

OK International launches enhanced PV tabbing and bussing soldering systems



OK International (www.okinternational.com) has launched a new soldering system for PV tabbing and bussing applications proven to reduce micro cracking. The PS-900 with specially designed hoof tip geometry optimizes the power delivered to the solder joint while its temperature-sensitive heater ensures low temperature soldering thus minimizing thermally induced stresses on cell surfaces.

The PS-900 incorporates OK International's patented SmartHeat® Technology that will produce and maintain a specific, self-regulated temperature with a heater that requires no calibration and responds directly to thermal loads.

There are two suitable solder alloys utilized for solar cell soldering application; Sn96Ag4 with a melting point of 221°C, or bismuth containing Bi58Sn42 with a melting point of 138°C. Proper soldering will result in an intermetallic layer that is 1- 2µm, which demands precise time and temperature control during the solder joint formation.

"The ability to solder at low, controlled temperatures within a short time window reduces the stresses on the cells and the likelihood of micro cracking," explains Hoa Nguyen, VP of Technology. "Connection temperatures must be maintained below 300°C. This new system employs SmartHeat® Technology to produce thermally controlled, high quality solder joints."

Micro cracking of delicate solar cell substrates is a common defect that can occur during PV tabbing and bussing soldering processes. Reducing the soldering temperature to a minimum prevents the cells being subjected to mechanical or thermal stresses. During the soldering operation, differential thermal expansion of the copper and the silicon elements can occur at temperatures greater than 300°C. This differential can result in the formation of micro-cracks that may not be detected during the manufacturing process and result in reduced field lifespan.

The OK International SmartHeat PS-900 soldering system with specially designed STV-DRH40 hoof tip geometry optimizes the power delivered to the solder joint, thus providing high performance efficiency with increased tip life. Its temperature-sensitive "T" heater series ensures low temperature soldering and thus minimizes thermally induced stresses on the surface of the solar cells.

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About OK International

OK International is a leading global supplier of products for production assembly equipment. The product range includes bench top soldering and desoldering tools, fluid dispensing systems and accessories, and fume extraction systems.

OK International is committed to understanding the process requirements of its worldwide customer base and supplies professional grade products that are innovative, reliable, price competitive and easy to use. Through global channels, OK International provides expert applications support and responsive customer service, with localization to meet regional market needs.

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