Spectrocolorimeter “TKA-VD”/01

The device consists of one 01-optoelectronic unit (input objective ø21 with a coated lens) and a signal processing unit, interconnected by a flexible multicore cable. In this case, measurements are made only of self-luminous overhead method and cinema screens in brightness mode. A device with a linear detector with a fixed position of the diffraction grating has no moving parts, which makes it possible to simultaneously record a relatively wide visible spectral region with imaging.
The device has a unique ability to calculate the values □□of the correlated color temperature in real time and measure the exact values □□of the coordinates of the chromaticity of the radiation source using a special program protected by the Certificate of Official Registration of the Computer Program No. 2003612396.

Main technical data and characteristics

A type	Direct measurement method
Receiver (for reference)	Polychromator, 128-pixel silicon solar cell array
Optical range (for reference)	390 ÷ 760 nm
Number of survey points (for reference)	61
Field of view (for reference)	2nd
Correlated Color Temperature Reading Ranges	1600 ÷ 16000 K
Chromaticity Coordinate Measurement Ranges	x = 0.004 ÷ 0.734; y = 0.005 ÷ 0.834 u '= 0.007 ÷ 0.623; v '= 0.005 ÷ 0.595
Working brightness limits	10 ÷ 20,000 cd / m2

Limits of the permissible value of the absolute error of measuring the chromaticity coordinates x, y	
– sources with a continuous radiation spectrum	± 0.005
– other sources	± 0.02
The limit of the permissible value of the basic relative measurement error of the correlated color temperature (no more)	5.0%

Overall dimensions of the device (no more)

Display (for reference)	2-line 16 character LCD with LED backlight
Threaded connector for mounting on a tripod	1/4 ″
Indication and power supply unit (no more)	165x85x35 mm
Optoelectronic unit 01 (no more)	240x70x70 mm

Instrument weight (no more) (without tripod)	1.5KG
A NiMH rechargeable battery is used to power the devices – Krona battery standard size	8.4V

The device Spectrocolorimeter "TKA-VD" has the ability to display information in two ways: on the built-in LCD and dumping data via the RS-232 interface (virtual USB).
Updating the data output depends on the brightness level of the light source and takes up to 5 seconds. Switching modes to LCD is performed in a closed cycle by pressing the " **Mode** " button :

one	Measurement of **luminance** L, cd / m ^{2} and **the chromaticity coordinates** (x, y) in the CIE system 31
2	Measurement of **luminance** L, cd / m ^{2} and **the chromaticity coordinates** (u ‘, v’) in the CIE system 76
3	Display **color coordinates** X, Y, Z
four	Display of **correlated color temperature** T $_c$, K

Main advantages

- Compactness and ease of use
- Information output to the built-in LCD
- There are no direct domestic analogues
- Real-time value definitions
- Own program for communication with PC
- Low power consumption
- Simplicity and ease of use
- The optoelectronic unit contains a photometric nut (1/4 inch thread) for mounting on a tripod.

One of the important aspects in the organization of labor in an enterprise, in an organization for the sale of goods or the provision of services is the measurement of conditions at the workplace, and for this, with the help of instruments, a study of the correct illumination of color design is carried out. To measure color coordinates and calculate the color temperature of light sources with good accuracy, our instrument Spectrocolorimeter “TKA-VD” is suitable. This device will also be an indispensable tool for installing digital cinemas and calibrating monitors and displays. This Spectrocolorimeter “TKA-VD” is a success both in large organizations and among private clients who care about the compliance of their work or study place with the requirements of GOST. Spectrocolorimeter “TKA-VD”, the cost of which includes verification, is useful for a variety of research conditions.