

# Stick

## WELDERS

**Versatile Stick Welders for Shop or Field**

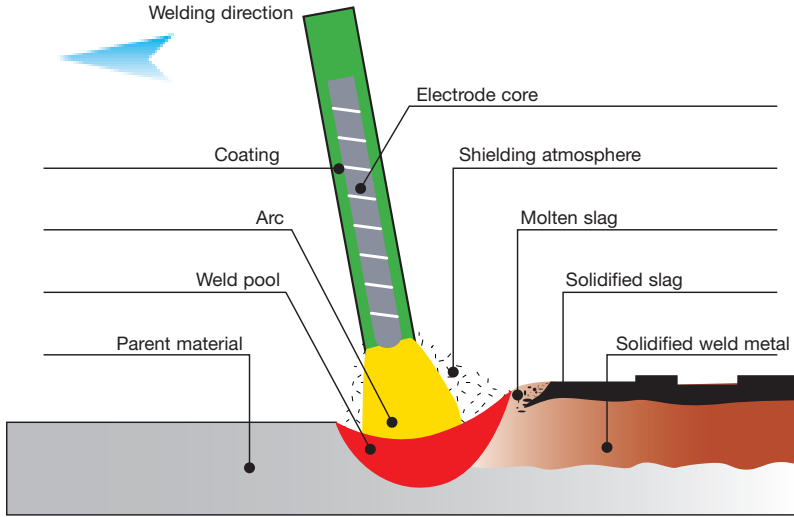
- Weld a Wide Range of Materials and Thicknesses
- Conventional or Inverter Models

	MODEL	OUTPUT			INPUT	PROCESS				FEATURES				
		Mode	Polarity	Current Range (A)		Voltage (V)	Stick	Lift TIG	TIG Scratch	Arc Gouge	115/230 Volt Auto-Sensing	Hot Start	Arc Force	Meters
1-Phase Inverters	<i>Inverter® 135S</i>	CC	DC	10-120	230	●	●							2
	<i>Inverter® 150S</i>	CC	DC	10-140	230	●	●				●	●		2
	<i>Inverter® 170S</i>	CC	DC	10-160	230	●	●				●	●	●	2
	<i>Inverter® V205-S</i>	CC	DC	5-200	230/400	●	●			●	●	●	●	2
3-Phase Inverters	<i>Inverter® V270-S</i>	CC	DC	5-270	230/400	●	●				●	●	●	2
	<i>Inverter® V405-S</i>	CC	DC	5-400	400	●	●				●	●	●	2
	<i>Inverter® 270SX</i>	CC	DC	5-270	400	●	●				●	●	●	3
	<i>Inverter® 400SX</i>	CC	DC	5-400	400	●	●				●	●	●	3
3-Phase Rectifiers	<i>LINC 405-S</i>	CC	DC	15-400	230/400	●	●	○			●	●		2
	<i>LINC 405-SA</i>	CC	DC	15-400	230/400	●	●	○			●	●	●	2
	<i>LINC 635-S</i>	CC	DC	15-670	230/400	●	●	○			●	●		2
	<i>LINC 635-SA</i>	CC	DC	15-670	230/400	●	●	○			●	●	●	2
	<i>Idealarc® R3R-600-I</i>	CC	DC	75-625	230/380/440	●	●	○			●	●	●	3

KEY: ● Excellent ● Good ● Optional

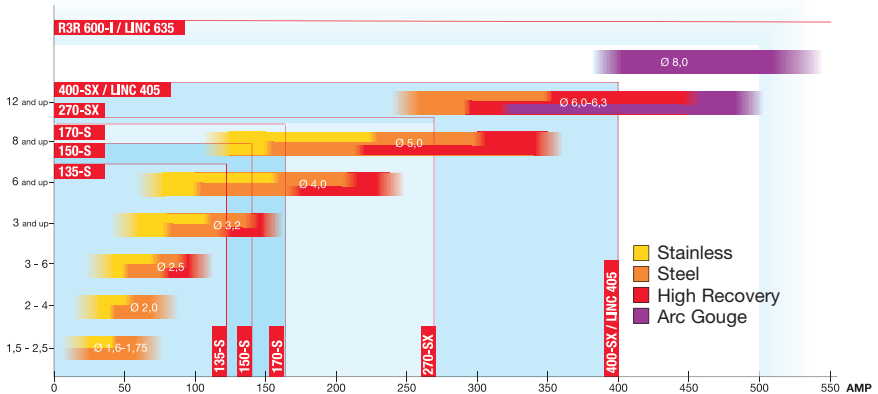
## SMAW Process

### Shielded Metal Arc Welding / Stick (M.M.A.) Welding



In this welding process, an electric arc is created between a coated consumable electrode and the work piece to be welded, causing the parent material to be fused together and the electrode to melt. The electrode is of similar material as the parent material, and by melting provides the weld (or joint) with a reinforcing filler material. The electrode may be coated with basic, rutile or cellulose material, and as the coating burns it protects the arc and weld pool from the atmosphere with a gaseous shroud, the slag which solidifies over the newly deposited weld also protects it from the atmosphere.

### Selection Chart for Stick Welding



## Invertec® 135S / 150S / 170S

*Small, powerful and robust*

	135S	150S	170S
<b>Applications</b>			
Electrode diameter	1.5-3.2mm	1.5-3.2mm	1.5-4.0mm
Rutile / basic electrodes	●	●	●
2.5mm	●	●	●
3.2mm	◐	●	●
4.0mm		◐	●
<b>Performance</b>			
Hot start		●	●
Auto-adaptative arc force		●	●
Soft & Crisp mode		●	●
Advanced arc control	●	●	●
Anti-stick	●	●	●
<b>Environment</b>			
Long cables		● (60m)	● (60m)
Generator use		●	●
<b>Features</b>			
Lift TIG	◐ Scratch	● Lift TIG	● Lift TIG
Digital meter			●
Fan on demand		●	●
<b>Packaging</b>			
Machine + cables		●	●
Machine + cables +shield+box	Standard	●	●
<b>Warranty</b>			
	2 year	2 year	2 year

### Processes

Stick

### Output



### Input

### Base Unit Includes

input cable (all), work lead and 2m-cable, electrode holder and 3m-cable (135S only)

### Order

K12033-1 Invertec® 135S  
 K12034-1 Invertec® 150S  
 K12035-1 Invertec® 170S



Product Name	Product Number	Input Power	Rated Output Current/Duty Cycle	Fuse size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
135S	K12033-1	230/1/50-60	120A/25%	16A	10-120 A	224 x 148 x 315	5,6
150S	K12034-1	230/1/50-60	140A/30%	16A	10-140 A	244 x 148 x 365	7,7
170S	K12035-1	230/1/50-60	160A/35%	16A	10-160 A	244 x 148 x 365	8,0

## Invertec® V205-S

*Smart switching, full flexibility*

The Invertec® V205-S Stick and Lift TIG welder has been designed and manufactured using the latest digital inverter technology, combining both a rugged industrial construction with excellent arc characteristics.

The lightweight but solid build of this machine makes it suitable for operation on site in conjunction with a generator or within a workshop environment, providing maximum flexibility. The smart switching 230/400V single phase enables connection of the V205S virtually everywhere.

- **Smart switching** 230/400V single phase.
- **Excellent** arc characteristics.
- **Maximum output of 205 amps** allows the use of electrodes up to 4.0 mm.
- **Excellent** stick rutile, basic and cellulosic welding performance.
- **Adjustable** "Arc Force" and "Hot Start" as standard.
- **Full featured** and user-friendly control panel.
- **Line voltage compensation** enables use on remote power from an engine driven generator.
- **Features "Lift TIG"** with no tungsten contamination.
- **Digital display** allows precise setting of welding current.
- **Meet IEC974-1, ROHS and CE** standards for safety and reliability.

### Processes

Stick, Lift TIG

### Output



### Input

### Base Unit Includes

2m-input cable, carrying strap.

### Order

K12019 -1 Invertec® V205-S



Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Fuse size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
V205-S	K12019-1	230/400/1/50-60	200A/28V/35% 170A/26,8V/100%	35/20A (slow)	5-200 A Max. OCV: 48V	385 x 215 x 480	16,8

## Invertec® V270-S

*Powerful portability, robust reliability*

The Invertec® V270-S has been designed and manufactured using the latest digital inverter technology, combining both a rugged industrial construction with excellent arc characteristics. The lightweight but solid build of this machine makes it suitable for operation on site in conjunction with a generator or within a workshop environment, providing maximum flexibility.

- **Excellent** arc characteristics.
- **Maximum output of 270 amps** allows the use of electrodes up to 5.0 mm.
- **Excellent** stick rutile, basic and cellulosic welding performance.
- **Adjustable** "Arc Force" and "Hot Start" as standard.
- **Full featured** and user-friendly control panel.
- **Available in dual version model**, with auto-reconnect between 230/400V.
- **Line voltage compensation** enables use on remote power from an engine driven generator.
- **Features "Lift TIG"** with no tungsten contamination.
- **Digital display** allows precise setting of welding current.
- **Meet IEC974-1, ROHS and CE** standards for safety and reliability.

### Processes

Stick, Lift TIG

### Output



### Input



### Base Unit Includes

2m-input cable, carrying strap.

### Order

K12022-3

Invertec® V270-S



Product Name	Product Number	Input Power	Rated Output Current/Voltage/ Duty Cycle	Fuse size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
V270-S - 2V	K12022-3	230/400/3/50-60	270A/30,8V/35% 200A/28V/100%	35 / 20A	5-270 A Max. OCV: 48V	385 x 215 x 480	13,5

## Invertec® 270SX

*Professional welder built for tough working conditions*

The Invertec® 270SX Stick and Lift TIG welder is designed and manufactured using the latest digital inverter technology. The unit is ready for heavy environmental conditions and combining a rugged industrial construction with excellent arc characteristics. The lightweight but solid build of this machine makes it suitable for operation on site in conjunction with a generator or within a workshop environment, providing maximum flexibility.

- **Robust**, built for heavy environmental conditions.
- **Excellent** stick rutile, basic welding performance.
- **Full protected PCB's** separated from the air stream
- **Maximum output of 270 amps** allows the use of electrodes up to 5.0 mm.
- **Adjustable "Arc Force"** and "Hot Start" as standard.
- **Full featured** and user-friendly control panel.
- **Line voltage compensation** enables use on remote power from an engine driven generator.
- **Features "Lift TIG"** with no tungsten contamination.
- **Digital display** allows precise setting of welding current
- **Meet IEC974-1, ROHS and CE** standards for safety and reliability.

### Processes

Stick, Lift TIG

### Output



### Input



### Base Unit Includes

2m-input cable

### Order

K12040-1

Invertec® 270SX



THE LINCOLN ELECTRIC GREEN INITIATIVE

Inverter Technology  
reduces energy demand

[www.lincolnelectric.com/green](http://www.lincolnelectric.com/green)



Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Fuse size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
270SX	K12040-1	400/3/50-60	270A/30,8V/35% 200A/28V/100%	20A	5-270 A Max. OCV: 48V	389 x 247 x 489	22

## Invertec® 400SX

*Professional welder built for tough working conditions*

The Invertec® 400SX Stick and Lift TIG welder is a portable and robust piece of equipment providing excellent arc characteristics. With its generator compatibility and complete versatility it can be fully utilised anywhere from sites to workshops. Featuring “Lift TIG”, “Hot Start” and an adjustable “Arc Force”, this machine has enormous flexibility. The high duty cycle of the machine supports continuous welding with a wide variety of electrode types. The Invertec® 400SX has a solid industrial construction with the features of a professional Stick and Lift TIG welding machine capable of the toughest jobs.

- **Robust**, built for heavy environmental conditions.
- **Excellent** stick rutile, basic and cellulosic welding performance.
- **Full protected PCB's** separated from the air stream.
- **Maximum output of 400 amps** allows the use of electrodes up to 6.3 mm.
- **Adjustable "Arc Force"** and "Hot Start" as standard.
- **Full featured** and user-friendly control panel.
- **Line voltage compensation** enables use on remote power from an engine driven generator.
- **Features “Lift TIG”** with no tungsten contamination.
- **Digital display** allows precise setting of welding current
- **Meet IEC974-1, ROHS and CE** standards for safety and reliability.

### Processes

Stick, Lift TIG, Gouging

### Output



### Input



### Base Unit Includes

2m-input cable.

### Order

K12042-1 Invertec® 400SX



Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Fuse size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
400SX	K12042-1	400/3/50-60	400A/36V/35% 300A/32V/100%	30A	5-400 A Max. OCv: 48V	455 x 301 x 618	36

## LINC 405-S & SA / LINC 635-S & SA

*The rugged and distinguished workhorses*

The LINC 405 and 635 are exceptionally rugged conventional stick rectifiers built to be used under harsh environmental conditions. The units are available in two versions :

- the basic LINC 405-S and LINC 635-S ready to support stick welding with all rutile, basic and cellulosic electrodes
- LINC 405-SA and LINC635-SA complete with the additional features of arc force, hot start and digital meters.

### Processes

Stick, Lift TIG DC (-SA), Gouging

### Output



### Input



- **Rugged conventional welding rectifier** with excellent arc characteristics.
- **Capable** to weld Rutile, Basic and Cellulose electrodes
- **Arc gouging** capability.
- **Hot Start** supporting excellent arc starting (SA).
- **Arc Force** to prevent sticking of the electrode in the welding pool (SA).
- **Digital meters** showing welding Amperage (SA).
- **Easy to understand** graphic control panels.
- **Fan on demand (F.A.N.™)** built-in reduces power and the intake of dust and fumes.
- **Ready to be moved.** Equipped with wheels, pull bar and two lifting hooks.
- **Lift TIG DC** capability (SA).
- **Meet IEC974-1, ROHS and CE** standards for safety and reliability.

### Base Unit Includes

5m-input cable

### Order

K14002-2	LINC 405-S
K14002-1	LINC 405-SA
K14038-2	LINC 635-S
K14038-1	LINC 635-SA



Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Fuse size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
LINC 405-S	K14002-2	230/400/3/50-60	400A/36V/35%	63A (230V)	15-400 A	640 x 580 x 700	126
LINC 405-SA	K14002-1		240A/29V/100%	40A (400V)	Max. OCV: 78V		
LINC 635-S	K14038-2	230/400/3/50-60	670A/44V/35%	100A (230V)	15-670 A	670 x 580 x 700	150
LINC 635-SA	K14038-1		500A/40V/60%	63A (400V)	Max. OCV: 78V		



## R3R 600-I

### Heavy duty stick welding and arc gouging

Look to the R3R 600-I power source from Lincoln Electric for your heavy-duty stick welding needs. Whether you're using mild steel, low hydrogen, stainless steel or hardfacing electrodes, the Idealarc R3R 600-I produces a smooth, quality arc for consistent results day-in and day-out. 600A at maximum output gives the R3R600-I an excellent arc gouging behaviour. The R3R 600-I is also a proven DC TIG welder – simply add TIG accessories and a cylinder of shielding gas.

- **Excellent arc characteristics** for a wide range of electrode types.
- **Maximum output of 600 amps** allows the use of electrodes up to 6.3mm & Gouging.
- **Infinitely variable "Arc Force"** and "Hot Start".
- **Easy to operate**—Calibrated current control knob makes procedure setting simple and easy.
- **Polarity switch, voltmeter and ammeter** are standard.
- **Rugged case design** for portability and impact resistance.
- **Input voltage compensation.**
- **Thermostatic** overload protection.
- **Meet IEC974-1, ROHS and CE** standards for safety and reliability.

#### Processes

Stick, Gouging, TIG (optional)

#### Output



#### Input

#### Order

K1381-2

R3R600-I



Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Fuse size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
R3R 600-I	K1381-2	230/380/440/3/50-60	600A/44V/35% 375A/35V/100%	103A	75-625A Max. OCV: 64V	700 x 565 x 840	209

## Invertec® V350-PRO

*Design smart, Built tough*

The Invertec® V350-PRO is the most powerful portable multi-process inverter power source in its class. Smart operation allows it to handle any stick, TIG, and MIG applications. This machine is ready to connect with a wire feeder and equipped with two digital meters showing Amps and voltage. Continuous adjustable choke and Arc force are provided as standard.

- **Superb welding** with Basic, Rutile and Cellulosic electrodes, MIG and Flux Cored.
- **Its plug and play intelligence** allows it to automatically adjust to your wire feeder instantly.
- **Tough durable case** with roll bars and skid for protected transport.
- **Bright, large digital meters.**
- **Control panel** is simple in design and easy to operate
- **Meet IEC974-1, ROHS and CE** standards for safety and reliability.

### Processes

Stick, TIG, MIG, Flux-Cored, Gouging

### Output



### Input



### Base Unit Includes

3m-input cable

### Order

K1728-12

V350-PRO



Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Fuse size	Output Range	Dimensions H x W x D (mm)	Net Weight (kg)
V350-PRO	K1728-12	200/220/380/415/ 440/3/50-60	350A/34V/60%-3ph 300A/32V/100%-3ph 320A/33V/60%-1ph 275A/31V/100%-1ph		5-425A Max OCV: 80V DC	376 x 338 x 709	38

## ACCESSORY KITS

### CABLE KITS (GROUND/ELECTRODE)

with ground cable & electrode holder (clamp)

Item n° :

**KIT-140A-16-3M** (140A - 16mm<sup>2</sup> - 3m)

**KIT-140A-25-5M** (140A - 25mm<sup>2</sup> - 5m)

**KIT-200A-25-3M** (200A - 25mm<sup>2</sup> - 3m)

**KIT-200A-35-5M** (200A - 35mm<sup>2</sup> - 5m)

**KIT-250A-35-5M** (250A - 35mm<sup>2</sup> - 5m)

**KIT-300A-50-5M** (300A - 50mm<sup>2</sup> - 5m)

**KIT-400A-70-5M** (400A - 70mm<sup>2</sup> - 5m)



### CABLE KITS (GROUND)

Item n° :

**GRD-400A-70-5M** (400A - 70mm<sup>2</sup> - 5m)

**GRD-400A-70-10M** (400A - 70mm<sup>2</sup> - 10m)

**GRD-400A-70-15M** (400A - 70mm<sup>2</sup> - 15m)

**GRD-600A-95-10M** (600A - 95mm<sup>2</sup> - 10m)



## REMOTE CONTROLS

1 potentiometer, 6 pins, 15m

Item n° : **K10195-1-15M**

2 potentiometers (fine adjustment), 6 pins, 15m  
(for use with R3R600-1)

Item n° : **K10124-1-15M**



Extension cable

Item n° : **K10398**

## UNDERCARRIAGES

2-wheeled cart, delivered as a kit, for use with 170S, V205S, V270S

Item n° : **W0200002**



4-wheeled undercarriage with gas cylinder platform delivered as a kit, for use with V405

Item n° : **K2694-1**



## GAS PRESSURE REGULATOR

Accommodates CO<sub>2</sub>, argon or argon-blended gas cylinders. Includes a cylinder pressure gauge, dual scale flow gauge and 1,3m gas hose



Item n° : **consult us**

## TIG TORCHES

### LINC TORCH™ RANGE

With the LINC TORCH™ range, Lincoln Electric offers a complete collection of TIG welding torches. No matter what the application, there will be a perfectly suitable torch for the job.

LT 17G, standard torch head, manual valve, 140A DC / 100A AC @ 35% 10-25 mm<sup>2</sup> connector

**K10513-17-4VS** LT17 GV, 4m

**K10513-17-8VS** LT17 GV, 8m



35-50 mm<sup>2</sup> connector

**K10513-17-4V** LT17 GV, 4m

**K10513-17-8V** LT17 GV, 8m