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GUANGDONG THREENH TECHNOLOGY CO.,LTD.

NON CONTACT SPECTROPHOTOMETER

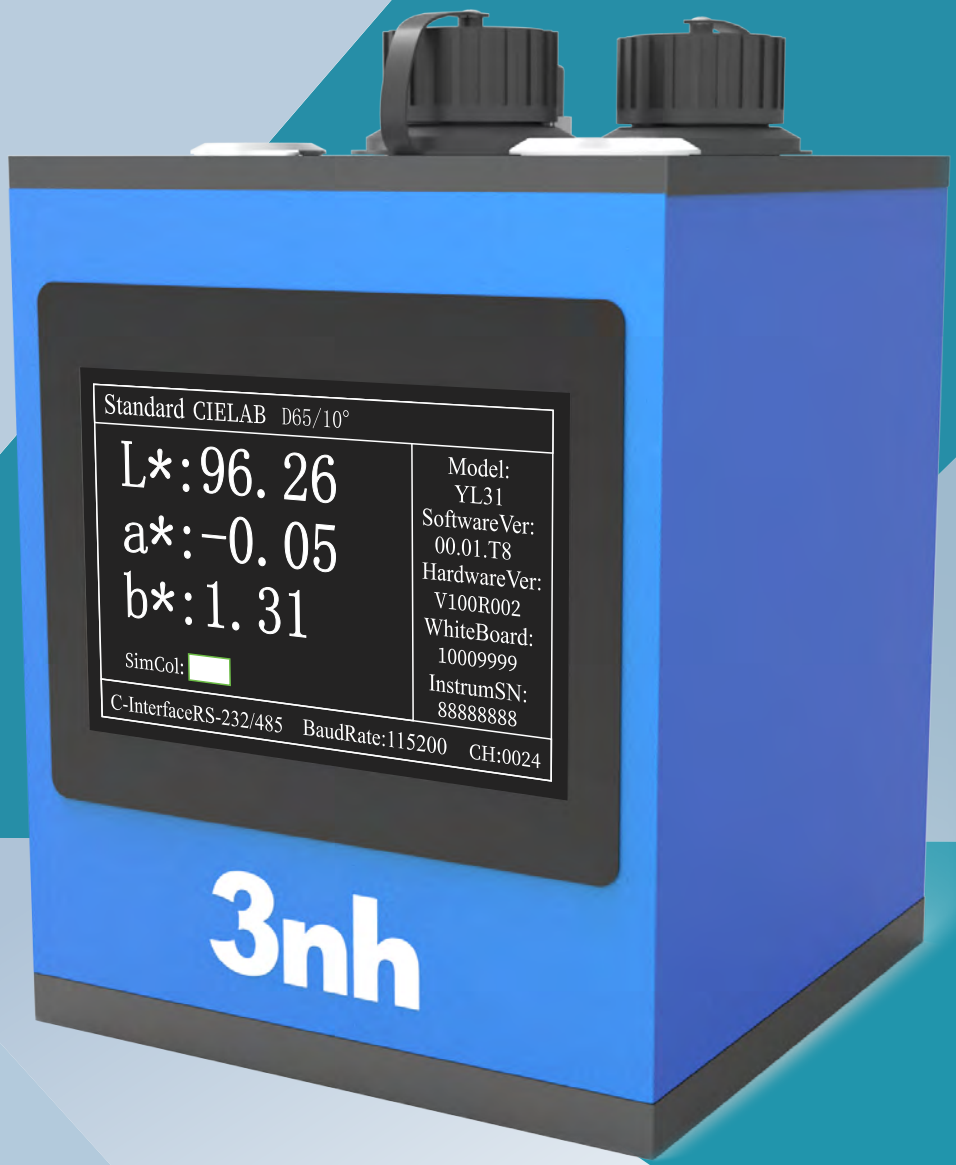
Color quality control tool for automated production lines

Concave grating spectroscopy

High-precision

Multiple interfaces

Through metrological certification



YL3120 Non contact spectrophotometer

YL3120, based on a 45/0 optical structure, is an online color sensor designed specifically for industrial assembly lines and robotic arm integration. It operates stably for a long time without manual intervention and is suitable for rapid non-destructive testing of liquids, powders, and vulnerable surfaces.

Color sensors for industrial assembly lines

1 High precision spectral analysis technology

Adopting a 45/0 optical structure (incident angle of 45 °, receiving angle of 0 °), combined with high-precision spectroscopic technology, it can accurately capture the reflection spectrum data of the object surface, ensuring the consistency and repeatability of color measurement. Effectively avoiding environmental light interference and meeting the stringent requirements for chromaticity data in industrial scenarios.

2 Non contact non-destructive testing

Through the non-contact probe design, YL3120 can conduct rapid nondestructive testing on small and irregular difficult samples, as well as liquids, ointments, powders and gel.

3 Widely applicable and capable of handling special materials

Support precise color measurement for complex materials, such as spectral adaptation for highly reflective/matte surfaces (such as plastic particles, metal coatings);Penetrating measurement of transparent/translucent liquids (such as cosmetics lotion and sauces);Real time color difference monitoring of dynamic assembly lines (such as high-speed conveyor belts) to meet the requirement of rapid response in 0.05 seconds.

4 Online color management and industrial automation integration

Real time data feedback: Through industrial communication interfaces (such as RS485, Ethernet) and seamless integration with PLC or MES systems, dynamic adjustment of production parameters and optimization of process flow can be achieved.Full chain management: supports full process color control from raw materials to finished products, reduces manual sampling errors and rework costs, and improves production efficiency.

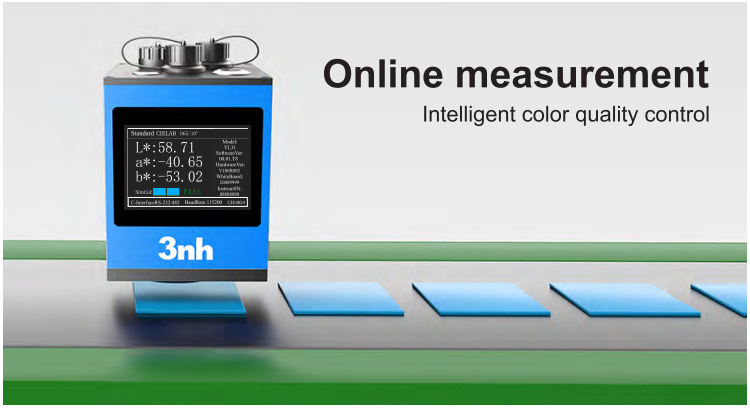
5 Industrial grade reliability and usability

Environmental adaptability: Wide temperature design (such as -20~70 °C) and IP66 waterproof and dustproof industrial grade protection ensure long-term stable operation in industrial environments.Quick deployment: Modular design compatible with robotic arms and assembly line integration, supporting one click calibration and remote firmware upgrades, reducing maintenance costs.

Support Connecting To Pc Software For Measurement

Supports Android, IOS, Windows, WeChat Mini Programs, and HarmonyOS systems

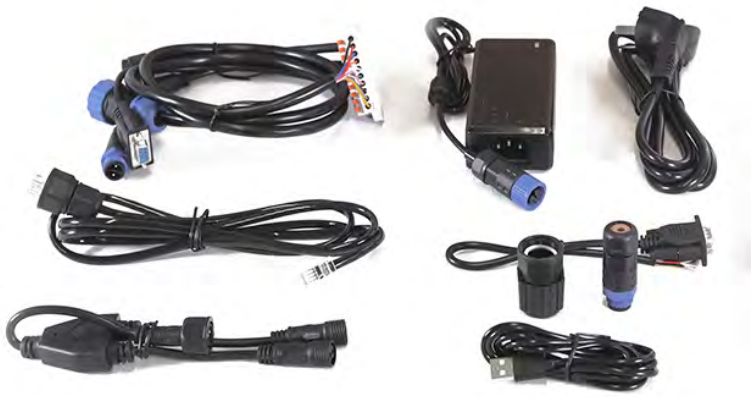
1. Color difference measurement, color simulation is more intuitive;
2. Find the closest color and view details such as Lab values and spectra;
3. It is possible to create a personal color database and input information on printing, coatings, and textilesWaiting for color card information; Massive storage of quantity;
4. Provide color schemes for beautiful stitching color matching.



Connecting devices can expand more functions

The upper computer software can connect the spectrophotometer through USB or Ethernet cables, control the instrument for measurement, change instrument configuration, and operate instrument data. At the same time, it has greatly expanded the instrument functions, realizing complex data management, color detection, report generation, etc., making it a powerful assistant for color quality management.

Multi interface extension



Analysis and management

The instrument can analyze, copy, delete, modify, name, and save the measured data by connecting to the PC SQCX software.

Data printing

Comparing color differences and generating test reports can be done by connecting to BluetoothPrinting machine, print out the data.

Mass storage

The measured data report can be uploaded to cloud storage. Realize massive storage of data.

Share and transmit

The generated test report can be shared and transmitted through a computer connection. fastQuickly communicate color information to accelerate production time.

APPLICATION FIELD


Printing ink


Textile dyeing


Food


Corrosive reagent


Condiment

PRODUCT PARAMETERS

Model	YL3120
Structure and standards	45/0 (45 ring uniform illumination 0 ° reception); Standard:CIE No.15,GB/T 3978,GB 2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033 Teil7
Illumination	Full spectrum LED light source
Spectral method	Concave grating spectroscopy
Sensor	256 pixel dual array CMOS image sensor
Measuring wavelength range	400~700nm, 10nm Output
Display Accuracy	0.01
Reflectivity resolution	0.01%
Reflectance measurement range	0~200%
Measuring aperture	Φ8mm
Non contact distance	7.5mm(±0.15mm)
Sample height	No thickness limit, only use test probe
Measurement observation method	observe
Measurement time interval	1S
Measurement mode	Instrument triggered or online control triggered
Color space	CIE LAB,XYZ,Yxy,LCh,CIE LUV,Musell,s-RGB,HunterLab, βxy,DIN Lab99
Colour-difference formula	ΔE^*_{ab}, ΔE^*_{94}, $\Delta E^*_{cmc(2:1)}$, $\Delta E^*_{cmc(1:1)}$, ΔE^*_{00}, ΔE (Hunter) ,DINΔE_{99}
Other chromaticity indicators	Spectral reflectance, WI(ASTM E313, CIE/ISO,AATCC,Hunter,ISO2470/R457,Taube, Berger, Stensby),Tint(ASTM E313-00), YI(ASTM D1925, ASTM 313), Same color difference index MI, color fastness, color change fastness, strength, coverage, blackness (My, dM), color density CMYK (partially implemented through upper computer software)
Observer's perspective	2° /10°
Observing light source	A,B,C,D50,D55,D65,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,U30,U35,DLF,NBF,TL83,TL84,ID 50,ID65,LED-B1,LED-B2,LED-B3,LED-B4,LED-B5,LED-BH1,LED-RGB1,LED-V1, LED-V2
Display	Data, sample chromaticity values, color difference values/graphs, color simulation, qualified/unqualified results, display tolerances can be set
Measurement time	The fastest is 0.05 seconds (usually around 0.1 seconds)
Calibration	Intelligent automatic calibration
Waterproof grade	IP66
Repeatability	In the optimal testing mode (with a single measurement time of 1.0 second):Chromaticity value: Δ E * ab within 0.03 (after preheating, measure the average value of the whiteboard 30 times at intervals of 5 seconds)
Inter station difference	Δ E * ab within 0.3 (average value measured on 12 color plates of BCRA series II)
Accuracy guarantee	Ensure the first level measurement is qualified
Measurement method	Single measurement,average measurement (2-99 times)
Size	100*100*140mm
Weight	about 1400g
Power supply mode	DC 24V, 3A power adapter for power supply
Lighting source lifespan	More than 3 million measurements in 5 years
Display	TFT true color 3.5inch
Interface	USB, RS485, RS232, Ethernet, externally triggered, analog signal output
Language	Simplified Chinese, Traditional Chinese, English
Standard accessory	Power adapter, instruction manual, USB cable, RJ45 network cable, RS485 multi machine communication cable, RS232 communication cable, standard calibration board, black calibration box
Note:	This model is specifically designed for streamlined production lines, and deep functional customization will incur additional customization costs
Operating and Storage Temperature	Working temperature: 0~40 ℃, 0~85% RH (no condensation), altitude: below 2000m Storage temperature: -20~50 ℃, 0~85% RH (no condensation)

GUANGDONG THREENH TECHNOLOGY CO., LTD.


Spectrophotometers


Colorimeters


Haze Meters


Gloss Meters


Test Charts


Light Booths

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