



State-of-the-art of Uniformity & Polarization Tester

Smart_Tester

Static Polarization Axis & Uniformity Tester for Optical Industry
according to ISO 12312-1, GB 39552.1, ANSI Z80.3,
ISO 16321-1, EN 174 & ISO 18527-1

About Smart_Tester

Static Polarization Axis & Uniformity Tester for Optical Industry



"Smart_Tester allows a complete Polarization Axis and Transmittance Uniformity Check for SunLenses, SunGlasses, Masks and SkiGoggles according to International Standards"

Two in One for Greater Adaptability

Smart_Tester is a Revolutionary Instrument specifically Designed for the Fast Measurement of Polarization Axis as well as Transmission Uniformity Check of SunLenses and SunGlasses with frame. The control takes place Simultaneously and Automatically, in accordance with ISO 12312-1, GB 39552.1, ANSI Z80.3, ISO 16321-1, EN 174 & ISO 18527-1 Standards, without any operation needed by the user. The SunGlasses are placed in a tool that simulates a Headform according to ISO 18526-4:2018 Type 1-M Standard (1-S & 2-M Optional).

Fast & Easy

Smart_Tester controls the whole test area, with a prompt measurements at a record speed, without any mechanical movement or adjustment, avoiding user's interpretation and influence. The Dedicated Software provides the offset of the points measurement matrices of SunGlasses and SunLenses.

While watching the real-time video streaming coming from the internal camera, the user can visually control the alignment and the gradient pattern orientation. It is possible to examine relative differences in position and inclination between the filters. No mechanical setup is required.

Industrial & Productive

Smart_Tester is Rugged, Compact and Ready for on-line operations, designed for hard industrial environment and heavy duty cycle use, perfect for massive production quality inspection close to the line control or at incoming review. Its design and intuitive touch screen user-friendly interface makes it extremely easy-to-use even for unskilled workers.

Accurate & Smart

This Innovative Polarization Axis and Uniformity Tester provides accurate and repeatable measurements and shows an immediate feedback on the test, thanks to a simple « Pass / Fail » semaphore output, in addition to over all the complete results with values on the screen view. The results can be also print or export in excel and pdf files.

Optional All-in-One PC



- Powerful All-in-One PC, 24" Full HD
- Monitor resolution 1920x1080 pixels
- Height adjustable & tilt swivel rotate position
- Genuine Windows 11 PRO 64-bit
- Pre-installed TeamViewer app Support

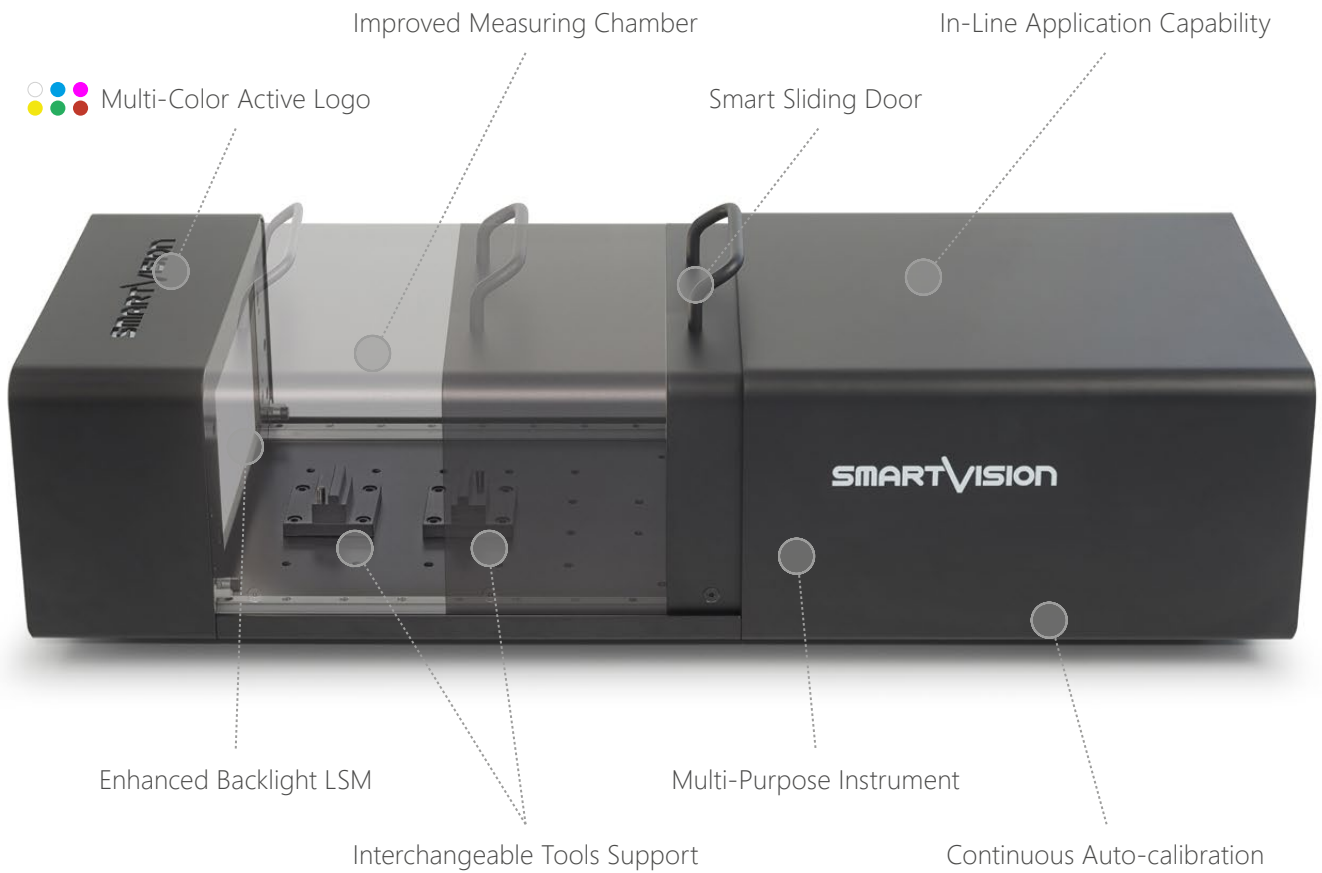
Dedicated Software



- Easy-to-use with an intuitive GUI
- Camera live view for precise positioning
- Customizable setting parameters
- Full automatic data report
- Remotely managing Software Options
- Upgradability for future Standards
- Hardware License Key

Hardware Features

Smart_Tester: The Power of Two Testers in One



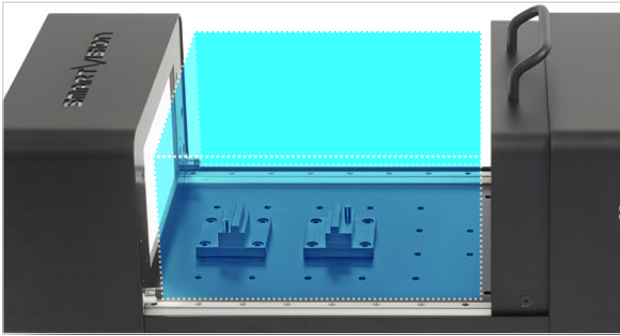
Dedicated Smart Tools

Smart_Tester: Wide Range of Optional Fixing Tools

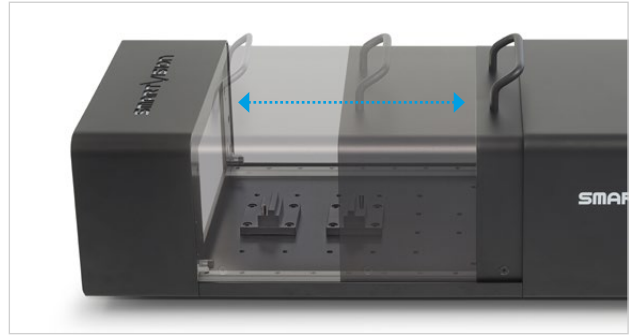


Hardware Highlights

Smart_Tester: Static Polarization Axis & Uniformity Tester



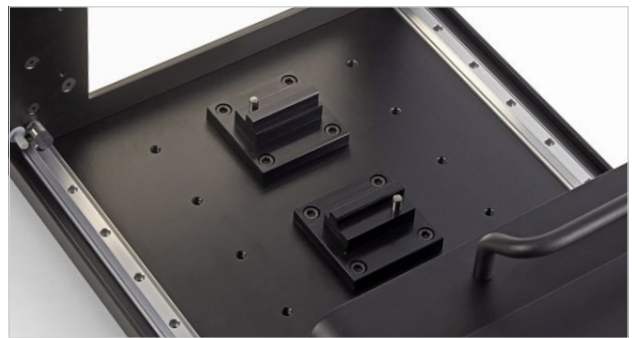
Improved Measuring Chamber: 3 side open, large and protected, full black measuring chamber



Smart Sliding Door: easy to move, self-contained, rugged sliding door, with handle on top



Enhanced Backlight LSM: enhanced backlight LSM with improved area and emission



Tools Support: with the easy fixing of tools, no need of adjustment or alignment



Multi-Color Active Logo: change the color about the status of Easy_Tester_Pro



High Efficiency: well-designed device, plug-and-play and easy-to-use



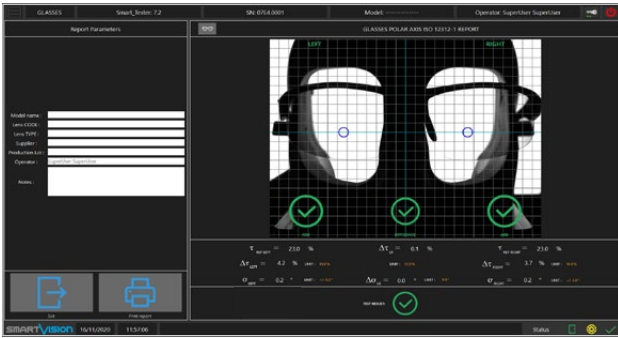
Designed for Industrial: rugged, compact, ergonomic, static and fanless machine



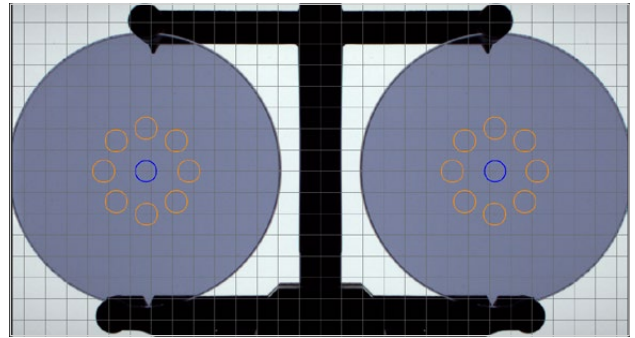
External PC: it ensures easy replacement in case of need, compared to integrated systems

Software Features

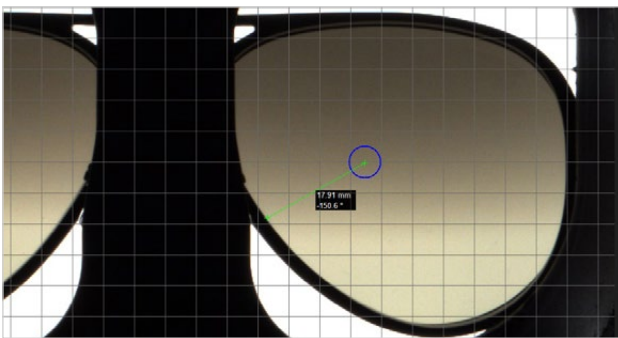
Smart_Tester: Static Polarization Axis & Uniformity Tester



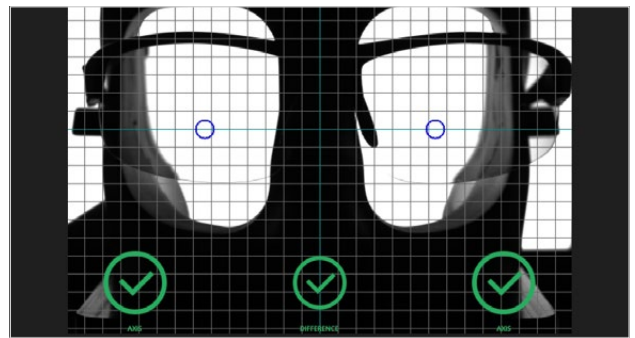
Polar Axis Check: immediate display of « Pass / Fail » test and the graphs with values of polarization trend



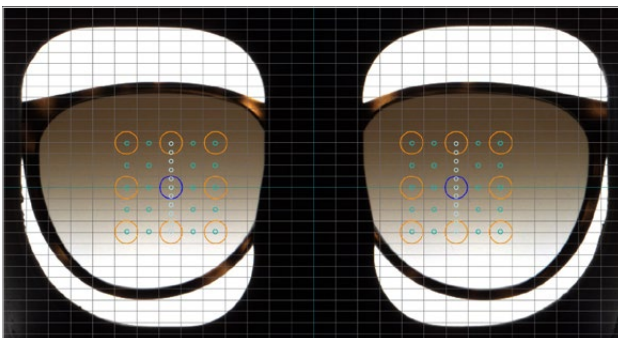
20 Points Measurement: Simultaneous measurement of 20 points, into 2 matrices of 9 points each and 2 references



Line Measurement Tool: Software to measure distance and angle between any two points into the displayed area



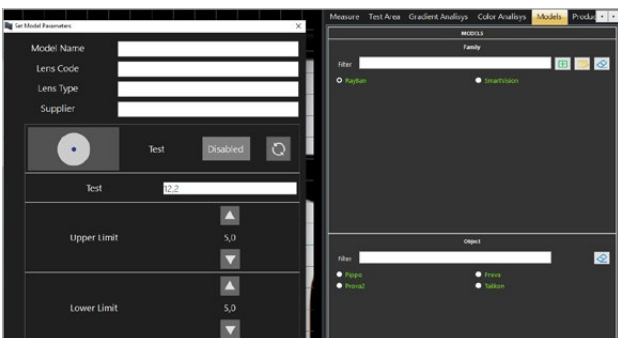
Visual Feedback: Highlight of points out of tolerance with feedback of non-conforming tested points



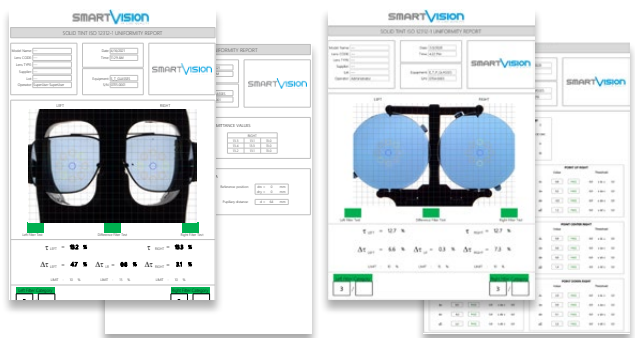
Gradient Profile Check: System check gradient profile both along vertical axis and, optionally, the horizontal



Color Matching Option: System check the colorimetric differences in terms of estimated ΔL , Δa , Δb and ΔE



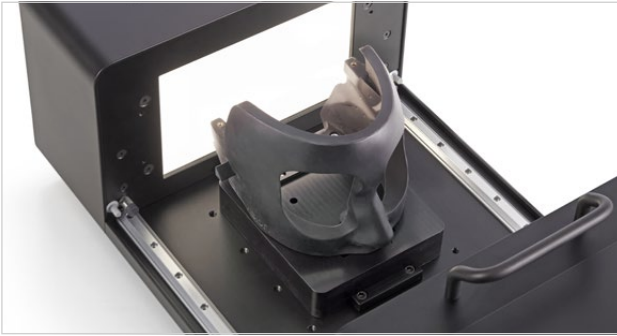
Models Management: Database of different models including entire measurement setups



Sharing data results: Excel and PDF data reports with complete info on performed tests

Smart_Tester Usage Configurations

Uniformity & Polarization Axis Tester Mode



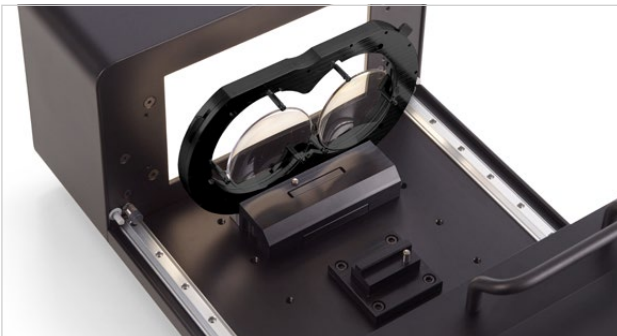
SunGlasses & SkiGoggles: polarization axis check for SunGlasses & SkyGoggles.



Masks: performs a complete polarization axis check on both solid and gradient Masks.

Smart_Tester Usage Configurations

Uniformity Tester Mode



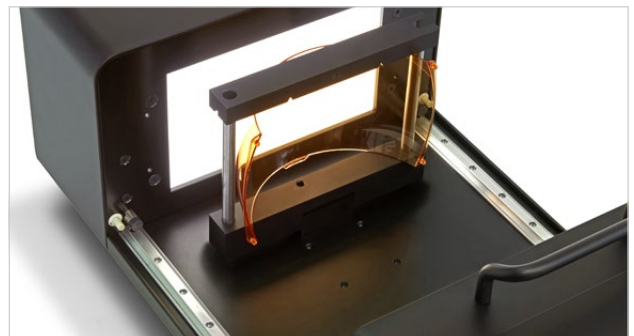
SunLenses: performs a complete uniformity check on lenses about different diameters.



SunGlasses: performs a complete uniformity check on SunGlasses with frames.



SkiGoggles: performs a complete uniformity check on SkiGoggles according to EN 174-2001.



Masks: its designed to allows easy testing of both solid and gradient Masks.

Features & Benefits

The Power of Two Testers in One for Greater Adaptability

Main Features	Related Benefits
Automatic Uniformity & Polarization Axis Tester	NO intervention of the user in the test Test according to International Standards
Multi-Purpose Instrument with Wide Range of Tools	Wide range of use/configurations and no need of different equipments
Continuous Auto-calibration	No intervention of the user and no visible calibration No interruption of the measuring cycles
Improved Measuring Chamber	Ergonomic, Fast, Easy accessibility and Tool replacement Full block of External Light
Full Area Calibration with Enhanced Backlight LSM	Improved testing performance No need of calibration when analysis points geometry are changed
In-Line Application Capability	Capability to 100% check Capable of pass-through line
Multi-Color Active Logo	Immediate instrument's status feedback according to logo colors
Filters Category Check Feature	Automatic transmittance tolerance evaluation
Grid Overlay Visualization	Perfect frame alignment
Live-View of Whole Spectacle	Accurate as-worn frame loading, avoiding T% measuring errors due to wrong position Enhanced visualization of Gradient lenses defects
Simultaneous 20 Points Measurement	Fast simultaneous check without any movement of the target No need of lens marking and dismounting as per traditional method
Free Matrix and Reference Points Set-up	Allows testing any dimension and geometry frame No hardware setup is required
Line Measurement Tool (with angle)	Uniformity area compliance check with international standards requirements
Visual Feedback	Immediate feedback of non-conforming tested points
Production Data Reporting	Production data saved into test report file and "Production batch" database
Thickness Compensation Option	Easy check of different lens shape Security: each user is password protected
Advanced User Management	Access level: each user can only access the functions for which he is enabled Traceability: user's name is showed in each measurement performed report Allows objective Quality Control of the gradient shape
Gradient Profile Check Option	Without model: check the profile gradient between left and right lens With model: check the profile gradient between reference model & left-right lens
Color Matching Option	Easy check of colorimetric differences
Single Lens Analysis	Capability to analyze a single lens
Square - Round Shape Measuring Pattern	Adaptable to a wide range of frame shapes
Absolute Transmittance Values	Displays absolute transmittance values in reference points
Models Management	Automatic machine setup for any loaded model Allows unskilled user to properly use the instrument
Light Intensity Tool	Enhanced real-time visual inspection of the lenses, eases the defect evaluation
Mandatory Production Data	Capability to automatically collect mandatory production data for each test Full automatic Production Batch in Excel file
Full Automatic Data Report	Full automatic Technical Data Sheet and printables reports Full traceability of the performed test
New Optional available	International Standards: GB 39552.1 and ISO 16321-1 Functions: QFactor Analysis and Alignment markers Smart_HeadForm Models: Type 1-M, 1-S and 2-M

Technical Specifications

Smart_Tester: Static Polarization Axis & Uniformity Tester

Dimensions (mm)	860x320 H.250 (upper door handle included)
Weight (kg)	20 (excluding PC and tools)
Power Supply	110-240 Vac 50-60 Hz
Power Consumption	2 A
Communication Interface	USB 3
Case	Black Opaque painted Anodized Aluminum
Software Interface	Language: English
User Management	User, SuperUser, Maintainer, Administrator (with password login and editable rights)
Data Report	xlsx, xls, pdf
Statistical Analysis	Ready to connect with SPC software
Optional PC Device	Powerful All-in-One PC, 24" Full HD, Monitor resolution 1920x1080, Windows 11 PRO 64-bit USB Drive with Backup Software (bootable system startup) Pre-installed TeamViewer app Support

Reach Excellence in Quality Control
with SmartVision's Technology



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