

# SANARG 300AP

## AC/DC TIG Welding

### Tough, Compact & Light Weight.



**Excellent Performance:** Embedded microprocessor with digital controls, delivering full Constant Current output with perfectly smooth, stable arc characteristics for TIG and Stick electrodes, E6010 Cellulose and low hydrogen electrodes.

**Primary Smart Switch:** Prevents damage to the internal components if installed to improper voltage. Multi voltage 208-230/460 1 or 3 phase providing maximum flexibility.

**Thermal Overload Protection:** Indicator alerts the operator if duty cycle is exceeded or airflow is blocked.

**Remote 14pin Receptacle Fitted:** Makes compatibility of SanRex, competitive remote devices simple.

**Excellent Portability:** Lightweight, less than 60 lbs.

**IP23S:** Suitable for outdoor use.

**Digital Meters:** Voltage and Amperage: Preview and Hold capability.

**Heat sensing fan:** Operates as needed to cool components & reduce airborne contaminants pulled through the power source.

**Dinse Twist Lock Output Terminals:** Allow for easy polarity changing and cable connection.

**AC Waveforms Output:** True Square Wave, AC-Soft, Triangle and Variable of Reverse Polarity Current.

**AC Frequency:** Give the operator control over weld bead shape.

**AC Balance:** Allows you to fine tune the AC welding cycle.

**Simple Automation:** Includes Remote Weld ON/OFF, Amperage control, Weld output ON (OK-to-Move).

**Warranty:** 3 Years.

**Easy to use:** Simple, user friendly set-up and operation.

**Smart Warning Diagnostics:** Alerts operator to power supply abnormalities.

**Standards Compliant Integrated VRD:** Voltage Reduction Device reduces the OCV when the power supply is not in use. This all but eliminates the risk of electrocution to the operator from the secondary welding circuit.

**Job Save & Load:** Allows operator to store up to 5 exact optimized welding parameters then digitally recall them with perfect repeatability.

**Lift Start TIG:** Provides TIG arc starting without use of high frequency.

**HF Start TIG:** Provides non-contact arc starting that eliminates tungsten or material contamination.

#### Quick Specifications

**Processes**  
STICK (SMAW)  
TIG (GTAW) Lift, HF & Pulse

Fabrication, Aerospace, Food/  
Beverage, Contractors, Installation/  
Repair, Dairy Industry.

**Input Voltage**  
208-230/460 VAC 1/3 Phase

**Input Frequency**  
50/60 Hz

**Rated Output @ Duty Cycle**  
300A/32V @ 25%  
250A/30V @ 40%

**Output Range**  
5-300A DC  
10-300A AC  
(60Hz cleaning 50% TIG mode)

**Weight**  
53 lb (24 kg)

#### Package Includes

SANARG 300AP  
Power Cord  
2 ea Dinse 50mm plugs

#### Order Information

Part No: IA-3000TP-U3E  
Description: SANARG 300AP



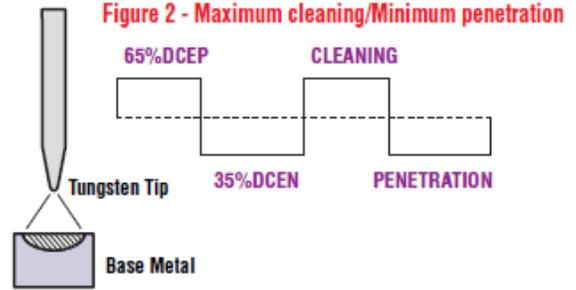
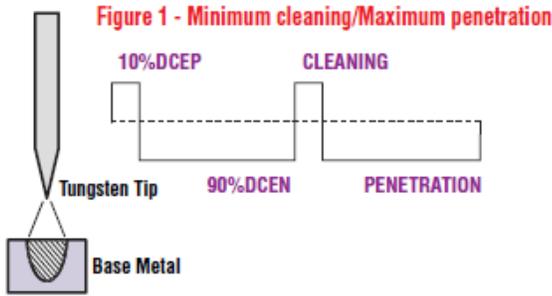
300AP Water cooled system shown.

## Features

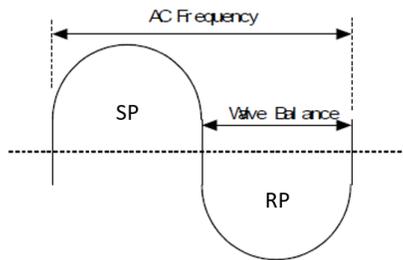
### Effects of Wave Balance Adjustment on AC/GTAW - Complete Welding Control

The 300AP AC output uses advanced embedded micro processor technology. This control of the wave form changes the amount of time spent on DCEP (cleaning) and DCEN (penetration) parts of each cycle, increasing arc stability. The DCEP cycle insures that the aluminum oxide is thoroughly removed, allowing the DCEN cycle a thorough penetration of the base metal. Both cycles enhance weld quality and significantly improve performance.

When a conventional system changes its wave balance, there can be as much as a 50% increase in amperage draw. Sanrex® 300AP amperage draw is unaffected by any adjustments. The 300AP increases efficiency and eliminates tungsten spitting and enables the use of a smaller diameter tungsten electrodes to operate at a higher current levels. Figures 1 & 2 show the difference in TIG torch electrode and heat and cleaning variations.



#### AC Soft



**AC Soft** includes all the benefits of AC square wave with the addition of maximum puddle control and good wetting action of the weld puddle which helps to overcome surface tension.

**Triangle Wave** provides the punch of the peak amperage, while reducing overall heat input. Fast puddle formation increases travel speed, limiting heat input and reducing weld distortion, especially on thin materials.

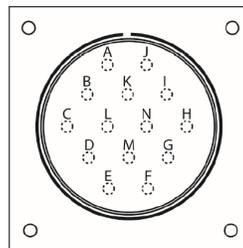
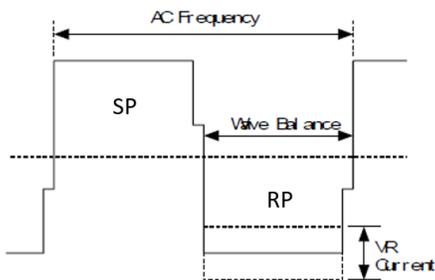
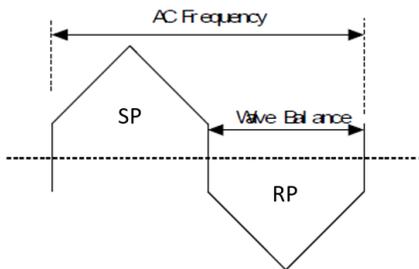
**VR Current** (Variable of Reverse Polarity Current) is the independent adjustment of the RP Current half cycle of the AC wave to precisely control the heat input to the work and the electrode.

The SP amperage controls the amount of heat directed to the work, while the RP amperage effects the arc cleaning action.

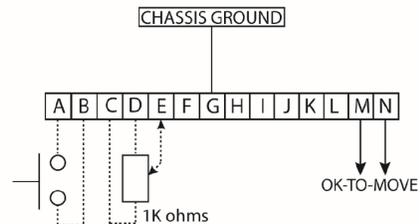
VR Current along with AC Wave Balance dramatically effects the RP cleaning action. Reducing VR Current will reduce the heat input to the TIG Torch and reduce electrode geometry degradation and increases heat input to the work piece for increased travel speeds. Increasing VR Current will enhance cleaning when welding on a dirty work piece.

**Simple Automation** Interface for Fixed, hard and Robotic automation applications includes Remote Weld ON/OFF, Remote Amperage Control, OK-to-Move Weld Arc ON signals.

#### Triangle Wave



Front view of 14-Pin Socket Receptacle



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# AC/DC TIG Welding

## Features



## Specifications

300AP	
<b>Input Voltage</b> 208-230/460V, 3 Phase	<b>Primary Cable Length</b> 10 ft.
<b>Rated Output @ Duty Cycle</b> 300A/32V @ 25% TIG (208-230/460V, 1/3 Ph) 250A/30V @ 40% STICK (208-230/460V, 1/3 Ph)	<b>Output Range</b> 5–300A AC/DC Mode (60Hz cleaning 50% TIG mode)
<b>Input Frequency</b> 50/60 Hz	<b>OCV</b> 65
<b>Lift Mode Short Current</b> 25A	<b>Weight</b> 53 lb (24 kg)
<b>Approvals</b> CSA (Pending); IP23S, IEC 60974-1 (CE)	<b>Dimensions (HxWxD)</b> 16.5 x 8.3 x 17.7 in (420 x 210 x 450 mm)

	Input Voltage (VAC)									
	Duty Cycle	Output Ams	OCV	Output Voltage	No. Phase	208 Input Amps	230 Input Amps	460 Input Amps	kVA	kw
Output	25%	300	65	32	3	47	43	21	17	12.8
Output	40%	250	65	30	3	37	33	17	13.3	10
No Load	-	-	-	-	3	1.4	1.1	0.7	0.5	0.13
Output	25%	300	65	32	1	96	87	-	20	12
Output	40%	250	65	30	1	71	64	-	14.8	8.9
No Load	-	-	-	-	1	2.5	1.8	-	0.5	0.13

## Ordering Information

Product	Part Number	Description
SANARG 300AP	IA-3000TP-U3E	Power Supply includes 2 ea Dinse Plugs & 10ft. Primary Cable.

### Accessories

 <p>Foot Control</p>	FC1000 - 15ft. FC1001 - 25ft.	Included in TIG Kits. Contactor On/Off, Current control, 25ft. Cable and 14 pin male plug.
 <p>300AP-HDWT Kit Shown</p>	300AP-ACTK	Includes 300AP, regulator/flowmeter with 12.5' gas hose, 12.5' 200 Amp Air cooled TIG torch, accessory kit, 15' work cable, 15' foot control & running gear/Cylinder Rack.
	300AP-WTK	Includes 300AP, regulator/flowmeter with 12.5' gas hose, 12.5' 250 Amp Water cooled TIG torch, accessory kit, 15' work cable, Water Cooler w/hose & 2 gal. Coolant, 15' foot control & running gear/Cylinder Rack.
	300AP-HDWTK	Includes 300AP, regulator/flowmeter with 12.5' gas hose, 12.5' 350 Amp Water cooled TIG torch, accessory kit, 15' work cable, Water Cooler w/hose & 2 Gal. Coolant, 15' Foot control & running gear/Cylinder Rack.
	 TK1027	Water Cooling System 115vac. Included in Water cooled TIG Kits.
	WCE0006	15ft. Work Lead.
	MS1000	12.5ft Gas Hose.
TK1000	12.5ft. Water Hose.	

Note: The 300AP is compatible with CK Worldwide 14 Pin Remote Amperage Controls or equivalent.