

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 \approx 50msec.
- JU408 - SOFT START RAMP TIME \approx 62msec.
- JU409 - SOFT START RAMP TIME \approx 82msec.
- JU410 - SOFT START RAMP TIME \approx 125msec.
- JU411 - SOFT START RAMP TIME \approx 250msec.

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

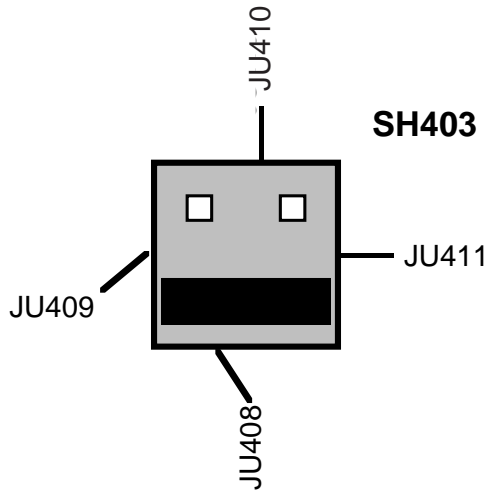
Note: A soft-start time that is too short may cause overload problems, depending on the generator load. Increase the soft-start time if the generator overloads at the start of the welding cycle.

On the next page are diagrams showing how the jumper block is installed on SH403.

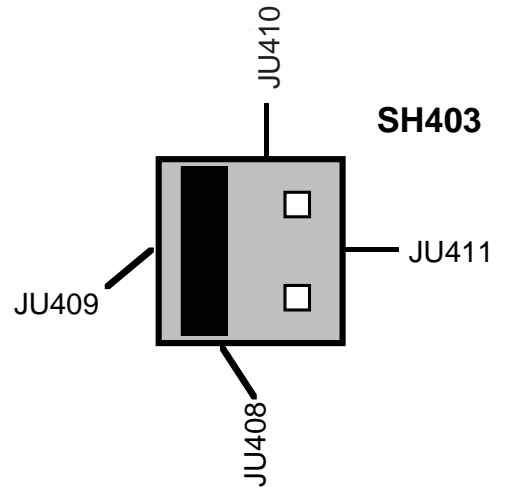
Application Note 105

Jumper Block Installation

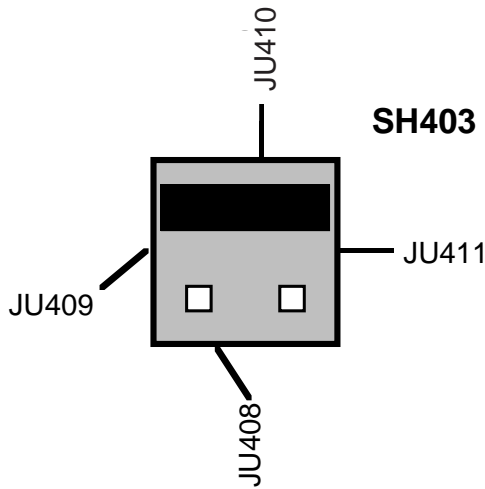
SH403 is a 4-pin header located next to the User Phase adjustment potentiometer (with the plastic adjustment shaft) on a 20 kHz Enhanced Driver Board assembly (Dukane Part #110-2586). A shorting jumper block can be installed in one of four positions as shown in the diagrams below. Note that higher jumper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



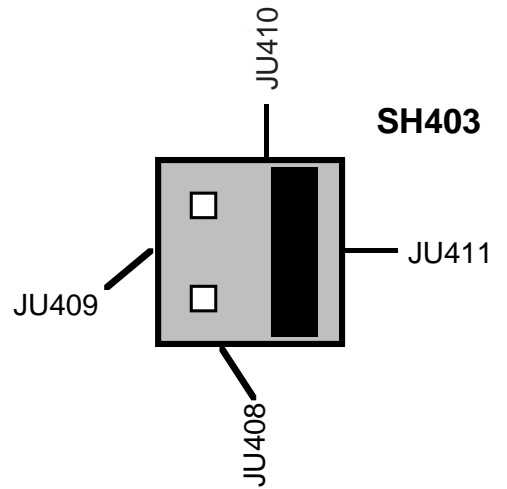
Jumper JU408



Jumper JU409



Jumper JU410



Jumper JU411

Soft-Start Jumper Diagrams