Selectable Soft-Start Ramp Time for 20 kHz Ultrasonic Systems

The Enhanced Driver Board used in the ULTRA series ultrasonic generators has a user-selectable jumper block that can be used to decrease the soft-start ramp time for short welding cycles (less than 0.2 Sec.) or to increase the ramp time for difficult-to-start loads. Jumper block SH403 allows the user to select one of four soft-start times depending on which jumper (JU408 through JU411) is installed.

The nominal soft-start ramp times with jumper selections for standard 20 kHz systems are listed below.

**SH403 USER-SELECTABLE JUMPER BLOCK OPTIONS**

- JUMPER BLOCK NOT INSTALLED ON SH403 - SOFT START RAMP TIME = 50msec.
- JU408 - SOFT START RAMP TIME = 62msec.
- JU409 - SOFT START RAMP TIME = 82msec.
- JU410 - SOFT START RAMP TIME = 125msec.
- JU411 - SOFT START RAMP TIME = 250msec.

JU410 is the standard soft-start jumper installed at the factory and will function satisfactorily in the majority of applications.

**Note:** A soft-start time that is too short may cause overload problems, depending on the generator load. Increase the soft-start time if the generator overloads at the start of the welding cycle.

On the next page are diagrams showing how the jumper block is installed on SH403.
**Jumper Block Installation**

SH403 is a 4-pin header located next to the User Phase adjustment potentiometer (with the plastic adjustment shaft) on a 20 kHz Enhanced Driver Board assembly (Dukane Part #110-2586). A shorting jumper block can be installed in one of four positions as shown in the diagrams below. Note that higher jumper designation numbers result in longer soft-start ramp times.

**Soft-Start Jumper Diagrams**