

# The Orion PA230

## Pulse Arc and Resistance Welder



### Applications:

- Mold and Die Repair
- Coil Termination
- Relays
- Solenoids
- Pencil Coils
- Transformer Coils
- Actuators
- Inductors
- Seam Welding
- Thermocouple Welding
- Nuclear Fuel Rod Assembly

### Features:

- 45 presets
- 15 save slots
- Power adjustments by 1% (1 – 230 joules)
- Three weld modes:
  - Pulse-Arc Mode
  - Micro Pulse-Arc Mode
  - Spot Resistance Mode



## The Orion PA230

Sunstone Engineering™ has designed the most powerful and robust micro pulse-arc welder on the market – the Orion PA230. The Orion PA230 not only provides 230 watt seconds or joules for pulse-arc welding, but also features a resistance spot mode consisting of Sunstone Engineering's capacitive discharge welding technology. Thus the PA230 is a pulse-arc and resistance welder in one.

Designed for maximum versatility and control, the Orion PA230 has three different weld modes: Pulse-Arc, Micro Pulse-Arc, and Spot Mode. Weld modes can be changed at the touch of a button, and total weld energy can be adjusted for extremely fine welds to very large welds. The Orion PA230 is capable of welding a variety of metal alloys and different thicknesses, and can perform strong welds even with exotic metal combinations (e.g. Titanium to Gold.)

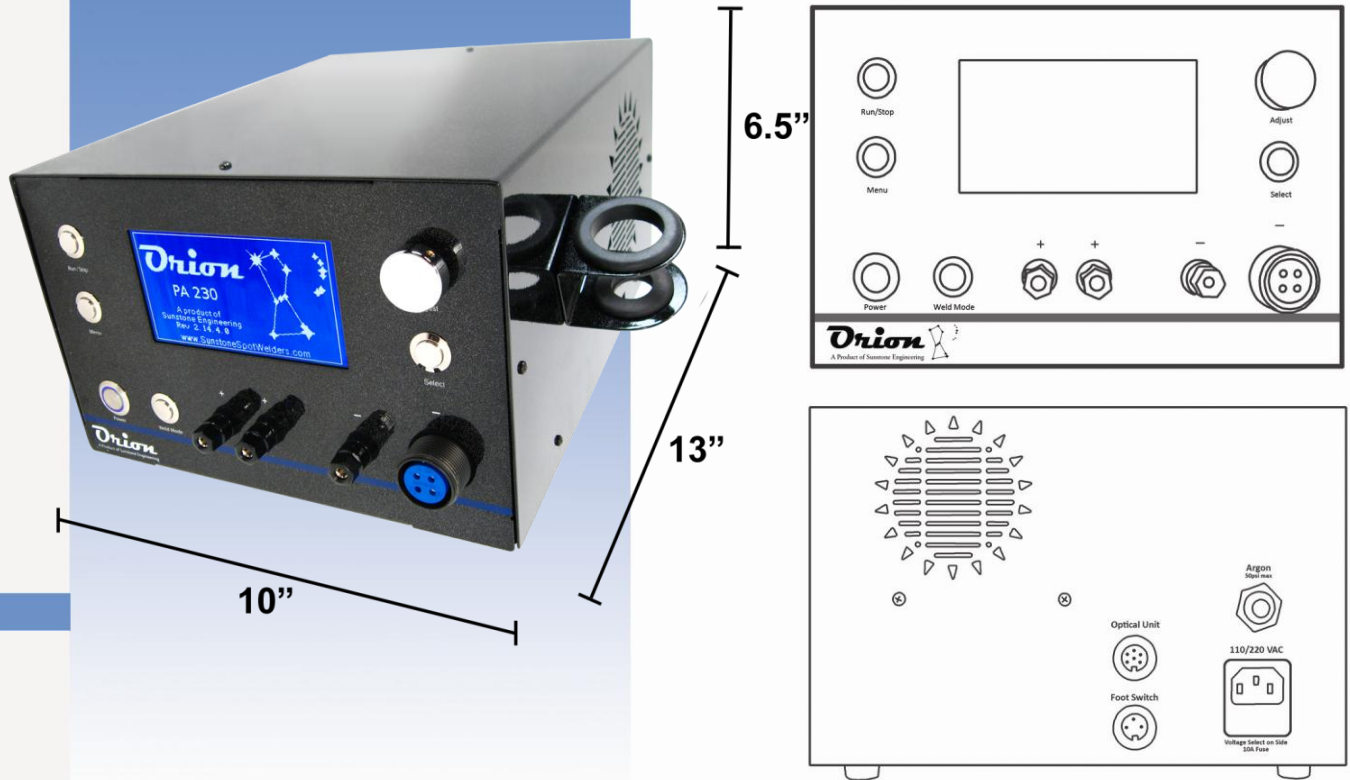
The Orion PA230 is ideal for industrial applications like mold repair, medical devices, and unique welding solutions. The Orion PA230 is also perfect for laboratories, universities as well as research and development facilities.

As with all Sunstone Engineering products, the Orion PA230 is infused with Sunstone Technology™ to deliver power, repeatability, versatility, and affordability.

# The Orion PA230

PRODUCT DATA SHEET

## Pulse Arc and Resistance Welder



### Specifications

Orion PA230	
Type	Pulse-Arc and Resistance
Weld Modes	3
Preset Weld Settings	45
Customizable Save Settings	15
Multiple Languages	English & Spanish
Display	LCD 4 Inch
Energy (ws)	1 - 230
Switching Power Source	110V / 240V
Weld Spot Diameter	0.3 - 4.0 mm
Footprint	10" x 13" x 6.5"
Weight	26 lbs
Stereo Microscope Magnification	5x – 10x
Shutter/Auto Darkening	Shutter System



## Pulse Arc and Resistance Welder

Specification - PA 230	
Pulse-Arc Mode	
Min. / Max. Energy (Joules)	20 - 230 J
Min. / Max. Current (pk Amps)	60 - 240 A
Power Steps	Down to 1%
Min. / Max. Pulse Length (milliseconds)	1 – 64 ms
Number of Pulse Time Increments	11
Micro Pulse-Arc Mode	
Min. / Max. Energy (Joules)	< 1 - 30 J
Min. / Max. Current (pk Amps)	25 - 275 A
Power Steps	Down to 1%
Min. / Max. Pulse Length (milliseconds)	.5 - 6 ms
Number of Pulse Time Increments	11
Spot / Fusion Mode	
Min. / Max. Current (watt seconds)	1 – 230ws
Min. / Max. Power (pk Amps)	10 - 3000 A
Power Steps	Down to 1%
Min. / Max. Pulse Length (milliseconds)	1 - 20 ms
Number of Pulse Time Increments	11

Welding Parameters	
Square Pulse Shaping (gap/extended electrode welding)	+
Smooth Pulse Shaping (improves surface finish)	+
Absolute Max. Weld to Weld Time (seconds)	1.2 s
Typical Recycle Rate (welds/second)	2-3 w/s
Gas Consumption (L/min)	4 L/m
Weld Electrode Diameter (mm)	0.5 / 1 mm
Pre-flow Welding Gas Accelerator	+

Unit Dimensions	
Power Supply (L x W x H)	13" x 10" x 6.5"
Power Supply Weight (lbs/kg)	26 lbs / 11.8 kg
Microscope (L x W x H)	12" x 11.5" x 14.5"
Microscope Weight (lbs/kg)	16 lbs / 7.25 kg

Advanced Internal Monitoring	
Gas Connection Sensor and Gas Failure Alarm	+
On Screen Gas Flow Rate Monitoring	+
Smart-Temp Internal Temperature Monitoring	+
Automatic Accessory Detection (microscope/ lens)	+
Safety Timer to Stop Mode	+



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## Pulse Arc and Resistance Welder

Microprocessor	
Dual Microprocessor Control	+
Microprocessor Pulse Shaping	+
Recall of Last Settings Upon Startup	+
Number of Savable Program Settings	15
Animated Menus	+
Quick Reference Icon in Menus	+

Orion Power Requirements	
110 - 120 VAC	+
220 - 240 VAC	+
User Selected Operating Voltage	+

Quick-key and One-touch Access Items	
Recall Saved Settings List	+
Toggle Between Automatic and Foot Weld Trigger	+
Power Level Adjustment	+
Pulse Time Adjustment	+
Mode Selection (Pulse-arc, Micro Pulse-arc, Spot/Fusion)	+
Run / Stop Safety Mode	+

Advanced User Controls	
Gas Pre and Post-flow Time	+
Tip Retract Timing (adjust for user hold preference)	+
Lens/Shutter pre and post-darkening time	+
Lock Weld Settings	+
Save Program Settings with Customizable 10 Character Name	+
Turn Warning Messages On/Off	+
Adjust Screen Contrast	+
Select Between Automatic and Foot Weld Trigger	+
Adjust Power Level Divisions (e.g. 1%, 5%, 10%)	+ (1%, 5%, 10%)
Help Menu	+
Language Selection	English / Spanish

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**The Orion Includes three welding pre-programmed settings for each of the following list of metals:** Aluminum, Brass, Carbon Steel, CoCr, Copper, Hybrid, Nickel, Niobium, Platinum, Silver, Stainless Steel, Titanium, Tungsten, White Gold, Yellow Gold

