ reduces smoke and spatter for applications where performance is critical.

System Selection

The following are only recommendations for easy hook-up of the Invertec STT II. Contact your local Lincoln Distributor for other possible hook-ups.

Invertec STT-II/STT-10 Deluxe System

<i>The most user friendly system for the ultimate in STT performance!</i>	
Description	Order Number
Invertec STT II	K1525-1
STT II Sense Lead Kit	K940-25
STT-10 Wire Feeder	K1560-1
Power Input Cable	K1569-10
Drive Roll Kit	KP1505-035S for .035" wire or KP1505-045S for .040-.045" wire
Magnum 200 Gun Assbly.	K497-21

Invertec STT-II/LN-742 Standard System

<i>The most economical system for STT welding!</i>	
Description	Order Number
Invertec STT II	K1525-1
STT II Sense Lead Kit	K940-25
LN-742 Wire Feder	K617-1
Power Input Cable	K1569-10
Drive Roll Kit	KP653-035S for .035-.045" wire or KP653-052S for .045-.052" wire
Magnum 200 Gun Assbly.	K497-21
Magnum Connector Kit	K466-1

Recommended Options

Power Source Remote Output Control

Remotely controls peak and background current. 10 pin remote control with 25 ft. (7.6m) of cable.
Order K942-1.

STT II Sense Lead Kit

Required to accurately monitor voltage at the arc. Included with Invertec STT II. 25 ft. (7.6m) length.
Order K940-25.



Twist-Mate Cable Plug

For connecting welding cable to output terminal receptacles. For 1/0-2/0 (50-70mm²) cable.
Order K852-70



Twist-Mate Cable Plug

For connecting welding cable to output terminal receptacles. For 2/0-3/0 (70-95mm²) cable.
Order K852-95



Twist-Mate Cable Receptacle

For connecting welding cable to Twist-Mate cable plug. For 1/0-2/0 (50-70mm²) cable.
Order K1759-70



Twist-Mate Cable Receptacle

For connecting welding cable to Twist-Mate cable plug. For 2/0-3/0 (70-95mm²) cable.
Order K1759-95

Magnum 200 Gun and Cable Assembly

With 15 ft. (4.5m) cable. For .035-.045 wire.
Order K497-21

Magnum Connector Kit

Used for connecting Magnum gun and Cable to LN-742 and STT-10 wire feeders.
Order K466-1



Inverter and Wire Feeder Cart

Rear-wheeled cart includes front casters and no-lift gas bottle platform. Convenient handles allow for easy cable storage while full length side trays store parts and tools. Shipped fully assembled. Small footprint fits through 30 inch door.
Order K1764-1

Dual Cylinder Kit

Permits side-by-side mounting of two full size gas cylinders, with easy loading. For use with K1764-1 cart.
Order K1702-1.

Invertec® STT-II Power Source

PRODUCT DESCRIPTION	ORDER NUMBER	QUANTITY	PRICE
Invertec STT II - 208/230/460/3/60	K1525-1		
Invertec STT II - 200/220/380/415/440/3/50/60	K1526-1		
Recommended Options			
Power Source Remote Output Control	K942-1		
STT-II Sense Lead Kit, 25 ft. (7.6m)	K940-25		
Twist-Mate Cable Plug, 1/0-2/0 (50-70mm ²) cable	K852-70		
Twist-Mate Cable Plug, 2/0-3/0 (70-95mm ²) cable	K852-95		
Twist-Mate Cable Receptacle, 1/0-2/0 (50-70mm ²) cable	K1759-70		
Twist-Mate Cable Receptacle, 2/0-3/0 (70-95mm ²) cable	K1759-95		
Inverter and Wire Feeder Cart	K1764-1		
Dual Cylinder Kit	K1702-1		
Magnum 200 Gun & Cable Assembly	K497-21		
Magnum Connector Kit	K466-1		
Wire Feeder Options			
STT-10 Wire Feeder	K1560-2		
LN-742 Wire Feeder - with 2 drive rolls	K617-1		
TOTAL			

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 this type of fabrication methods and service requirements.



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