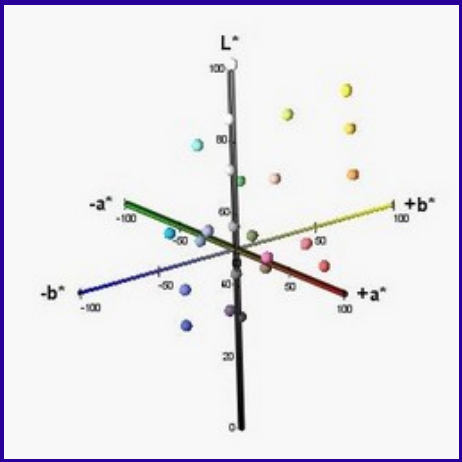
MAJANTYS
Knowledge by color science

PhotonLine CL

Contactless, inline color measurements



We want to give our customers the expanded capabilities that they need for colorimetric measurements.

PhotonLine CL integrates a scientific grade spectrometer and a power-controlled LED illumination source. Its ruggedized configuration enables measurements to be made in high demanding environments such as the in-line production process control.

Controlled by a PC via a USB 2.0 interface, the user can monitor, control and log color results during the production flow.

Applications include spectral and color analysis of non-emissive samples such as plastics, coating and textiles. The system enables to work with complex shaped objects.

The free working distance between the sensor head and the measurement surface is 8 cm and this prevents any damages of the device or the substrate. The acquisition time of 500 ms maximum complies with the non-stopping throughput requirements.

Contents	
Illumination/ Measurement Geometry	0/30° (default) 0/8°, 8/0°, 30/0°, 45/0° and 0/45°
Sensor	Spectral-based array technology 380 — 830 nm range, 1024 pxl Miniature, ruggedized design
Light source	LED based (defaut) Dual mode available
Performances	Cycle time : 250 ms typical Measurement area : 4.8 mm diameter Free working distance : 80 mm
Interface	USB (default) RS232 and Ethernet (contact us)
Applications	Quality control, Product inspection Inline pass/fail evaluation, Benchmarking

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DSE-PCL-Rev1.2-08/09

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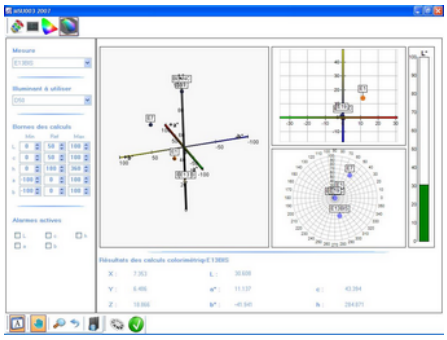
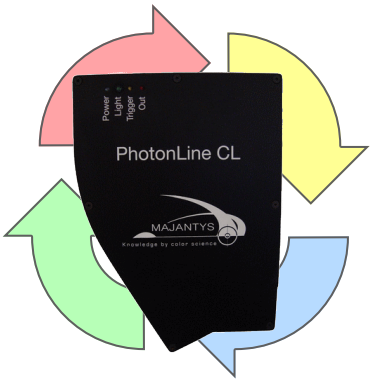


Software management
and result database



PC control and
automation

Color difference
and shift

Real time, high throughput
environment

Remote measurement enables continuous monitoring of the production environment for detection of the slightest deviation.

An extremely small measurement surface (4.8 mm typical) ensures that you have control over all product formats. Larger parts undergo a series of averaged measurements that boost system reproducibility.

High acquisition speed (< 250 ms) is the perfect match for a fast-paced production flow, while still ensuring routine inspection of produced parts.

These measurement systems are 30 times more accurate than a trained eye. Their production screening capability allows them to record the slightest changes in the production process.

The product's interface with the production environment is made easier by the type of communication available in the system.

The software interface for displaying messages is the most current. However, the system can also be connected by series or Ethernet connections.

Our company can develop a Human-Machine interface. We offer our customers the option of maintaining control over this environment by providing them with a completely documented "task" library on a .NET database (Microsoft). This can also be done through tools such as Excel, LabView, etc.…

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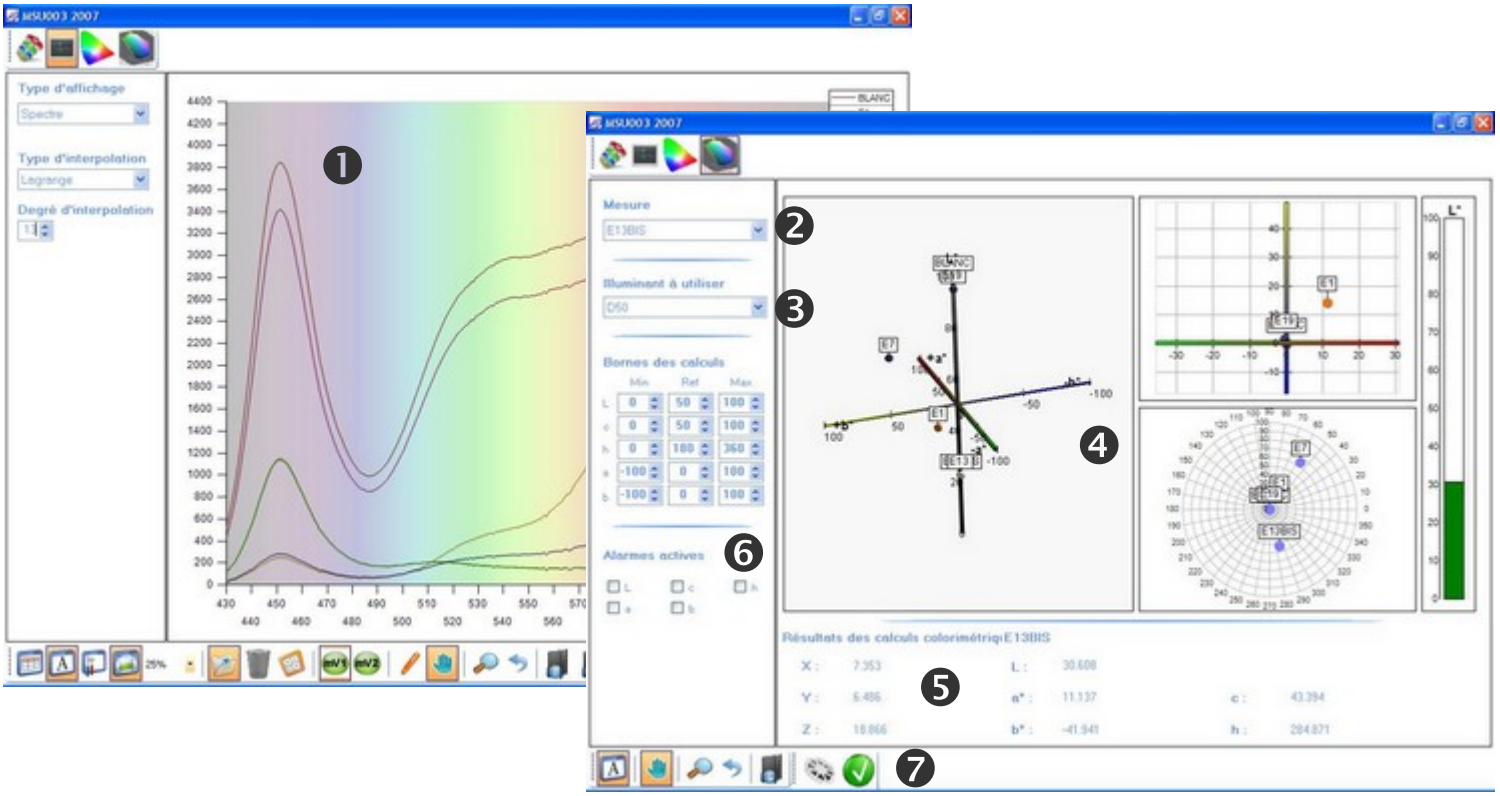
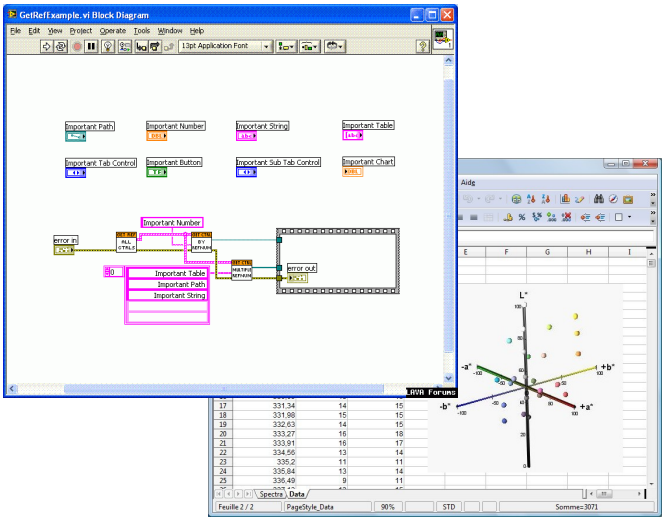
1. Measured spectrum
2. Sample selection pop-up menu
3. Selection of reference light source
4. 2D and 3D graphs for Lab and Lch representations
5. Color measurement results in numerical formats
6. Color difference and alarm set-up
7. Tools for data analysis and visualisation





Software Management	
Tools	Fully documented DLL provinding spectral and colorimetric coordinates data
Possibilities	Customized software interface
	Customer can develop is own dedicated Software
	Automatic synchonization with the production process
	Support database storage (long term)

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Mechanical Properties	
Dimensions	260 x 150 x 33 mm
Weight	500 gr.
Material	Stiff aluminium
Optical Properties	
Focal Length	20 mm
Aperture	f/2.7
Diffraction Grating	Aberration corrected type IV concave holographic grating
Entrance Aperture	100µm width – 500µm height
Resolution	< 10 nm FWHM with 50 µm width slit (5 nm availaable on request)
Stray Light	<0.1% at 415nm with RG630
Dispersion	100 nm/mm
Fiber Optic Connector	SMA905 – 0.22 numerical aperture optical fiber
Sensor specifications	
Detector	CMOS linear sensor
Detector Range	200 — 1100 nm
Pixels Resolution	Selectable 128, 256, 512, 1024
Dynamic Range	71 dB
Absolute QE at peak	60% at 675 nm
A/D Resolution	12-Bit conversion
Integration Time	1 ms to 1 sec. (adjustable)
Features	Non Destructive Read Capable High sensitivity

System Performances	
Geometry	0/30° (default) or 0/45° (option) Other : please contact us
Spectral Range	400 — 700 nm
Integration Time	1 ms to 65 sec., ajustable
Sensor head / sample working distance	80 mm +/- 2 mm
Computer	
Operating System	Windows XP and Vista NI LabView 8.2 driver
Interface (standard)	USB 2.0, one port
Interface (option)	Asynchronous Serial RS232/ RS485 Modbus — Ethernet — SDIO Other (please contact us)
Software	Windows software graphical user interface .NET controls available
Electronics	
Power Consumption	Max. 100 mA @ 5V (sensor) External power supply, 9 VDC adapter included
Input/Ouput	3 hardware ports available
Trigger	Yes

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