

Unibond® II



MODEL UB2 Constant Power/Voltage Welding Power Supply

- Used to manufacture wire wound potentiometers, hybrid microwave devices, heart pacers, electrical fuses and ordnance fusers.
- Bonds fine wires or thin ribbon to substrates. With optional 50F Light Force Weld Head (Page 31), bonds .0003 inch thick ribbons.
- Unique Constant Voltage and Voltage + Current Feedback Modes.
- Does not use "expensive to replace" batteries.
- Constant Voltage Mode — continuously adjusts Output Current to maintain preset Constant Voltage across the electrodes.
- Voltage + Current Feedback Mode — continuously adjusts preset Pulse Amplitude to maintain output voltage-current product which compensates for variations in material.
- Output Square Wave Amplitude and Width adjustable using thumbwheels in 0.01 volt and 1 millisecond increments, respectively:

AMPLITUDE (V)	PULSE WIDTH (ms)
.01 - 0.99	1 - 79
1.0 - 1.99	1 - 39
2.0 - 3.99	1 - 19

- MAXIMUM OUTPUT CURRENT: 1000 amps.
- OUTPUT IMPEDANCE: adjustable from 1 to 15 milliohms.
- REPETITION RATE: 30 w.p.m. HIT RATE: 60 w.p.m.
- DIMENSIONS:
CONTROL: 7½" H x 11¾" W x 9¼" D x 26 lbs.
18.8 cm x 29.7 cm x 23.4 cm x 12 Kg.
TRANSFORMER: 7¼" H x 6¾" W x 8¾" D x 39 lbs.
18.4 cm x 16.2 cm x 22.2 cm x 18 Kg.

The Model UB2, Unibond II Power Supply is a dual mode Constant Power/Constant Voltage Power Supply which is used for most "finewire bonding" applications. The Pulse Amplitude

and Duration of the output pulse are selected using the convenient digital thumbwheel switches. The Unibond uses a capacitor bank as a low impedance source rather than bulky, expensive to maintain batteries. In the VOLTAGE FEEDBACK Mode, the output voltage is regulated so that the preset Pulse Amplitude is continuously maintained at the electrodes.

In the Voltage + Current Mode, the Unibond will continuously increase the Pulse Amplitude to a maximum of twice, or reduce it to a minimum of one-half, of the value preset on the Pulse Amplitude Thumbwheels in an effort to maintain a constant voltage-current product. This Mode is designed to be effective for Weld Resistances between 1 and 15 milliohms. The performance of the system will be reduced as the resistance between the output terminals and the sensing point is increased or if the weld resistance is less than 1 milliohms. The VOLTAGE + CURRENT Feedback Mode dramatically improves the consistency of the welding results in those applications where the surface conditions of the parts vary and/or the workpieces are made from conductive materials.

A Weld Fire Lockout Feature prevents the Unibond from firing if: (1) the magnetic circuit of the Output Transformer Core has not been fully reset; or (2) the Pulse Amplitude and Pulse Duration Thumbwheels are improperly set. If the welding load draws more than 1000 amps or if the output transistors are caused to operate in an unsafe region as a result of a radical change in load resistance, the Unibond will automatically terminate the output pulse prior to the time preset on the PULSE DURATION Thumbwheels. An Audible Signal will sound whenever the Unibond's output meets the parameters preset on the Pulse Amplitude and Pulse Duration Thumbwheels.

The optional Model UBM, Meter Accessory allows the user to determine the resistance of the welding load, which includes the electrodes and the workpieces. This Meter is required if the user intends to use the Unibond II in the VOLTAGE + CURRENT Mode. Since no particular impedance is served by leaving the meter permanently connected to the Unibond II, one or two meters can meet the needs of the production line. A second use for the Meter Accessory is to accurately measure the resistance of the welding head and cables. The Meter can be a valuable tool in critical applications where small changes in contact and/or cable resistances effect the quality of the weld. The Milliohm-meter is accurate within 5% of full scale when properly calibrated with the 10 milliohm dummy load which is supplied.

MODEL UBM Calibration Meter

Direct reading milliohmeter is used to set the Output Resistance of the Unibond II in the Voltage + Current Feedback Mode. Measures resistance of weldments, at the preset welding force, immediately before and after making the weld. Only used to set up new applications. Not used in Constant Voltage Mode.

- RANGES: 1 - 10 and 1 - 30 milliohms.
- RESOLUTION: 0.5 milliohms.
- Includes dummy load for calibration.
- DIMENSIONS: 3½" H x 4¾" W x 5¾" D x 4 lbs.
8.9 cm x 10.6 cm x 13.2 cm x 2 Kg.

