

# Accurate color transmission and quality control



## YS4560- Advanced grating spectrophotometer

YS4560 Advanced Spectrophotometer uses 45/0 (45 degree ring illumination, 0 degree reception) geometric optical structure in accordance with CIE No. 15 and adopts concave grating spectrometry to accurately measure sample reflectance and various colorimetric data; The instrument is equipped with  $\Phi 8$ ,  $\Phi 4$ mm double measuring aperture, used for traffic signs and accurate color measurement and quality control in various industries. It has a separate UV source for fluorescence sample measurements.



Con-cave Grating



USB/Bluetooth®



Long life LED light sources



$\Phi 8$  &  $\Phi 4$ mm dual measuring apertures



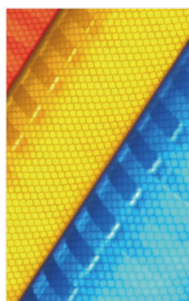
## PRODUCT FEATURES

- 1.Beautiful appearance and perfect combination with ergonomic structure design.
- 2.Built-in standard polygon tolerance setting and specific traffic sign gamut, one button to realize the measurement of traffic road signs, marking lines, reflective film brightness factor and chromaticity coordinates.
- 3.Conforms with CIE No.15, GB/T 3978,GB 2893,GB/T 18833,ISO7724/1,ASTM E1164,DIN5033 Teil7.
- 4.High electronic hardware configuration: 3.5-inch TFT color LCD,Capacitive Touch Screen, concave grating, 256 Image Element Double Arrays CMOS Image Sensor.
5. Measure sample spectra, accurate Lab data , can be used in color matching and accurate color transmission.
- 6.Adopt high-life and low-power combined LED light source, including UV/excluding UV.
- 7.The instrument is equipped with  $\varnothing$  8mm and  $\varnothing$  4mm aperture(optional  $\varnothing$  10 mm and  $\varnothing$  5mm) suitable for more tested samples.
- 8.Large capacity storage space, over 30,000 measurement data.
- 9.USB / Bluetooth dual communication mode, more adaptable.
- 10.PC software has a powerful function extension.



## APPLICATION INDUSTRIES

The grating spectrophotometer can easily achieve the accurate transmission of color, and can also be used as the detection equipment of the accurate color matching system; it is used for accurate color measurement and quality control of traffic road signs, plastics, electronics, paint and ink, textile and garment, printing and dyeing , ceramics and other industries. The instrument has a separate UV light source for fluorescent sample measurements.



Traffic road sign



Automobile



Plastics



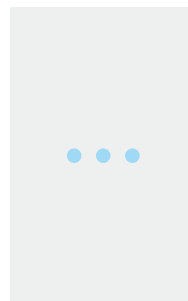
Paint



Food stuff



Laboratory



Others

## SPECIFICATION PARAMETERS

**Model:** YS4560

**Illumination:** 45/0(45 circular illumination, vertical viewing)

**Standard:** CIE No.15, GB/T3978,GB2893,GB/T 18833,ISO7724-1,ASTM E1164,DIN5033Teil7

**Integrating Sphere Size:** 48mm

**Light Source:** Combined LED Light,UV Light

**Spectrophotometric Mode:** Concave Grating

**Sensor:** 256 Image Element Double Array CMOS Image Sensor

**Wavelength Range:** 400-700nm

**Wavelength Interval:** 10nm

**Semiband Width:** 10nm

**Measured Reflectance Range:** 0-200%

**Measuring Aperture:** MAV: $\varnothing$ 8mm/ $\varnothing$ 10mm; SAV: $\varnothing$ 4mm/ $\varnothing$ 5mm

**Observer Angle:** 2°/10°

**Color Space:** CIELAB,XYZ,Yxy,LCh,CIELUV,s-RGB,HunterLab, $\beta$ xy,DINLab99,Munsell(C/2)

**Color Difference Formula:**  $\Delta E^*ab, \Delta E^*uv, \Delta E^*94, \Delta E^*cmc(2:190^*cmc(1:1)), \Delta E^*00, \text{DIN}\Delta E99, \Delta E(\text{Hunter})$

**Other Colorimetric Index:** Spectral Reflectance, Whiteness (ASTM E313-00, ASTM E313-73, CIE/ISO, AATCC, Hunter, Taube-Berger-Stensby), Yellowness (ASTM D1925, ASTM E313-00, ASTM E313-73), Metamerism Index M<sub>t</sub>, Colorfastness to Crocking, Colorfastness to Light, Strength (Dye Strength, Coloring Power), Opacity, 555 Hue Classification, Blackness (My, dM), Color Density CMYK, Tint (ASTM E313-00), Color Density, Munsell (some functions realized through the host computer).

**Illuminant:** D65,A,C,D50,D55,D75,F1,F2,F3,F4,F5,F6,F7,F8,F9,F10,F11,F12,CWF,DLF,TL83,TL84, TPL5,U30,B,U35,NBF,ID50,ID65,LED-B1,LED-B2,LED-B3,LED-B4,LED-B5,LED-BH1,LED-RGB1,LED-V1, LED-V2,LED-C2,LED-C3,LED-C5(a total of 41 types of light sources,some of which are realized through the host computer).

**Displayed Data:**

**Software Support:** Andriod,IOS,Windows,WeChat Mini Program,HarmonyOS

**Measuring Time:** 1.5s

**Repeatability:** Spectral reflectance: MAV, standard deviation within 0.08%(400~700nm: within 0.18%)

**Chromaticity value:** MAV, within  $\Delta E^*ab$  0.03(After calibration, measure the average value of the white board 30 times each 5S.)

**Inter-instrument agreement:** MAV, within  $\Delta E^*ab$  0.15(Average value for 12 BCRA series II color tiles)

**Battery:** Li-ion battery. 5000 measurements within 8 hours

**Dimension:** L\*W\*H=184\*77\*105mm

**Weight:** 600g

**Illuminant Life Span:** 5 years, more than 3 million times measurements

**Display:** 3.5-inch TFT color LCD, Capacitive Touch Screen

**Data Port:** USB/Bluetooth dual mode (compatible with 2.1)

**Data Storage:** Standard 1000 Pcs, Sample 30000 Pcs

**Language:** Simplified Chinese, English, Traditional Chinese, Russian, Italian, German, Portuguese, Spanish, French

**Operating Environment:** 0~40°C, 0~85%RH (no condensing), Altitude < 2000m

**Storage Environment:** -20~50°C, 0~85%RH (no condensing)

**Standard accessories:** power adapter, data line, built-in lithium batteries, instructions, quality control software (download from official website), black and white calibration board, protection cover, polarization filter box(Optional accessories: Micro printer, Powder test box, multi-functional test component, locating plate)