

HCT-99D

<https://www.gigahertz-optik.com/en-us/product/hct-99d/>

Product tags:



Description

The HCT-99D is portable photometer & luminous color meter for the measurement of illuminance, color temperature, xy and u'v' chromaticity coordinates and delta uv.

Separate Meter and Light Detector

The HCT-99D employs the common photometer design with separate meter and cable connected detector head to enable the operator to stay clear of the detector head to prevent reflected light or shadows from effecting the measurement. The 20mm low profile height detector head allows measurement close to the reference level.

Illuminance (lx) Meter

As an illuminance meter or luxmeter the HCT-99D features a precise photometric corrected photodiode detector with cosine diffuser. It's $V(\lambda)$ spectral sensitivity matches the DIN CIE standard with $f1'$ error of equal to or better than 3% fulfilling the DIN Class A specification.

Luminous Color Meter

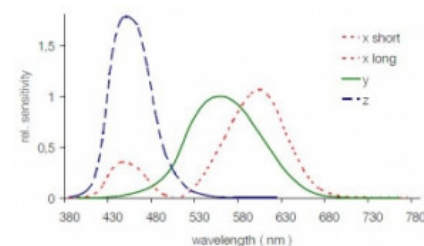
As a luminous color meter the HCT-99D represents the classical RGB tristimulus color meter with three filter corrected photodiodes in correlation with the Red, Green and Blue cones in the human eye. Color readings are calculated by the ratio of the detectors signals. Gigahertz-Optik has improved the standard RGB technology by adding a fourth filtered photodiode into the detector for the x short function for improved measurement uncertainty when measuring blue dominant light sources.

Luminance (cd/m²) Meter

Optional SRT front lens adapters extend the measurement functions of the HCT-99D for luminance measurement.

Simple to use

The HCT-99D meter is ergonomically designed as a hand-held battery operated meter with back lit display. Operating the HCT-99D is simple. The meter set-up is supported by an easy to use menu accessed by front panel buttons. The menu allows selection of the operating mode, the display mode, the detector and measurement parameter. Once set-up all settings are stored and recalled on next power-up unless reprogrammed. In remote control operation the meter is powered through its USB interface for time and battery independent use.



HCT-99D RGB Tristimulus Detector with two-cell x-Sensor for improved BLUE color matching



HCT-99D for Luminance and Luminous Color

Traceable Calibration

Calibration is performed by Gigahertz-Optik's calibration laboratory for light measurement quantities against calibration standards traceable to national and international metrology laboratories.

Menu System Overview

Menu item	Submenu item	Function
Mode	CW	Measurement
	CIE Yxy & T	respective of any
	CIE Yuv & T	offset and
	CIE Yu'v' & T	calibration
	CCT & Δuv	factors programmed is displayed
Setup		CIE Color Values
		Yxy & Color
		Temperature are displayed
		CIE Color Values
		Yuv & Color
Detector		Temperature are displayed
		CIE Color Values
		Yu'v' & Color
		Temperature are displayed
		Color
Offset		Temperature and Δuv are displayed
	Zero Adjust	Performs a zero
	Integration	adjustment of
	Meas. Mode	the internal
	Auto Pow. Off	amplifier and ADC
Range		Sets the measurement (integration) time
		Selects measurement mode (DC,
		Chopper, Pulse Synchronisation,
		Peak-Peak)
		Enables / disables auto power off

Specifications

General	
Sensor	Compact size in ergonomic design with hand-held housing
Display	LCD Graphic Display with switchable LED-backlight text display 4 rows each 14 characters

Detector interface	ITT (-4) type connector
CW integration time	Adjustable in preset steps from 1 ms - 1 s
Parameter adjustment	Front panel keys, adjusted values permanently stored (eeprom),
Interface	remote control via USB interface
Front panel control	3 keys, menu system
Power Supply	Two battery (AA size) (operating time about 250 hrs. without display backlight) USB: powered by USB-Interface
Weight	145 mm x 63 mm x 30 mm / 150 g
Temperature range	Operating: (5 to 40) °C Storage: (-10 to 50) °C
Integral Detector	
Sensor	Light and Color detector with cosine diffuser
Weight	Diameter: 45 mm, Height: 20 mm, Cable length: 2 m / 150 g
Illuminance	0.5 to 199999 lx with 0.01 lx resolution
Luminance with optional lens	1° Lens / ≈ 2.5 to $\approx 5 \times 10^8$ cd/m ² 5° Lens / ≈ 0.1 to $\approx 2 \times 10^7$ cd/m ² 10° Lens / ≈ 0.02 to $\approx 3 \times 10^6$ cd/m ²
min. illuminance for Color Measure	0.5 lx (CIE standard illuminant A) 0.5 lx (CIE standard illuminant D ₆₅)
Color uncertainty	Within reproducibility uncertainty (no filter) < 1 % with BG 34, nominal x = 0.3914 / y = 0.3925 < 1 % with BG 7, nominal x = 0.2646 / y = 0.4057 < 1 % with OG 530, nominal x = 0.5417 / y = 0.4538 < 1 % with VG 3, nominal x = 0.3656 / y = 0.5272 < 2 % with RG 6, nominal x = 0.6860 / y = 0.3135 < 20 % with SFK 100, nominal x = 0.1450 / y = 0.0426 < 1 % with SFK 101, nominal x = 0.4299 / y = 0.5376 < 2 % with SFK 102, nominal x = 0.5457 / y = 0.4511 <i>(Reference light source at 2856 K (A) for filter illumination nominal x = 0.4476 / y = 0.4074)</i>
f1' (spectral mismatch)	x short: 8.5 %
f1' (spectral mismatch)	x long: ≤ 7 %
f1' (spectral mismatch)	y: ≤ 4 % (also photopic vision detector)
f1' (spectral mismatch)	z: ≤ 3 %
f2 (directional response/cosine error)	≤ 3 % (for illuminance measurements)
Calibration uncertainty	≤ 3.5 %
Miscellaneous	

	compatible
	compatible
Warranty	12 month
Accessories	
Transport case	Hard case for transportation (identical to model BHO-06)

Purchasing information

Article-Nr	Modell	Description
Product		
101859	HCT-99D	Meter with (2) battery and manual, detector with calibration certificate, hard case, USB cable, manual
Calibration		
15300682	K-CT4501-SRT-I	Luminance and luminous color calibration of HCT-99D detector with lens
15300671	K-X1-C	Calibration of the HCT-99D meter
15300676	K-CT4501-I	Illuminance and luminous color calibration of HCT-99D with calibration certificate.
Re-calibration		
15310562	KKP-HCT99DCT4501-E-I	<p>Factory Calibration Certificate with DIN EN ISO/IEC 17025:2018 Test Certificate.</p> <p>Calibration of a Gigahertz-Optik CT-4501 color detector. Including adjustment of amplifier stages. Color temperature, color coordinates and illuminance (lx). Calibration data transfer to the accompanying optometer.</p>
Accessories		
100427	SRT-M45/37B	Adapter/holder for 45 type detectors with SRT-M37 components
100428	SRT-M37L-1	Luminance lens with 1° field of view
100429	SRT-M37L-2	Luminance lens with 2° field of view
100430	SRT-M37L-5	Luminance lens with 5° field of view
100499	SRT-M37L-10	Luminance lens with 10° field of view
100707	SRT-M37Z-01	Ambient light shade

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- Repairs & Updates
- OEM & Feasibility Consulting of Customized Solutions

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