



Robotic Dispensing Cell

Objective: Blend and dispense a two-part potting mix onto electronic boards and dispense dielectric grease into electrical connectors.

Machine Summary: Electronic boards are run through an oven for pre-heating. A two-part potting mix is dispensed onto the boards and initially cured. Dielectric grease is dispensed into the electrical connectors.

Production Rate: Dependent on size of board and number of greased connectors. Typical Range of 30PPH-240PPH.

Dimensions: 375" x 200" x 96" High

Utilities: 480 VAC, 3PH, 60A; 24VDC Control Voltage; Compressed Air, 1/2" NPT, 90 PSI

Control: Allen Bradley CompactLogix PLC with Ethernet I/P, ArmorBlock I/O

Safety Features: Fully enclosed robot dispensing cell, solenoid operated electronic interlock switches on access doors, emergency stop buttons at multiple locations, barrier guarding on all motor drives and product entry and discharge openings.

Sequence:

1. An operator loads a board onto each conveyor pallet.
2. Boards are taken through the oven for pre-heating.
3. Each board is stopped underneath the potting robot. The robot uses vision to locate the board on the pallet and dispenses the blended two-part potting material onto the board using the current recipe settings.
4. Each board is then transferred to an initial curing station.
5. Each board is stopped underneath the greasing robot. The robot uses vision to locate the board and all connector locations based on the current recipe. Dielectric grease is dispensed into each connector pin location.
6. Each board is then transferred to a final curing station.
7. Boards are returned to the loading/unloading area where the operator removes a board from each pallet and reloads them for the next cycle.



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