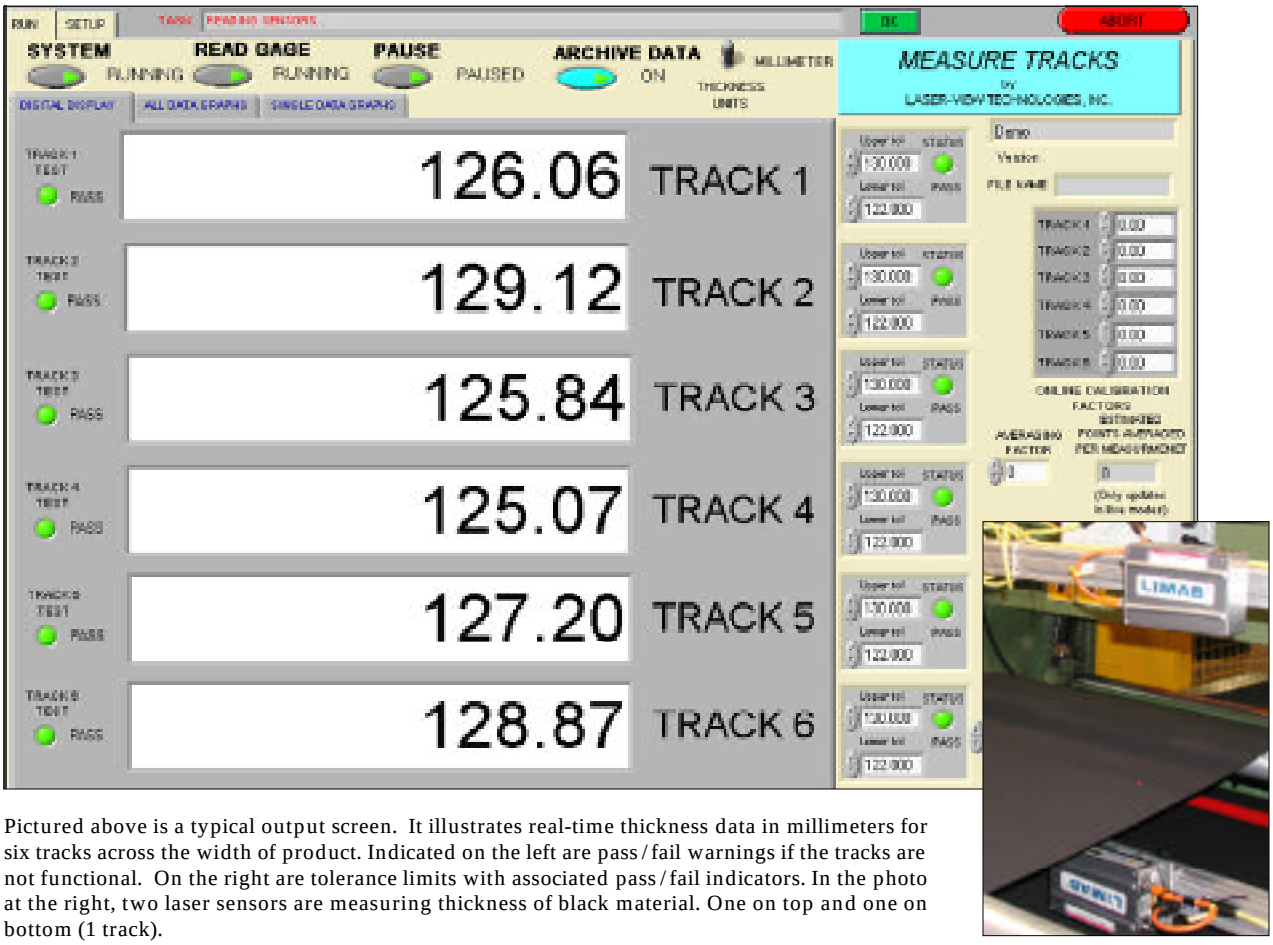
Data Analysis And Presentation Software

Measure Tracks™

"Measure Length, Width, Displacement and Thickness of Product in Real-Time at High Speed"



Pictured above is a typical output screen. It illustrates real-time thickness data in millimeters for six tracks across the width of product. Indicated on the left are pass / fail warnings if the tracks are not functional. On the right are tolerance limits with associated pass / fail indicators. In the photo at the right, two laser sensors are measuring thickness of black material. One on top and one on bottom (1 track).

General Description

The Measure Tracks data analysis and presentation software is a very simple to use and flexible program which runs on a standard PC. It is designed for use in an industrial process where the interest in determining statistical data on product measurements is desired and easily accomplished in a very cost effective manner. The application software measures width, length, and thickness or displacement along the width or length of any product while in process. The software works with both cut to size stock and continuous materials. Measurement data is taken in from any of our digital laser displacement sensors. For thickness and width two sensors are required per track. For displacement, one sensor per track is required. Lengths can use either one or two sensors depending on the tranmaterial's sportation mechanism.

Both digital display and graphical trending data for up to six (6) tracks across the width of product can be measured. Measure Tracks utilizes a Canbus network to link sensor data to the PC. All measurements can be viewed and / or archived as a text or an MS Excel™ file.

Features

- Measures length, width, thickness and displacement
- View track data in both digital or graphical displays
- Display in inch or mm format
- Set upper and lower limits and view resulting alarms
- Calibrate sensors on-line in Measure Track
- Configure alarm outputs (requires optional hardware)
- Set data averaging
- Archives data as a text file or MS Excel file
- Save product settings for future recall

Benefits

- Non contact measurement provides objective results
- Enables simple set up of sensor measurement outputs
- Both real-time measurements and trends can be viewed
- Easily process archived data into management data systems
- Sensors remain fixed in place regardless of product size by using product recall feature

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Measure Tracks

Graphical Analysis

Pictured to the right is a typical screen output of a trend analysis for six tracks of thickness measurement data. Along the x axis is the measurements over time. The graphical display utilizes FIFO, First In First Out format, which enables the user to view the current or latest results along the time axis (x axis). This data can be saved in tabular form in Excel or text files.

Data Archiving

Archived data in text format is depicted to the right. Four tracks are tabulated. The first five measurements indicate that no product was being measured. The six measurement displays real data for each track. Data is illustrated in mm.

Connection Hardware

Each displacement sensor incorporates a Canbus interface. By using the Canbus, data can be transferred at a very high rate of speed. Up to 1000 Kbits/second can be transferred. The Canbus while being fast is also able to send data over very long cable lengths to meet plant locations of PCs.

System Requirements and Utilities

PC Requirements

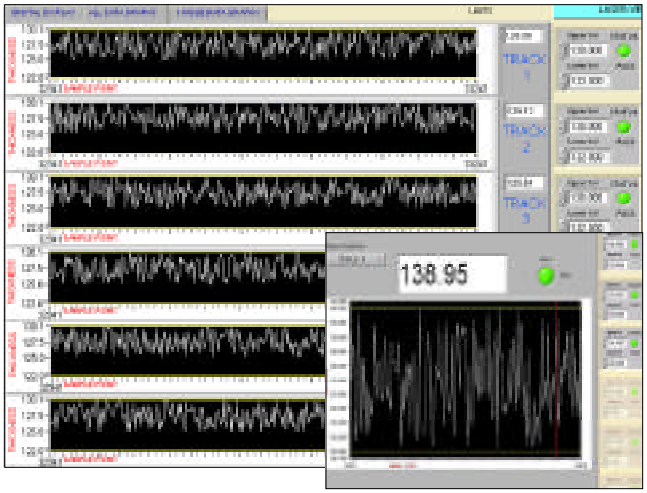
- Pentium 4 with MS Windows 98 sec. ed., NT 4.0 or Windows 2000, 512Mb ram
- MS Excel is required for data archiving and report generation with MS Excel
- At least a 15" display with 1024 x 768 resolution
- One open PCI slot for Canbus card
- One open PCI slot for optional digital (alarm) output card

Required Power

- 110/220 VAC single phase, 50-60Hz.

Utilities

- Clean air supply for air purge to lowers sensors (required for dusty environments)



Graphical display of thickness data over time for 6 tracks. Inset is a user selected display of one track to view at full screen. It shows the track profile, current measurement, the limits and a pass/fail light.

File Name: test.inp
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Sample	Track 1	Track 2	Track 3	Track 4
	Upper 130.000	Upper 130.000	Upper 130.000	Upper 130.000
	Lower 122.000	Lower 122.000	Lower 122.000	Lower 122.000
1.0000	Inf	Inf	Inf	Inf
2.0000	126.973	129.340	128.426	127.207
3.0000	127.324	129.541	128.835	127.943
4.0000	127.264	128.754	127.936	127.634
5.0000	126.764	129.850	128.425	127.509
6.0000	129.961	129.191	129.574	128.989
7.0000	127.782	126.499	128.603	129.972
8.0000	129.598	129.001	126.136	128.471
9.0000	129.203	127.190	129.872	128.265
10.0000	Inf	Inf	Inf	Inf

Sample of archived data in text output format. Data is in millimeters. Four tracks are illustrated. Note in the first row of text data you see inf (infinity). This is due to no part being in the laser beam. The first time a part is measured is in row two. When the part leaves the beam Measure Tracks records infinity again as in row ten.

The closer you look, the better we measure!

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