

New Hybrid Battery Tab Welding Machine NRW-PS300

~ Suitable for Welding of Battery Tab ~

Battery Tab Welding Power Supply
(Combination photo of welding transformer and welding power supply)



NEC Corporation's subsidiary, Nippon Avionics Co., Ltd. (Head office: Tokyo, Japan, hereinafter Avio) formally released the new Hybrid Battery Tab Welding Machine NRW-PS300 suitable for battery tab welding on September 8, 2010. The NRW-PS300 is specifically designed for the assembly of lithium ion batteries. These types of batteries are widely used as a power source for automotive and electric equipments.

<Purpose of New Product>

In recent years, the automobile industry is shifting toward clean energy alternatives, such as electric vehicles. The electronics industry has seen enormous growth in the area of mobile devices. Consequently, worldwide demand is growing rapidly for rechargeable batteries. Among those most in demand is the lithium ion battery technology.

The Avio Hybrid Battery Tab Welding Machine is a new addition to our line-up of well-respected resistance welding machines. An application for which this new machine is ideally suited is the welding of battery tabs to the electrode of a battery to form a battery pack.

By providing high reliability of welding quality, Avio will step up sales in the battery assembly market.

<Features of New Product>

This new model supplies welding power for battery tab welding featuring Avio's unique hybrid method combining high-speed rising time of a DC type and a high-speed polarity switch of an inverter type. It is equipped with functions suitable for battery tab welding as shown below.

- High-Quality Appearance and Consistent Welding Strength

- High-Speed Welding

High-speed rising time and high-speed polarity switching enables extremely high-quality appearance, with a minimum heat-effect (burn).

- Polarity Switch Function

By minimizing the Peltier effect (Note 1), both welding spots will be of high-quality strength and appearance. Further, consistent heat balance results in longer electrode life.

Note 1: Influence of Peltier effect and its countermeasure

The Peltier effect has harmful effect for weaker weld strength and faster electrode wear, because of the big heat gap between positive and negative electrode during welding.

Polarity switching offers uniform heat by alternating positive and negative terminal.

- Stable Welding Quality

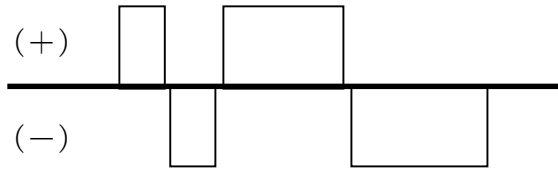
- 4 Channels Welding

The polarity switch for both Pre-Heat and Main-Heat (Note 2) enables stable and well-balanced welding quality.

Note 2: Pre-Weld, Main-Weld

The pre-weld function allows conditioning of the materials prior to welding, and a check of the resistance of the materials to be welded. By removing oxidized membrane from the surface as well as by smoothing contact surface of objects at the pre-weld stage, the main-weld becomes much more stabilized.

Pre-Weld Main-Weld



➤ **Welding Energy Monitoring**

By monitoring and feeding back measured welding power, welds of consistent quality are achieved and this function reduces scrapped parts.

● **Equipped with Useful Functions**

➤ Electric waveform displayed on front color monitor allows simple and easy setting and checking of conditions.

Up to 8 Waveforms can be displayed, which is useful when trying to determine the best welding condition.

For questions regarding the above, please contact

Nippon Avionics Co., Ltd.

Welding Products Department

Phone: +81-3-5436-0633