

# CT-4501

<https://www.gigahertz-optik.com/en-us/product/ct-4501>

**Product tags:** VIS



# Description

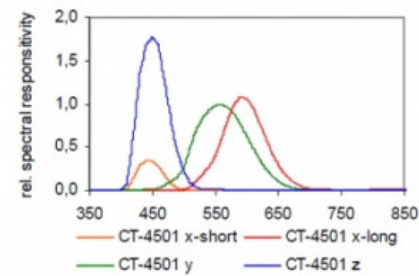
The CT-4501 is an RGB detector for measurement of the illuminance and luminous color. Its photometric responsivity and the cosine field of view function of the Y-detector correspond to the DIN 5032- Article 7 quality class B. Instead of the red, green and blue receptors found in the human eye and in many competitive products, the CT-4501 is equipped with four photodiodes. Separation of the x function in x-short and x-long photodiode enables the CT-4501 RGB detector to guarantee outstanding measurement results when combined with blue dominant light spectra.

Each measurement channel in the CT-4501-1 RGB-detector has a signal line with a BNC connector. This enables connection of the measurement head to P-9801 series optometers. Typical applications of these measurement devices include industrial manufacturing processes where the switching mode of luminaires and light flashes have to be evaluated.

The CT-4501-4 RGB detector is equipped with –4 plug suitable for connection onto both mobile and stationary optometers from the X1 series. Typical applications of these measurement devices include RGB monitor detectors and integrating sphere light sources.



CT-4501-1 RGB detector for P-9801 optometers



CT-4501 typical XYZ responsivity

## Traceable Calibrations


The CT-4501 detectors are calibrated in terms of their absolute illuminance responsivity, luminous color responsivity and relative spectral responsivity by the Gigahertz-Optik calibration laboratory for optical radiation measurands. The calibrations are documented in an individual calibration certificate. The design and contents of the calibration certificate are in accordance with the ISO 17025 specifications.

# Specifications

Specification	
f1' (spectral mismatch)	$f_1 \leq 9.5\%$
spectral miss matching x long sensor	$f_1 \leq 8\%$
spectral miss matching y sensor	$f_1 \leq 4\%$
spectral miss matching z sensor	$f_1 \leq 8\%$
typical responsivity	0.07nA/lx (x-short)
typical responsivity	0.03nA/lx (x-long)
typical responsivity	0.04nA/lx (y)
typical responsivity	0.01 nA/lx (z)

Input optics	diffuser window with 10mmØ, f2≤3%
temperature range	5-40°C
<b>Miscellaneous</b>	
Connector	coax cable each 2m long with BNC (-1) connector or coax cable 2m long with ITT (-4) connector

## Configurable with

Product Name	Product Image	Description	Show product
UMDP		Detector ports for the hollow spheres of the UM series modular construction integrating spheres. Features: Mounts for attaching detectors, fiber optic connectors and fiber pipes.	<a href="https://www.gigahertz-optik.com/en-us/product/umdp">https://www.gigahertz-optik.com/en-us/product/umdp</a>

## Purchasing information

Article-Nr	Modell	Description
<b>Product</b>		
100651	CT-4501-4	detector, protection cap, calibration certificate
102378	CT-4501-1	detector, protection cap, calibration certificate
<b>Re-calibration</b>		
15300676	K-CT4501-I	re-calibration with calibration certificate
15310562	KKP-HCT99DCT4501-E-I	Factory Calibration Certificate with DIN EN ISO/IEC 17025:2018 Test Certificate.  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.