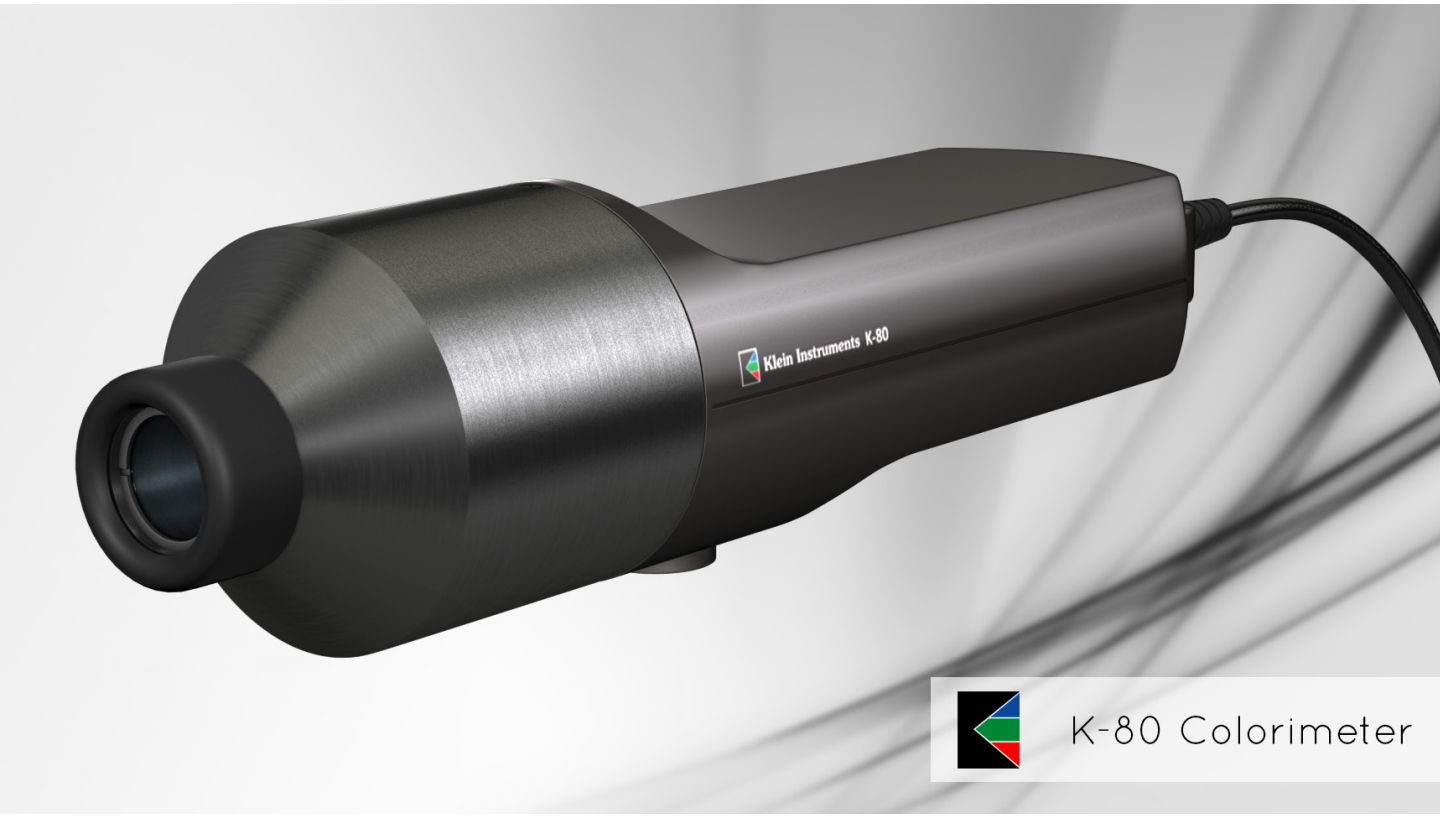
KLEIN K-80
COLORIMETER/ FLICKER METER

Tristimulus Colorimeter for Small Displays



The new Klein K-80 Colorimeter has been upgraded with enhanced optics, giving it a 16X advantage in sensitivity over the previous K-8. The K-80 continues the Klein tradition of high speed, versatile, mobile and accurate colorimeters that Klein has come to be known for. Specially designed optics give the Klein K-80 sensitivity never before seen in a colorimeter for small displays.

KLEIN Instruments Corporation

02-0093-01

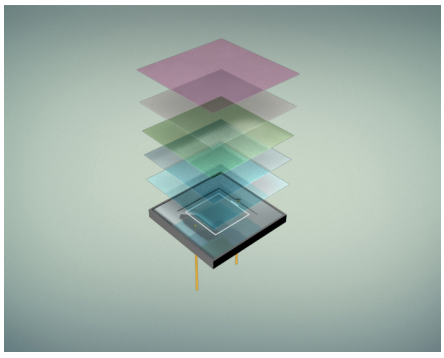
Data Captured in Milliseconds

Ultra fast measurements make this colorimeter the perfect choice for quality control and production line purposes. the K-80 can stream Intensity data in 3.2 milliseconds, and can provide color data in 125 milliseconds. The Klein K-80 is also extremely sensitive and color accurate. Large photodiodes give the probe superior performance even in extremely low light (down to 0.0050 cd/m2). Klein diodes are very large; 5mm x 5mm each, and are thermally stable and linear to report the highest degree of accuracy.

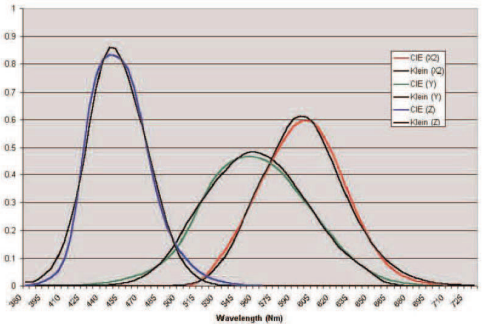
Winning Design

Like all Klein colorimeters, the K-80 is ruggedly constructed with machined aluminum and high impact plastic. The K-80's auto ranging is solid state, and the housing is impact resistant to hold up to the 24 hours a day, 7 days a week usage that the display manufacturers require. The K-80's compact size and light weight make transportation convenient. It is also fitted with a universal tripod mount for easy positioning and integration into workflows.

Exceptionally Accurate Filters



For maximum accuracy, not only is the f1' of Y critical, but the accuracy of X and Z as well. To the right is the actual graph of the Klein filters vs. the CIE graph. Each diode has a specially layered filter pack designed for maximum color accuracy. Klein colorimeters are also rigorously tested to ensure that each device is thermally stable with an operating temperature range of 15-35 C.

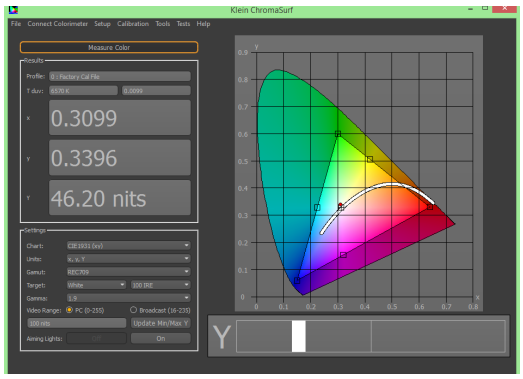


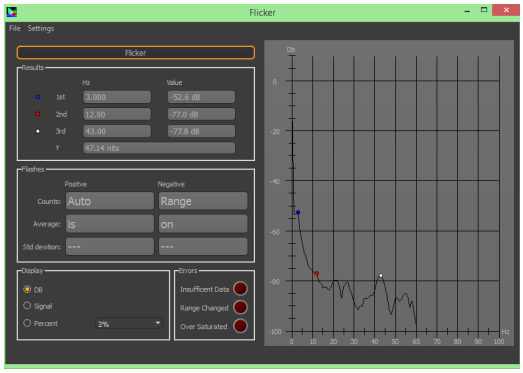
Versatility

The Klein K-80 provides industry standard colorimetetry analysis, as well as the capability to measure flicker. The probe can measure color and flicker on TVs, LED backlit displays, CRTs, phones, tablets and more. The Klein K-80 can also measure and log flashes from various direct light sources. While the Klein K-80 was specifically designed for use with small displays, it is an ideal all in one solution for display calibration and flicker analysis.

Klein Chromasurf

Klein Chromasurf is the free companion software for the K-80. Its streamlined, user-friendly interface is perfect for color calibration and flicker analysis. Also available is the Klein SDK, which allows users to develop customized solutions for measuring with a Klein colorimeter.





- **Cross platform:** Chromasurf is available for Windows, Mac, and Linux operating systems, giving you flexibility in your working environment.
- **Streamlined and Intuitive:** Chromasurf features a simple, straightforward interface, with easy access to all the powerful features needed in calibration.
- **Data Display:** Chromasurf gives the user control over how data is visualized. The graph or chart can be changed to a number of different configurations. Displayed units can also be manipulated for added versatility.
- **Real-time Flicker Analysis:** The software's flicker panel gives immediate access to information as it's gathered. Flicker can be displayed in multiple formats to suit multiple applications.
- **Visual calibration:** Chromasurf provides real-time visual information regarding whitepoint, RGB primaries, gammut, and more.

Flicker

The Klein K-80 also functions as an FFT (Fast Fourier Transform) flicker meter. The probe measures and integrates Y data in the head, streams in real time to the PC, and then the FFT is performed. The Klein K-80 can measure regular flicker between 1-150Hz. Multiple methods for displaying flicker data including JEITA, VESA, Percent Flicker, and Contrast methods are selectable in the software. The Klein K-80 can be used to analyze any luminance source, inlcuding the common refresh-rate flicker in monitors, and random flashes caused by the transmission of current variations through solid state devices (LEDs). All flicker information can be logged and reported with Klein Chromasurf.

Accessories

- Metal Klein Carrying case
- Desktop Tripod
- Contact measurement guard
- Install Disc with Klein Chromasurf, Legacy Software, and Drivers
- Certificate of Calibration

Model		K-80
Receptors		Silicon Photocells
Measurement area		10 mm at 20 mm distance
Acceptance angle		±5.5°
Measurement distance		Any distance
Display range	Luminance	0.00001 to 10,000 cd/m²
	Chromaticity	Displayed as 4– or 3– digit value (selectable)
Luminance	Measurement range	0.00009 to 10,000 cd/m²
	Accuracy	10.00 to 10,000 cd/m²: ±2%
	Repeatability	10.00 to 10,000 cd/m²: 0.1%
Chromaticity	Measurement range	0.0500 to 10,000 cd/m²
	Accuracy	±0.002x,
	Repeatability	± 1% Y
Flicker (VESA)	Measurement range	1 to 150Hz *
	Display range	0.0 to 999.9%
	Accuracy	±1% (flicker frequency: 30 Hz 75% duty cycle square wave)
	Repeatability	1% (flicker frequency: 30 Hz 75% duty cycle sine wave)
Flicker (Contrast Method)	Measurement range	1 to 150Hz*
	Display range	0.0 to 999
	Accuracy	±.4% (flicker frequency: 30Hz AC/DC 10% sine wave)
Measurement speed	Xylv	8 measurements per second, averaging below 4 nits
	Flicker	384 measurements per second*
SYNC mode		Universal
Memory channels		90 stored in colorimeter
RGB Analyzer function		Standard
Interface		USB or RS-232c (38,400 bps maximum)
Multi-point measurement axis		1,4,5, or 9 probes using Klein K-colorimeter software
Software Solutions		Chromosurf (available on website) SDK software (supplied as standard accessory) Contact us for additional software solutions
Operating temperature/humidity range		Temperature: 15 to 35°C; Relative Humidity 70% or less with no condensation. Luminance change: ±2% ±1 digit of reading for white; Chromaticity change: ±0.002 for white, ±0.006 for monochrome from reading of Klein's standard LCD, 120 cd/m² at 23°C 40%RH
Storage temperature/humidity range		0 to 28°C: Relative Humity 70% or less with no condensation; 28 to 40°C: Relative humidity 40% or less with no condensation
Input voltage range		5V (USB power)
Dimensions		Diameter: 55mm
Weight		285g

*for Firmware version 2.0