

■ Laser Gage Monitoring: PCMCIA Connector Pin Height Measurement

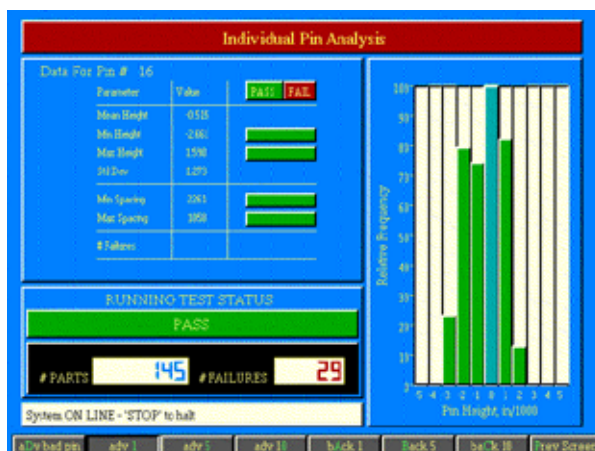
Highlights:

- 100% part testing
- Accuracy better than 1/1000 of an inch
- Cycle time less than 3 seconds
- Far less costly than a vision system while capable of better accuracy
- Data analysis helps identify faulty production equipment

When surface mounting a PCMCIA connector to a circuit card, each of the 68 pins must rest lower than the plastic mounting guides located at the end of the connector. Thus, when placed on the board, each pin will exert a downward pressure onto the solder paste for a solid solder connection.

Utilizing laser measurement technology, the Sciometric® System is able to measure every single pin relative to the plastic mounting guides, with an accuracy better than 1/1000 of an inch. If any pin measurement is out of tolerance the connector is rejected.

The Connector Analysis screen, shown at the lower right, graphically displays the pin heights for the last connector tested. In addition, standard deviation, MIN/MAX and average pin heights may be plotted as a function of pin number. RED alarm indicators quickly draw attention to part failure modes. The Individual Pin Analysis screen, on the lower left summarizes statistical data for any pin during the current production run. Data includes histograms, mean, MIN, MAX and standard deviation for height of a selected pin. Also, an R-Bar screen (not shown) presents trend analysis to help the operator identify deterioration of the production equipment long before defective parts result.



Pin Analysis Screen



Connector Analysis Screen showing Pin Height