



A  **GAMMA SCIENTIFIC** company



C Series flexOptometers



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About UDT Instruments

For over 40 years UDT Instruments, a Gamma Scientific company, has been trusted by the world's leading organizations to provide accurate light measurement systems.

UDT Instruments manufactures precision photometers, radiometers, colorimeters and photosensors for optical measurement applications.

UDT Instruments designs the most accurate photometric filters in the world, with an unsurpassed ability to match the human eye's sensitivity to color and light intensity. Each sensor includes a NIST-traceable calibration.

High-performance optometers from UDT Instruments can be combined with our integrating spheres and detectors to create complete photometric and radiometric test systems with industry leading accuracy.

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The C Series flexOptometers are thermo-electrically cooled photometer/radiometer systems designed for high-sensitivity measurement applications. The C Series includes an integrated controller that is compatible with UDTi thermo-electrically cooled silicon and indium gallium arsenide (InGaAs) detectors.

C Series flexOptometers offer 10 times greater sensitivity than the standard flexOptometer products, making it the ultimate tool for measurement of low light levels. The C1 model provides single stage cooling of the detector, and the C2 model provides dual stage cooling for applications that require a detector/filter combination. For high sensitivity applications, cooling of the detector and the filter is critical to accurate measurements.

The C Series flexOptometers have eight measurement ranges accessible through the front panel touch display or via serial and USB interfaces.

Options include high-accuracy photometric correction filters ($f1' \sim 0.8\%$), flat response filters, and NVIS compatibility filters with field-of-view lenses, making the C1 and C2 Series flexOptometers the standard for any light measurement requirement.

C Series flexOptometers allow for extremely low dark current levels (<70 femtoamps; 70×10^{-15} amps, at room temperature with the silicon detector) and excellent stability.

Standard calibrations are available for any configuration of the C1 and C2 series of flexOptometers from Gamma Scientific's NVLAP accredited testing laboratory.



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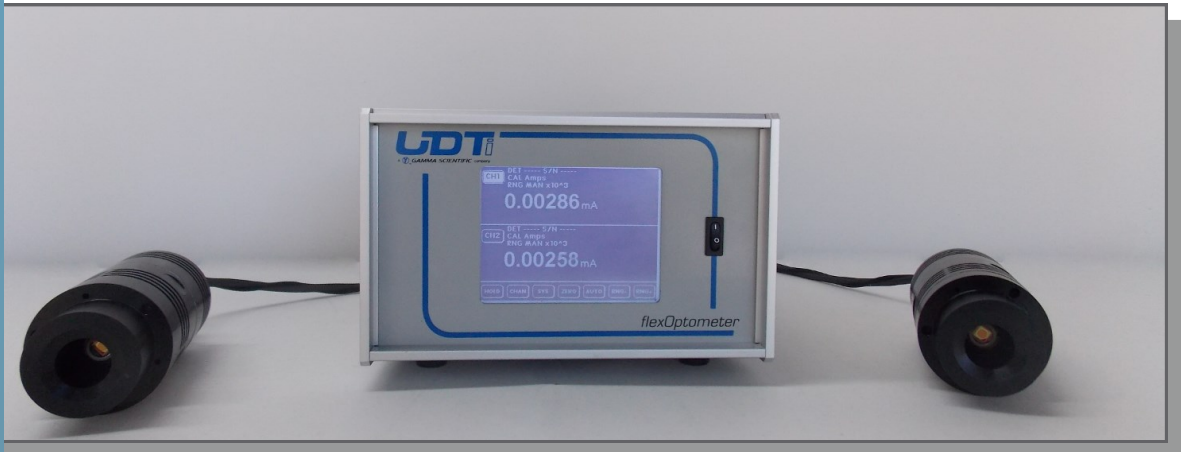
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Features

- Temperature stabilized silicon and InGaAs detectors available covering 200 – 2600 nm
- Temperature stabilized correction filters available
- High accuracy photopic correction $f1' \sim 0.8\%$
- NVIS compatibility filters and lenses
- High sensitivity down to 10^{-13} Watts or 10^{-6} lux
- Eight decades of dynamic range
- USB, RS-232 computer control

Applications

- Display measurement photometry
- LED radiometry
- Night-vision compatibility measurements
- Metrology lab primary standard detector
- Customized optics available for any application



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C Series flexOptometer Specifications

Gain	10 ¹⁰ to 10 ³ amps	
Range	Eight decades; touch front panel display readout in auto range or manual range. Computer controlled output through serial RS-232 or USB protocol.	
Output	Direct measurement output with your selected sensor calibration responsiveness; i.e.: Watts, lux, cd/m ²	
Linearity	Range-to-Range Linearity < 0.05%	
Temperature Variation	<5 ppm (parts-per-million) per degree Celsius	
Noise	<70 femtoamps; <70 X 10 ⁻¹⁵ on range 10 ¹⁰ ; averaged system measurement with a temperature stabilized silicon sensor	
Frequency Roll-Off	Gain	Half Power Frequency
	10 ³	35 KHz
	10 ⁴	2200 Hz
	10 ⁵	220 Hz
	10 ⁶	100 Hz
	10 ⁷	100 Hz
	10 ⁸	100 Hz
	10 ⁹	48 Hz
10 ¹⁰	12 Hz	
Length (Sensor)	4.15 inches (10.5 cm)	
Diameter (Sensor)	2.5 inches (6.4 cm)	
Length (flexOptometer)	13.00 inches (33.02 cm)	
Width (flexOptometer)	8.55 inches (21.72 cm)	
Height (flexOptometer)	5.22 inches (13.26 cm)	
Temperature Stability	Short term (1 hr.) < 0.001° C, long term (24 hr.) < 0.003° C	
Bipolar Output Current	+ 1.5 amp max	
Maximum TEC Output Power	12 Watts	
Power	External Switching Power Supply 12 Volts DC; 5.0 amps minimum	

*Standard Operating Range for Gamma Scientific Instruments- Temperature: Minimum: 0°C (32°F) - Maximum: 35°C (95°F); Relative Humidity (Non-Condensing): Minimum: 20% - Maximum 70%

**The information contained in this data sheet is based on Gamma Scientific's internal evaluation and is subject to change at any time without notice.

***Revised on June 9, 2015