

iQ Series

ULTRASONIC POWER SUPPLIES

AL



The *iQ Series* AL generators, standard configuration includes time and energy control along with patented Trigger by Power. The display is a high-resolution graphic two-color LCD with large easy-to-read text. One-touch hot keys along with an intuitive menu structure make programming and operation virtually effortless. Built-in circuit protection and visual fault status ensure reliability even in the toughest work environments.

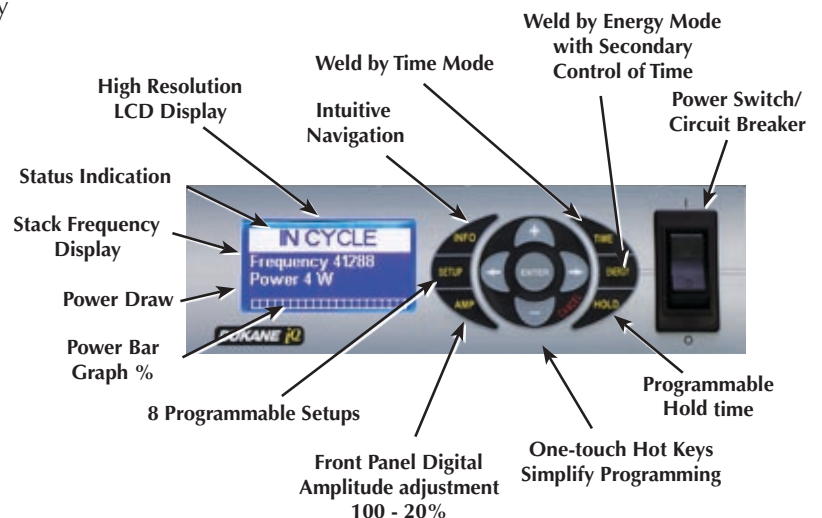
The AL (Automation Limited) version of *iQ Series* power supplies is designed for applications that require 600 watts of power or less. It is an excellent choice for single-station, automated, continuous low-wattage or medium-duty cycle, plunge weld systems that require basic I/O communication. The power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



Frequencies – 20, 30 and 40kHz
Power – 600 watts

FEATURES

- **Trigger by Power** patented feature provides ability to accurately start the weld process once a programmed force is achieved. Coupled with weld by energy, this unit delivers the highest level of process repeatability of any hand probe system available today.
- **Time, energy** and **continuous** duty weld modes with process limits.
- **Amplitude adjustment** in 1% increments from 100% to 20%.
- **Power bar** graph with last cycle memory.
- **High-resolution graphic LCD** displays with intuitive menu structure 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 hand held device. 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**.



Features continued

- **Patented pulse-width modulation** design delivers power more efficiently with substantially less stress on electrical components for superior performance, reliability and extended life.
- **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.
- **Eight programmable setups.**
- **Highest power density** per unit volume. Most power in the smallest package at highest duty cycle.
- **.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	SYSTEM POWER STATUS OUTPUT
7	WHT/BLK	STATUS OUTPUT COMMON (iQ CHASSIS GROUND)
8	RED/BLK	SYSTEM READY STATUS OUTPUT
9	GRN/BLK	POWER SIGNAL MONITOR OUTPUT (10mV = 1 WATT)
10	ORN/BLK	POWER SIGNAL MONITOR COMMON (iQ CHASSIS GROUND)
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 PART #	LINE VOLTAGE	FREQUENCY	WATTAGE
40AL060-1E	100-120 VAC 50/60 Hz	40 kHz	600 W
40AL060-2E	200-240 VAC, 50/60 Hz	40 kHz	600 W
30AL060-1E	100-120 VAC 50/60 Hz	30 kHz	600 W
30AL060-2E	200-240 VAC, 50/60 Hz	30 kHz	600 W
20AL060-1E	100-120 VAC 50/60 Hz	20 kHz	600 W
20AL060-2E	200-240 VAC, 50/60 Hz	20 kHz	600 W

Generator

