Spectral Process Colour Management Systems

Compact solutions for more efficiency and sustainability

ColorLite
Innovative Farbmesstechnik

Advantages of ColorLite colour management systems

- We offer you a made to measure complete solution to control colour values during the production. With customer-specific value output and connection to your process control system..
- High-resolution colour information enables, among other things, perfect automatic control of your colour dosage and saves time-consuming offline measurements in the laboratory.
- Optional thermochromics measurement to determine and if desired compensate, temperature-related colour deviations.
- Modular design for reflection and transmission measurement. Different probe head variants for non-contact and tactile colour measurement.
- We develop our software, hardware and optics 100% in-house and produce in Germany for customers all over the world. Quick and uncomplicated service guaranteed.

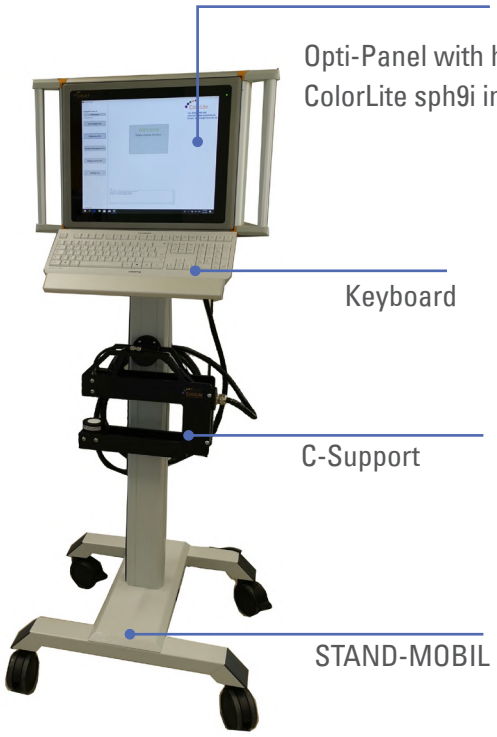
ColorLite sph9i

The external probe head is connected to the sph9i, in combination with a PC via an optical fiber, which can be several meters long. The PC can be mounted directly next to the measuring instrument with our touch panel solutions or remotely via RS485 connection. The simplest solution is to connect the 9i via an industrial BUS to a process control system to display and store measured values.

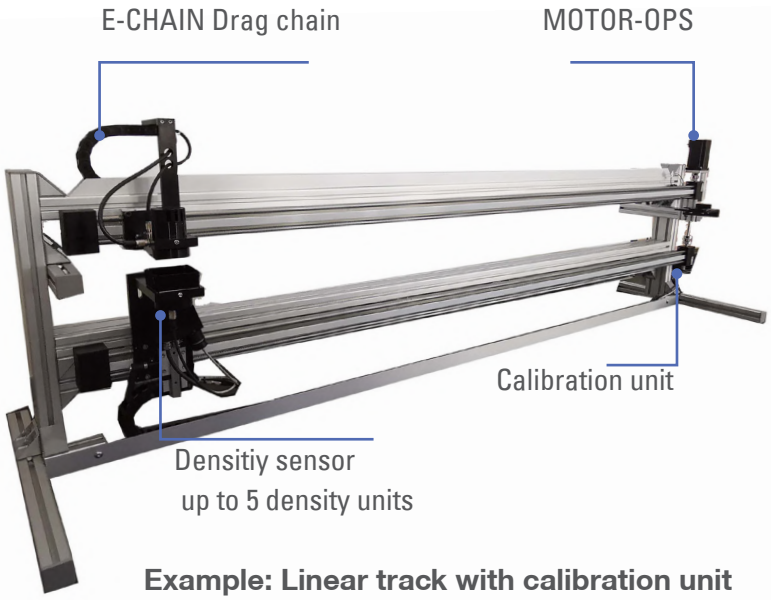
ColorLite sph ipm

The sph ipm is equipped with a modern **7“ touchscreen and colour display** and allows easy operation through a logical menu navigation. An additional PC module is not necessary.
Measured values as well as status and alarm information are displayed.The sph ipm offers all possibilities for easy system integration via different versions of interfaces.

Colour is an important quality feature in the manufacture of almost all products. The ColorLite systems are complemented by various probe heads and a wide range of accessories, making it suitable for a variety of applications and ensuring colour control in areas such as plastics, paper, textile and food industries. Permanent quality control minimizes waste in the production process, resulting in higher productivity by reducing time and costs.



Example: Control panel OPTI-PANEL-150



Example: Linear track with calibration unit

Accessories (optional)

- **Control panels und PC**
  For mobile and stationary use in industrial operations

- **Thermochromic compensation**
  Infrared sensor measures temperature of warm parts and calculates CIE L*a*b* values of injection moulded parts for room temperature.

- **Alarm signals**
  For controlling warning signals and lights

- **Interfaces**
  Connection via Profibus, ProfiNet, EtherNet, USB, RS232 to the process control system or PC

- **60° Gloss Measurement**
  60° universal measuring angle according to DIN EN ISO 2813 (old DIN 67530)

- **Linear tracks**
  Individual construction according to requirements such as automatic height adjustment, support for reflection and transmission measurement

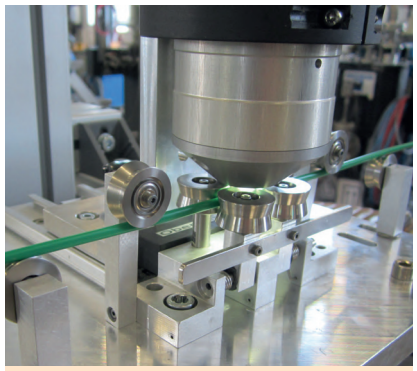
- **Automatic calibration units**
  With integrated white reference tiles for automatic calibration to enable stable 24/7 continuous operation.

Application field

Measurement granules

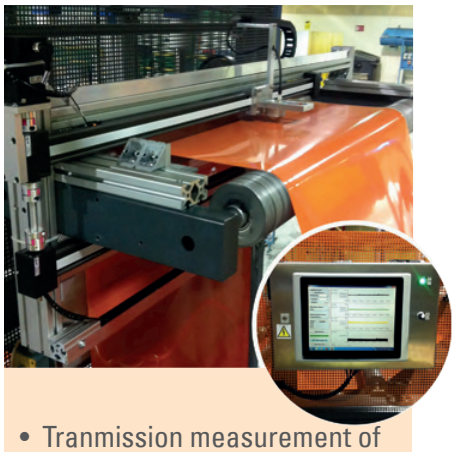
- Reflectance measurement of granules, recycled pellets and mill material
- Automatic adaption of colour additives, masterbatches
- Immediate lock out of waste compounds
- Automatic calibration

Measurement extrudate/ cables



- Reflectance measurement of extrudate during compounding and extrusion, cable
- Very small measurement area possible < 3 mm
- Infra-Red temperature sensor
- Geometric deviations are detected and corrected with hight sensors.

Transmission Measurement films



- Tranmission measurement of films, PET-packaging
- Free positionable probe heads with automatic positioning unit
- Combination with dosing system for liquid colours
- System controlled adaption of film width

„The complete solution - hardware and software, consulting, installation, training, maintenance and after-sales service - from a single source.“

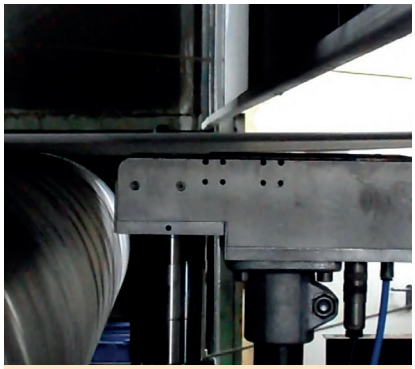
Measurement injection moulding parts

- Reflectance measurement of coloured plastic parts
- Non-contact measurement with a distance of 30 mm
- Compensation of temperature and light influences
- Sorting out defective parts and good parts

Measurement textile

- Reflectance and transmission measurement of textile fabrics
- Automatic tracker to adapt the bandwidth
- Alarm signal of colour deviations and information to process control system
- Height adjustment for customer specific adaption

Measurement paper



- Reflectance measurement of paper webs
- Automatic calibration unit for 24h continous process
- Alarm signal of colour deviations and information for the process control system

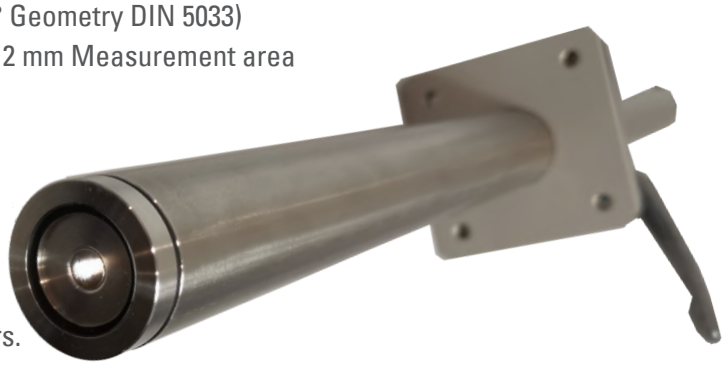
„Competence built up from over 20 years of experience in the field of spectral colour measurement technology.“

Some of our probe solutions

MA38/80
d/0° Geometry
38 and 80 mm Measurement area

MKd8-AL
d/8° Geometry DIN 5033)
till 12 mm Measurement area

MK200-R
20°/0° Geometry
10 mm Measurement area



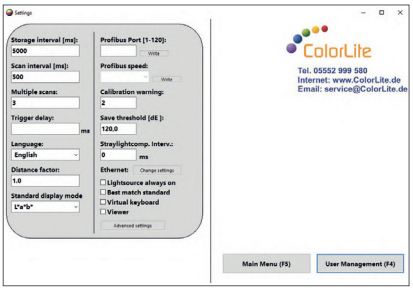
Dip Stick TS800-35
Colour measurement of liquids and powders.

„Why do we only use LED‘s as light source for our probe heads?“

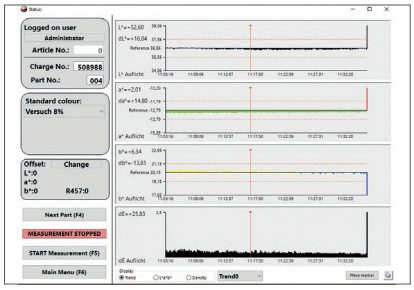
- They guarantee a service life of at least 20 years.
- Highest longterm repeatability of the measured values.
- Replacement and maintenance of the light source is not needed - thus reducing down time and costs.
- The emission spectra, including the UV component, are variably adjustable.
- LED‘s are small, compact and robust
- Absolutely no drift of the spectral data over the life time.

Database Software IPM

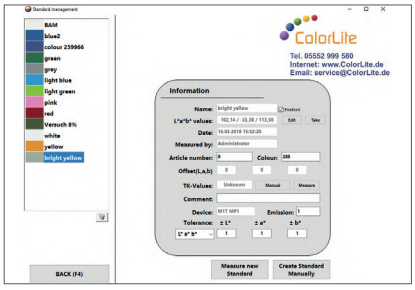
The powerful and easy-to-use software supports quality assurance in all matters. The measured data is not only recorded quickly and precisely, they can also be managed, evaluated and analysed in various colour scales. All your relevant information can then be summarised quick and easily using the professional report function. If necessary, adjustments can be made according to your individual needs.



Settings



Trend analysis



Standard selection

Technical Data

Measurement geometries	45°/0°; 20°/0°; d/8°, d/0° - Measurement area of 2 mm to 80 mm, Dip Stick for liquids
Standard observer	2° (1931) and 10° (1964)
Illuminants	D65, D55, F11, A, C
Colour values	XYZ; Yxy; dE CIE L*a*b*; L*C*h*, L*u*v*; dE CIE94, dE CMC, dL*,da*,db*, dE 2000
Spectral resolution	Holografic grating-spectrometer FWHM @500nm < 10nm - VIS Range Scanning in 3.5 nm steps 115 x 16-Bit values per scan
Wavelength	400 - 700 nm, Add on to 1100 nm (optional)
Light source	White and blue LED´s - extrem long lasting LED´s
Dimension	sph9i: 235 mm x 220 mm x 60 mm sph ipm: 210 mm x 110 mm x 45 mm
Repeatability	< 0.05 dE*lab (measured on a white surface)
Memory	FRAM, Memory of 1000 standard colours and 200 standards
Calibration	White certified standard
Power Supply	sph9i:24 VDC sph ipm: 110 - 240 V/AC
Climatic conditions	15° to 55° C
Moisture content	max. 85%, non-condensing
PC-Interfaces	serially: USB, RS232 (isolated) optional: CAN; Profibus; Profinet, Ethernet (all isolated), Power 4 - 20 mA
Digital input-/ and output	4/4-channel digital I/O for status of process control system 4 isolated input 0-30V 4 isolated output 0-30V, Power current load 0,7A / channel

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