

**NEW!**

# Invertec® V205-T AC/DC

## For TIG and Stick Welding

The Invertec® V205-T AC/DC is a compact, TIG power source intended for critical AC or DC TIG welding. From maintenance to production fabrication, to motorsports, aerospace, nuclear piping and shipbuilding, this feature-packed inverter is flexible enough for almost any job! Variable AC frequency allows you to focus the arc when precise control is required. The 115/230V input voltage auto-reconnect makes the V205-T AC/DC extremely useful almost anywhere in the shop or in the field.

### Processes

Stick, TIG



Output



Input



### Advantage Lincoln

#### Precision Arc Performance

- NEW!** Added Stick Crisp Mode for exceptional Fleetweld® 5P and 5P+ (E6010) Performance.
- NEW!** Improved TIG starting. Now starts DC(-) to maintain a sharp tungsten.
- NEW!** Adjustable DC strike mode – Allows adjustment of a hotter or colder start depending on the tungsten diameter.
- AC/DC inverter for TIG with advanced inverter technology to optimize arc performance.
- Adjustable AC output frequency allows the operator to focus the arc minimizing the heat affected zone.
- Extended AC Balance Control helps maintain a pointed tungsten to direct the arc in the weld joint.
- Selectable waveshapes – Square wave for fast travel speeds and excellent puddle control, sine wave for a traditional softer sounding arc, triangular wave to reduce the heat input into the weld at low amperages.
- High quality stick welding with such popular Lincoln® electrodes as Fleetweld® 5P, 35, 37, 180 and Excalibur® 7018.

#### Professional Features

- NEW!** Voltage Reduction Device (VRD). When enabled from the set up menu reduces the open circuit voltage in STICK mode for use in electrically hazardous conditions or when the use of a VRD is required.

- 200 amps @ 40% duty cycle is the highest output rating in this machine class.
- Auto-reconnects for single phase 115/230V 50/60 Hz input allows the flexibility to weld in the shop or take in the field where 230V may not be available.
- Weighs in at a mere 38 lbs. (17.3 kg) making it easy to carry around the shop or job site.

#### Simple Controls

- Full featured TIG control – up to 11 variable – including pulse, upslope, downslope and balance control.
- Easy to read sequence diagram with LEDs displays selected parameter for easy setting with a single knob.

#### Outstanding Quality

- NEW!** Fan-As-Needed (F.A.N.) fan only operates when needed to reduce power consumption, noise and dust in machine.
- NEW!** Newly designed using the latest power electronic technology for improved reliability.
- CSA C/US Certified.
- Three-Year Lincoln® Warranty on parts and labor.

### TECHNICAL SPECIFICATIONS

Product Name	Product Number	Input Power	Rated Output Current/Voltage/Duty Cycle	Input Current @ Rated Output <sup>(1)</sup>	Output Range	Dimensions H x W x D inches (mm)	Net Weight lbs.(kg)
Invertec® V205-T AC/DC	K1855-4	115V/1/50/60	150A/16.0V/40% TIG	34.0A	6-200 A AC/DC Max. OCV: 53.7	15.0 x 8.5 x 19.0 (381 x 216 x 483)	38 (17.3)
			120A/14.8V/60% TIG	25.0A			
		100A/14.0V/100% TIG	20.0A				
		200A/18.0V/40% TIG	30.0A				
	230V/1/50/60 <sup>(2)</sup>	170A/16.0V/60% TIG	18.0A				
		140A/15.6V/100% TIG	15.0A				
	115V/1/50/60	110A/24.4V/35% Stick	90A/23.6V/60% Stick	34.0A			
			70A/22.8V/100% Stick	28.0A			
230V/1/50/60 <sup>(2)</sup>		180A/27.2V/35% Stick	20.0A				
		150A/26.0V/60% Stick	30.0A				
		130A/25.2V/100% Stick	23.0A				
			19.0A				

(1) Input amps on 60Hz input. (2) Also operates on 208 input volts.

**PERFORMANCE**

**TIG Welding**

The ability to adjust Invertec® V205-T AC/DC's output frequency allows the operator to control the focus of the arc. This is ideal for critical welds if trying to minimize the heat affected zone in the weld. It is also a benefit for welding on cast aluminum where lower frequency is desired to minimize agitation of impurities in the base metal.

Start-only high frequency in AC mode minimizes high frequency noise emissions.

**Stick Welding**

The Invertec® V205-T AC/DC is also an excellent DC stick welder with such popular Lincoln® electrodes such as Fleetweld® 5P and 5P+, Fleetweld® 35, Fleetweld® 37, Fleetweld® 180 and Excalibur® 7018.

**FEATURES**

- Selectable high frequency TIG starting for easy arc ignition or Touch-Start™ DC TIG starting for areas where high frequency emissions are a concern.
- Hidden start up menu offers the following additional controls:
  - Preflow time for purging gas lines is adjustable between 0 and 25 seconds. Factory preset at 0.5 seconds.
  - Selectable AC wave shapes.

- High frequency is standard starting method for TIG. Touch-Start™ TIG may be selected for DC.
- Adjustable DC TIG strike current.
- Adjustable Arc Force for stick mode only.
- Adjustable Hot Start for stick mode only.
- Adjustable AC start power for larger diameter tungsten.

**Key Controls**

- |                               |  |
|-------------------------------|--|
| 1) Weld Mode                  | 12) Digital output current display   |
| 2) Up-Slope Time              | 13) 2-Step and 4-Step operation modes  |
| 3) Pre-settable Amperage      | 14) Local/Remote switch allows for remote current controls in TIG welding mode |
| 4) Down-Slope Time            | 15) 6-pin MS-Type remote connector (not shown)                                 |
| 5) Finish Current             | 16) Integral Twist-Mate™ gas and power connections (not shown)                 |
| 6) AC Welding Frequency       | 17) Starting Current (not shown)   |
| 7) AC Balance                 |  |
| 8) Pulse Frequency            |  |
| 9) Pulse Background Current   |  |
| 10) % On-Time Pulse           |  |
| 11) Adjustable post-flow time |  |



**QUALITY AND RELIABILITY**

- Thermal and voltage overload protection for long life of internal components.
- Three year Lincoln® warranty on parts and labor.
- Line voltage compensation gives you the option to use remote generator power.

**SYSTEM SELECTION**

**One-Pak® Welding Packages**

Order a Lincoln® One-Pak® and get everything you need to complete a welding package – all with one order number. Just add shielding gas.

**Invertec® V205-T AC/DC One-Pak® Package — One product number (K2350-2) gets you all this:**

*Package Contains These Separate Items:*

- Invertec® V205-T AC/DC (115/230/1/50/60) . . . K1855-4
- TIG-Mate™ 17 Air-Cooled . . . . . K2266-1  
TIG Torch Starter Pack
- Foot Amptrol® . . . . . K870



**STICK OPTIONS**



**Stick Electrode Holder, Work Clamp, Cable & Twist-Mate™ Set**  
Includes 200A stick electrode holder, #4 welding cable, work cable and Twist-Mate™ set.  
**Order K2394-1**

**TIG OPTIONS**



**TIG-Mate™ 9 Air-Cooled TIG Torch Starter Pack**  
Get everything you need for TIG welding in one complete easy-to-order kit packaged in its own portable carrying case. Includes: PTA-9 Ultra-Flex™ torch, gas lens parts kit, Harris® flowmeter/regulator, Twist-Mate™ adapter, gas hose, work clamp and cable.  
**Order K2413-1**



**TIG-Mate™ 17 Air-Cooled TIG Torch Starter Pack**  
Get everything you need for TIG welding in one complete easy-to-order kit packaged in its own portable carrying case. Includes: PTA-17 Ultra-Flex™ torch, parts kit, Harris® flowmeter/regulator, 10 ft. gas hose, PTA-17 Twist-Mate™ adapter, and work clamp and 10 ft. cable.  
**Order K2266-1**



**TIG-Mate™ 20 Water-Cooled TIG Torch Starter Pack**  
Get everything you need for TIG welding in one complete easy-to-order kit packaged in its own portable carrying case. Includes: PTW-20 torch, parts kit, Harris flowmeter/regulator, 10 ft. gas hose, PTW-20 Twist-Mate™ adapter, work clamp and cable and 10 ft. water hose.  
**Order K2267-1**

Additional or alternate torches may be ordered:



**Pro-Torch™ TIG Torches**  
One-piece air-cooled PTA-9 or -17 TIG torches may be connected directly with the included K1622-1 TIG Torch Adapter.  
**Order K1781-1** for PTA-9, 12.5 ft., 1-cable.  
**Order K1782-1** for PTA-17, 12.5 ft., 1-cable.

One-piece air-cooled PTA-26 TIG torches may be connected with an optional K1622-3 Twist-Mate™ adapter.  
**Order K1783-1** for PTA-26, 12.5 ft., 1-cable.  
**Order K1622-3** PTA-26 adapter



PTW-20 water-cooled torch may be connected with an optional K1622-4 Twist-Mate™ adapter.  
**Order K1784-3** for PTW-20, 12.5 ft.  
**Order K1622-4** PTW-20 adapter  
A full line of TIG torches and parts kits in various lengths and types are available.  
**Request Lincoln® Publication E12.150 for more information.**



**Foot Amptrol®**  
Provides 25 ft. (7.6m) of remote current control for TIG welding. (6 pin plug connection)  
**Order K870**

**Hand Amptrol**  
Provides 25 ft. (7.6m) of remote current control for TIG welding. (6 pin plug connection). Velcro straps secure torch.  
**Order K963-3** (one size fits all Pro-Torch TIG torches).



**Arc Start Switch**  
May be used in place of the Foot or Hand Amptrol. Comes with a 25 ft. (7.6m) cable and 6-pin plug connector. Attaches to the TIG torch for convenient finger control to start and stop the weld cycle at the current set on the machine.  
**Order K814**



**Cool-Arc™ 40 Water Cooler**  
Energy efficient long life cooler for water-cooled welding applications.  
**Order K1813-1 for 115V.**



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

**Hose Coupler (11N18)**  
5/8" LH CGA female fitting on both ends allows a water hose from cooler to connect directly to the water line of the TIG torch.  
**Order S19558-6**



**Cut Length Consumables**  
TIG welding filler metals are available for welding stainless steel, mild steel, aluminum and copper alloys.  
**Request Lincoln® Publication C9.10 for more information**

**GENERAL OPTIONS**



**Small Canvas Cover**  
Protect your machine when not in use. Made from attractive red canvas that is flame retardant, mildew resistant and water repellent. Includes a convenient side pocket to hold welding torch or gun.  
**Order K2377-1**

**RECOMMENDED OPTIONS**

**GENERAL OPTIONS, CONT.**



**Welding Cart**

Lightweight cart stores and transports welder, 80 cubic foot shielding gas cylinder, welding cables and accessories. Includes an angled top shelf for easy access to welder controls, a lower tray for added storage space, a sturdy handle and a convenient cable wrap hanger.

**Order K2275-1**



**Utility Cart**

Heavy duty cart stores and transports welder, 150 cubic foot shielding gas cylinder, welding cables and accessories. Includes stable platforms for welder and gas bottle platform, lower tray for added storage capacity and adjustable height handle.

**Order K520**

**INVERTEC® V205-T AC/DC**

PRODUCT DESCRIPTION	ORDER NUMBER	QUANTITY	PRICE
Invertec® V205-T AC/DC 115/230/1/50/60	K1855-4		
Invertec® V205-T AC/DC One-Pak® Package	K2350-2		
<b>Recommended Stick Options</b>			
Stick Electrode Holder, Work Clamp, Cable & Twist-Mate™ Set	K2394-1		
<b>Recommended TIG Options</b>			
TIG-Mate™ 9 Air-Cooled TIG Torch Starter Pack	K2413-1		
TIG-Mate™ 17 Air-Cooled TIG Torch Starter Pack	K2266-1		
TIG-Mate™ 20 Water-Cooled TIG Torch Starter Pack	K2267-1		
Pro-Torch™ TIG Torches:	see publication E12.150		
PTA-9 TIG Torch, 12.5 ft., 1-cable, 125 amps	K1781-1		
PTA-17 TIG Torch, 12.5 ft., 1-cable, 150 amps	K1782-1		
TIG Torch Adapter (required for PTA-9, -17)	K1622-1		
PTA-26 TIG Torch, 12.5 ft., 1-cable, 200 amps	K1783-1		
TIG Torch Adapter (required for PTA-26)	K1622-3		
PTW-20 TIG Torch, 12.5 ft., 250 amps	K1784-3		
TIG Torch Adapter (required for PTW-20)	K1622-4		
Foot Amptrol	K870		
Hand Amptrol	K963-3		
Arc Start Switch	K814		
Cool Arc™ 40 Water Cooler:			
115/1/50/60	K1813-1		
220-240/1/50/60	K2187-1		
Water Cooler Hoses (CGA to CGA)	K1859-2		
Hose Coupler (11N18)	S19558-6		
Cut Length Consumables	see publication C9.10		
<b>Recommended General Options</b>			
Small Canvas Cover	K2377-1		
Welding Cart	K2275-1		
Utility Cart	K520		
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.

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