DOUBLE END & MISSING TAB DETECTION FOR END CONVERSION DETECTION

Prime Controls, Inc. is known in the can industry for its Double End & Missing Tab Detector. The detector is generally integrated into High Speed Easy Open End converting presses.

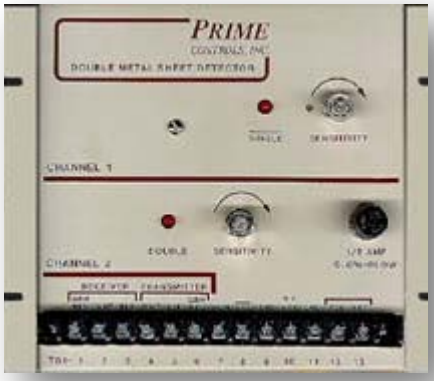
This is a punch press that converts a raw can end (shell) by forming the center rivet post, scores the opening, applies and captures a pull-tab at approximately 700 per minute.

Our contribution to the process is detection equipment that inspects the shell for doubles at the infeed with one set of sensors and verifies that the tab is present at the discharge of the machine with another set of sensors.

Until 1994, each new machine position (infeed or discharge) required a set of probes and one detector. The early detectors were Models DS33, DS35, DS37 and DS38.

All of the models function the same, but have different input capabilities. Models DS33 and DS35 detect aluminum ends and tabs. The Models DS37 and DS38 are used in steel end

conversion. The above pair combinations define the metal they detect best.



In addition, the combinations of Models DS33/DS37 and the DS35/DS38 define the required power source. The DS33 and the DS37 require 120 Vac as a power source. The Model DS37 and DS38 accepts 24 Vdc. This is strictly a preference of the machine manufacture.

In 1994 we developed a new detector capable of performing the double end detection and the missing tab detection in one control chassis. This was our Model SD200 Shell and Tab Detector.

We determined that the SD200 needed only 24 Vdc for a power source with the proliferation of 24 Vdc power supplies for other machine controls.

The SD200 detected aluminum or steel ends. A few of the improvements included longer cable length between detector and probes. Each channel has an alphanumeric display which provides information on signal strength, reject threshold value, probe condition and fault codes.

A conversion press may have 1, 2, 3, 4 or more converting lanes. All are capable of converting shell to pull tabs.

Therefore, one SD200 has a set of sensors on the infeed of a lane and a set on the discharge of the lane. With three lanes there are 3 Model SD200, 6 sets of sensors. In the dual probe configuration there are 12 probes or sensors. The words probe and sensor mean the same.

In some cases it makes sense to wire a machine with a single unit for the infeed of the machine for two or more lanes with one detector. For that reason, we developed the Model SD202 for 2 channels of Double Shell Detection and the Model SD203 for two channels of Missing Tab Detector. They are all basically the same with the exception of the logic conditioning. Therefore, a two lane machine may consist of two SD200s or one Model SD202 and one Model SD203. The results are the same.

Looking for Missing Tab detection in a conveyor? Look at our Model SD205

In 2012, our SD200 series was upgraded to the NEW SD220 series. See our Product Catalogue for Details.