High Quality Automotive Glass
SCREENSCAN-Final
Fully Automated & Complete Optical Inspection of Automotive Screens

Passion for Glass
Driven by Competence. Powered by Innovation.
Straylight Module
The key to perfect quality

The first step to highest quality in design and function – Module One of Three: Straylight Module

The Straylight Module inspects the windshield for defects which cause light to be scattered.

With this module, the camera is directed at an angle of 0° onto the outside of the windshield, similar to the Absorption Module. A powerful illumination is provided and reflected such that any scratches, including in the printed area, are reliably detected. This specially developed illumination helps to distinguish scratches from dirt. The module normally detects scratches with a minimum length of 2 mm, and edge defects, surface irregularities or chips greater than 1 mm.

Certified references for scratches
The Straylight Module inspects scratches according the ASTM Standard 428, which was originally introduced for aerospace glass. Use of this standard ensures validated, reliable, and repeatable inspections with highest resolution and accuracy.

Advantages
- Easy to use, accurate, reproducible
- Refers to a certified, commercially available set of six samples
  - ASTM 3 = very light … ASTM 8 = very hard

Module features
- Scratches
  - In all surfaces
  - Minimum length 2 mm
  - Appearance ASTM Grade 3 or harder
- Edge defects (chips, shells, cracks)
  - Length > 1 mm

Certified ASTM scratch grade samples

Inspection of edges
- Chips, cracks, shells, breaks
- Position of the silk print pattern
- Irregular edge of the silk print
- Existence and position of markers at the edge of the silk print

Inspection of massive silk print
- Missing paint
- Scratches visible from outside
- Cracks, breaks, holes, chips visible from outside
- Existence and position of holes and markers
- Transmission in a selectable area (e.g. in the hole for a rain sensor)

Inspection of fade-out band
- Visible from outside
  - Scratches
  - Cracks
  - Breaks
  - Holes
  - Chips

Inspection of glass area
- Scratches, chips, cracks
- Absorbing defects (lint, hairs, dirt)
- Existence and position of markers / logos …
- Transmission and position of the shade-band
- Optical defects
- Different zones with different tolerances can be defined
Absorption Module
Simply the best for successful customers

The last step to highest quality in design and function –
Module Three of Three: Absorption Module

The Absorption Module checks the glass for light-absorbing faults, for example hairs trapped in the laminating layer, spot flaws, and it also checks the edges for defects. It is used for the inspection of:

- Absorbing defects in glass areas
- Transmitting defects in silk print areas
- Missing or additional dots in fade-out bands
- Transmission and position of shade-bands
- Edge defects
  - PVB-overlap and shortage
  - PVB air-bubbles
  - Shells and chips

For example, the edge check includes inspection of the foil projection and an inspection of the condition of the edge surface. In addition, this module also detects faults in the screen printing process, such as holes in black printed areas. It can also check the position of any screen-printed areas, ranging from logos and markings to the base for the rearview mirror. With the Absorption Module, the camera looks from outside of the windshield directly onto the windshield, which is illuminated from the inside.

Documented inspection: SMOKING GUN.
100% final check

Safety
No distraction of the car driver:
- by optical distortion.
- by scratches producing straylight.

Fast ROI
Generate more than 1 Million Savings per Year

Module features

- Detection of absorbing defects
- Detection of holes and defects in silk print
- Position check of:
  - Silk print
  - Logo
  - Mirror socket
  - Holes in the silk print (e.g. serial number of the car)
  - Markers
  - Shade band
  - Analysis of fade out band and logos

Constant high quality
Immediate results for optimization and analysis

Complete in-line inspection with one operator
Avoid claims.
Save labor.

Water stains
The next step value solution – Module Two of Three: Distortion Module

The Distortion Module (SCREENSCAN-Faultfinder) has become a well-known standard in the car glass industry to control optical distortion on the production line. The proprietary Online-Moiré-Technology ensures real, reliable and repeatable inspection with the highest resolution and accuracy.

The benefits

- Online inspection of transmitted distortion
- Accurate and reliable inspection with Online-Moiré-

Technology

- Reliable verification of optical quality
- Reduction in customer complaints
- Analysis of process related defects
- Quality decision with data protocol
- Immediate results for process optimization
- Full in-line inspection with just one operator

Module features

- Color coded displays for horizontal & vertical transmitted distortion
- Inspection of all areas down to 9% transmission, e.g. shade-band
- Simultaneous evaluation of all features in various zones:
  - Display absolute maximum function
  - RoC (Rate of Change) function
  - Blob analysis

Straylight Module  Absorption Module  Distortion Module

Proven, tested and ready for use – System software

The Graphical User Interface (GUI) is one of the key features of the system. It can be flexibly adapted to the requirements of each individual user. Different views can be used for different users at operator, service and management level. By logging into the company network, quality managers can also use the View Station function to gain an overview of inspection results obtained by the individual modules – at any time - remote from the office!

As a standard, the inspection system can also be serviced remotely by ISRA VISION. Benefit from our experience that nearly 90% of all problems can be solved quickly and cost-effectively via secure dial-in (VPN using modem or DSL).

QUICKTEACH – new advanced classification technology will get you ahead

Defect detection is just the first step – Precise and reliable classification is the key.

The system software offers a user-friendly module for teaching new types of windshields or new types of defects. This so-called "QUICKTEACH" concept allows you to teach the Straylight Module and the Absorption Module through a process of demonstrating the relevant new type of windshield or defects. In addition, it also offers extensive help functions and online statistics. Save a lot of time with QUICKTEACH self-learning classifier for tuning inspection systems and get the best results with only a small number of defect images.

Reduce your production costs! SCREENSCAN-Final can be installed and implemented into your process without delay with immediate returns.
Easiest way to produce perfectly perfect glass

Stay on track to higher productivity and better quality – with the Three in One solution

Advanced technology focused on automotive glass quality improvement

Achievement of the highest quality standards for absolutely flawless glass can only be guaranteed by a powerful inspection system. Current inspection methods are usually undertaken by an extensive, mostly multi-level visual control. The defect catalogues are lengthy and include many defect types such as scratches, chips, laminated hairs or dust particles, optical distortion or smallest dot defects. Human inspectors usually detect all of these defects, but cannot qualify and quantify these faults with the required reliability and repeatability.

SCREENSCAN-Final provides:

• Combined inspection of Straying + Absorbing + Distorting Defects
• Fully automatic rejection of defect products
• Definition of specific settings for each screen type
• Automatic loading of pre-defined screen type settings and features
• Up to 3 adjustable quality levels
• A product has only to be taught once
• Unlimited number of different screen type settings
• Logging and messaging for optimizing the production
• Data file of inspection results

Be AHEAD OF YOUR TIME - with SCREENSCAN-Final

The Three in One System SCREENSCAN-Final

Focused on the final inspection of automotive screens, this system including each module gives decisive answers for:

• Higher productivity
• Proved, constant high level quality
• Process improvement and analysis
• Less claims, increased customer satisfaction
• Reduction in capital investment, and production costs

This is the future of successful production and we are helping to shape it.

The Three in One System SCREENSCAN-Final

Straylight Module
Absorption Module
Distortion Module
We are the innovators in optical inspection. Best practice. Best system. Best service.

For over two decades, ISRA VISION has become a leading manufacturer of highly accurate automated optical quality inspection systems.

More than 10,000 successful applications attest to our experience in the field of machine vision products – and our ability to innovate.

Today our products are installed and operating worldwide in such industries as solar glass, glass, plastics, foils, packaging, print and automation. It is our goal to set system standards for total process control in these industries.

Customers choose ISRA for the ability to develop products consistent with their requirements. More than 600 employees at locations worldwide are working to contribute to your success.

Your global partner for surface inspection.

We offer our experience and a highly qualified team of experts to design and implement solutions for advanced applications.

We assure that our mission continues beyond our shipping dock. Just challenge our Customer Support Center.

We guarantee excellence to our customers – from consulting to service, from tailored solutions, to worldwide support. We can make your business more competitive.

Challenge us.
Inspect to control – with ISRA VISION