

# Спектрорадиометры CAS 120

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# CAS 120 Array spectrometer

High-performance, versatile array spectrometer from Instrument Systems for the precise measurement of photometric, colorimetric and spectral characteristics in the range 200 to 830 nm.

Ideal for fully automated 24h/7d measurements in LED production and for quality assurance. Can be expanded to a universal laboratory measuring station.



## Introduction

### **CAS 120 Array spectrometer – precise, versatile, attractive price**

Precise, fast and flexible measurement, without exceeding the authorized budget – the CAS 120 spectrometer from Instrument Systems guarantees highly accurate and stable measurements at an attractive price.

Short measuring times, extremely good stray light suppression, high spectral resolution and optical accuracy including a wide range of accessories make the CAS 120 universally deployable. A cost reduction is achieved due to the absence of active cooling of the-thinned CCD detector, while innovative compensation of temperature-related fluctuations guarantees the robustness and reliability required for the production run.

### **Main fields of application**

The CAS 120 array spectrometer is primarily used for price-sensitive applications in the production and quality assurance of LEDs, OLEDs and solid-state-lighting (SSL) products. Its reliability and robustness make it ideal for fully automated 24h/7d production. With fiber optic cables a wide range of measurement adapters and further accessories can be connected for different measurement tasks – up to a full-scale lab measuring station.

## Features

- Model variants UV/VIS and VIS
- Integral density filter wheel (OD 1-4)

- Shutter for automatic dark current correction
- 2048 x 14 pixel back-illuminated CCD detector, 16 bit ADC
- Short integration times up to 4 ms
- USB interface with hardware trigger

## Fields of application

### 1. Spectral measurements in the UV-VIS range

With models UV/VIS and VIS the CAS 120 array spectrometer measures the overall UV-VIS spectral range from 200 to 830 nm. All photometric, colorimetric and spectral characteristics are determined in a single measurement:

- Luminous flux [lm] or intensity [cd]
- Color coordinates [x, y, z] and color temperature [K]
- Color rendering index (CRI)
- Dominant, centroid and peak wavelength [nm]
- Half-band width FWHM [nm]

### 2. Fully automated 24h/7d production

With its short measuring times, robust design and a high degree of accuracy, the CAS 120 array spectrometer is predestined for integration into the LED, OLED and SSL production flow and quality assurance. Specifically for LED manufacture, Instrument Systems offers the LED tester as a complete system, with its own tester software and high-performance hardware interface for fast integration.

### 3. Universal lab measurement station

With the wide range of accessories, the CAS 120 array spectrometer can be expanded to a universal lab measuring system. For this purpose, in addition to the required measurement adapters Instrument Systems also offers the SpecWin Pro and SpecWin Light software packages, which were specially tailored to lab tasks.

# Specifications

## Principal Specifications of the CAS 120

| CAS 120 model          | UV/VIS           | VIS              |
|------------------------|------------------|------------------|
| Spectral range (nm)    | 200 – 800        | 360 – 830        |
| Detector               | Back-thinned CCD | Back-thinned CCD |
| Number of pixels       | 1024 x 14        | 1024 x 14        |
| Spectral resolution *1 | 2.7 nm           | 2.2 nm           |
| Data point interval    | 0.35 nm          | 0.3 nm           |
| Wavelength accuracy *2 | +/- 0.3 nm       | +/- 0.3 nm       |
| Integration time       | 4 msec – 20 sec  | 4 msec – 20 sec  |
| Linearity              | +/- 0.6%         | +/- 0.6%         |

| CAS 120 model        | UV/VIS                                                                                                                  | VIS |
|----------------------|-------------------------------------------------------------------------------------------------------------------------|-----|
| Dimensions (H, W, D) | 133 x 342 x 316 mm <sup>3</sup>                                                                                         |     |
| Power supply         | Wide range input 100 VAC to 240 VAC 50/60 Hz                                                                            |     |
| Power consumption    | max. 35 VA                                                                                                              |     |
| Ambient temperature  | 15 – 35°C; 70% rF non-condensing                                                                                        |     |
| Weight               | approx. 7 kg                                                                                                            |     |
| Applicable standards | Satisfies EN 61010-1:2002-08 (Safety requirements for electrical equipment for measurement, control and laboratory use) |     |

\*1 Approximate values for a 100 µm standard slit. Other values for optional 50 µm or 250 µm slits.

## Accessories

### LED tester

Complete system, comprising CAS 120, power source, SourceMeter and tester software. Developed specifically for integration into LED production flows.

### Further CAS 120 accessories for LED measurement

- LEDGON goniophotometer
- LED 4xx adapter for luminous intensity
- LED 25 averaged LED intensity adapter
- LED test socket (standard + high-brightness)
- LED-81x/-850 test adapter for high-power LEDs
- ACS LED calibration standard
- Integrating spheres from 75 mm to 2000 mm

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