

LABSCAN-Screen Laboratory Inspection of Automotive Glass



Inspection Task

LABSCAN-Screen has become a well-known standard in the car glass industry to control optical distortion in the laboratory. The proprietary Online-Moiré-Technology ensures real, reliable and repeatable measurements with the highest resolution and accuracy.

Application

- All screens: windshields, back lites and side lites and other applications
- All glass types: clear, coated and dark glass
- All directions: horizontal and vertical distortion
- More than 20 options for flexible filter settings

The system provides comprehensive measurements with highest precision. The screen may be measured at different positions and tilt angles to analyze distortion for their effect and cause. Distortions are measured with numerical accuracy in millidiopter for best performance and statistical information. The measuring results are directly comparable to the in-line inspection system SCREENSCAN-FAULTFINDER.

Advantages

- Reliable and repeatable measurement of transmitted distortion instead of subjective visual methods
- In general: comprehensive quality analysis and assessment
- Offline sample testing or process control at production sites
- Supports design studies for new developments at R&D and quality centers
- Comparable results to SCREENSCAN-FAULTFINDER
- Measurement results are comparable to existing quality standards
- Quick and easy visualization of results, user-friendly operation
- Certified by renowned global car manufacturers for the compliance of their technical specifications
- Based on patented technology (EP 0 932 826 81)
- ADAS analysis tool available

System Features:

- Color coded display of horizontal and vertical distortion
- Intensity picture (black and white) for quick result overview
- Inspection of all areas down to 9% transmission, e.g. shade-band
- Optional: measurement of reflected distortion for side lites

Different hardware settings:

- Tilt and yaw angle
- Combination for cross car distortion
- Definition of screen type settings and features incl.
 - Filtering Zone definition
 - Zone definition
 - Black masking Linescan
 - Linescan
 - 3D graphical chart analysis
 - Angle variation

Different software settings:

- Up to 16 free configurable zones(region of interests)
- Simultaneous evaluation of all features for all zones:
 - Maximum function
 - RoC (Rate of Change) function
 - Blob analysis
- ADAS evaluation tools
- Precise masking of screen printing area with a special zoom function for detailed editing
- Up to 3 adjustable quality levels
- Product tracing and automatical report
- Comprehensive data archiving
- MULTI DISPLAY Technology: 4 various analyses available at a glance
- Data exchange (raw data, settings) between systems

Further available software tools:

- Extended set of software filters selectable on individual requirements of car makers or product itself for:
 - Heating wire, reams (onden), PVB, float optic

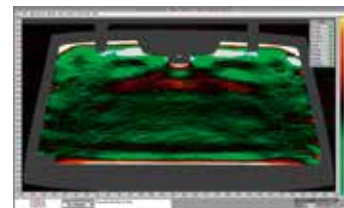
Technical Data (transmitted distortion)

| | |
|-----------------------------------|-----------------------------------|
| Measuring range | ± 400 mdpt |
| Measuring accuracy | ± 3.5 % or ± 3.5 mdpt |
| Measuring point resolution | 0.8 x 1 mm |
| Tilt angle range | 0° - 70° (for specified accuracy) |
| Yaw angle range | ± 45° (at 60° tilt angle) |
| Cycle time | < 15 s |
| Technical specifications | ECE R43, DIN, TSF, PV, TL etc. |
| Patent number | EP 0932 826 B1 |

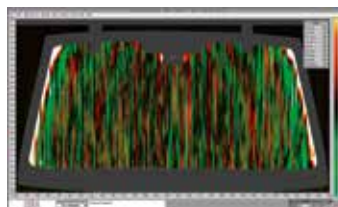
Intensity image



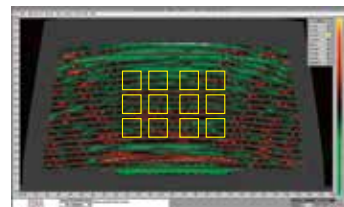
Horizontal distortion



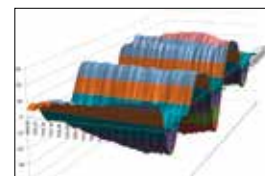
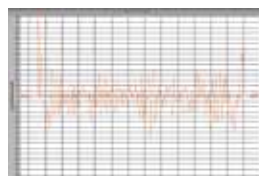
Vertical distortion



Measurement point and heating wire function



Special filter for detection and visualization of reams



Line scan and 3D visualization options are available for all measurements to allow best judgment

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