

# PAS PLASTIC ASSEMBLY SYSTEMS

The **iQ Series AL-E** generator's standard configuration includes time and energy control along with patented Trigger by Power. The display is a high-resolution multicolor LCD with large easy-to-read text. One-touch hot keys along with a multilingual menu make programming and operation virtually effortless. Built-in circuit protection and visual fault status readouts ensure reliability even in the toughest work environments.

The **AL-E** version of the **iQ Series** power supplies is designed for applications that require 600 watts of power or less. It is an excellent choice for single-station, automated, continuous low-wattage or medium-duty cycle, plunge weld systems that require basic I/O communication. The power supply is compatible with PAS's superior line of conventional converters and probes, and is also well suited for nontraditional, ultrasonic applications that require rigid-mount, compact, or wide band converters.

## FEATURES

- **Trigger by Power** patented feature provides the ability to accurately start the weld process once a programmed force is achieved. Combined with Weld by Energy, this unit delivers the highest level of process repeatability of any probe system available today.
- **Time, energy** and **manual** weld modes.
- **Amplitude adjustment** in 1% increments from 100% to 20%.
- **Eight programmable setups.**
- **Power bar** graph with last cycle memory.
- **High-resolution multicolor LCD** with a multilingual menu for quick, easy programming.
- **Real time** in cycle menu displays frequency, power, and time.
- **100% digital controls** of all power supply functions and parameters.
- **Digi-Trac** tuning automatically tracks the resonant frequency digitally. It adjusts the output frequency to match the acoustic stack. This is done for every weld cycle and eliminates the need to manually tune the generator.
- **Ultrasonic overload protection**, with fault indication for ease of troubleshooting. The overload power limit is based on true RMS power output level.
- **Patented pulse-width modulation** design delivers power more efficiently with substantially less stress on electrical components for superior performance, reliability, and extended life.

## iQ Series ULTRASONIC POWER SUPPLIES AL-E



Available in:  
20, 30, 35, & 40 kHz Frequencies  
Power: 600 watts



High Resolution Display  
Status Indication  
Stack Frequency Display  
Power Draw  
Current Setup  
Power Graph Bar %

INFO - Intuitive Navigation  
SETUP - 8 Programmable Setups  
AMP - Front Panel Digital  
Amplitude adjustment 100%–20%  
TRIGGER - Trigger by power mode  
TIME - Weld by Time Mode with  
Secondary Control of Energy  
ENERGY - Weld by Energy Mode  
with Secondary Control of Time  
HOLD - Programmable Hold Time

FEATURES CONTINUED

- **Linear ramp soft-start** algorithm allows the acoustic stack to be brought to operating amplitude smoothly, minimizing start-up surges and abnormal stress to the stack and power supply.
- **Line voltage regulation** compensates for line fluctuations assuring consistent amplitude.
- **Load regulation** provides constant ultrasound amplitude automatically regardless of power draw. The ultrasonic output amplitude level is held to within 1% to provide weld process consistency.
- **Highest power density** per unit volume. Most power in the smallest package at highest duty cycle.
- **0.5 ms sampling rate**, fastest in the industry.

System Input/Output Cable Pinout

| PIN | COLOR   | DESCRIPTION  |
|-----|---------|--|
| 1   | BLK     | ENABLE OUT   |
| 2   | WHT     | ENABLE IN  |
| 3   | RED     | SYSTEM OVERLOAD STATUS OUTPUT                      |
| 4   | GRN     | ULTRASOUND ACTIVE STATUS OUTPUT                    |
| 5   | ORN     | ANY FAULT STATUS OUTPUT                            |
| 6   | BLU     | NO CONNECTION                                      |
| 7   | WHT/BLK | STATUS OUTPUT COMMON                               |
| 8   | RED/BLK | SYSTEM READY STATUS OUTPUT                         |
| 9   | GRN/BLK | NO CONNECTION                                      |
| 10  | ORN/BLK | NO CONNECTION                                      |
| 11  | BLU/BLK | FAULT RESET INPUT                                  |
| 12  | BLK/WHT | ULTRASOUND ACTIVATE/CYCLE START INPUT              |
| 13  | RED/WHT | ISOLATED INPUT COMMON (SOURCING OR SINKING INPUTS) |
| 14  | GRN/WHT | NO CONNECTION                                      |
| 15  | BLU/WHT | NO CONNECTION                                      |

Generator Models

| GENERATOR MODEL # | LINE VOLTAGE          | FREQUENCY | WATTAGE |
|-------------------|-----------------------|-----------|---------|
| 20AL060-1H        | 100-120 VAC, 50/60 Hz | 20 kHz    | 600 W   |
| 20AL060-2H        | 200-240 VAC, 50/60 Hz | 20 kHz    | 600 W   |
| 30AL060-1H        | 100-120 VAC, 50/60 Hz | 30 kHz    | 600 W   |
| 30AL060-2H        | 200-240 VAC, 50/60 Hz | 30 kHz    | 600 W   |
| 35AL060-1H        | 100-120 VAC, 50/60 Hz | 35 kHz    | 600 W   |
| 35AL060-2H        | 200-240 VAC, 50/60 Hz | 35 kHz    | 600 W   |
| 40AL060-1H        | 100-120 VAC, 50/60 Hz | 40 kHz    | 600 W   |
| 40AL060-2H        | 200-240 VAC, 50/60 Hz | 40 kHz    | 600 W   |

Generator Dimensions

