

# SC-5500 SYSTEM CONTROL RADIOMETER

A comprehensive, and flexible, out-of-the-box system control radiometer



SC-5500 SHOWN WITH 3P-LPM LASER POWER SPHERE

## COMPREHENSIVE

Labsphere's SC-5500 System Control radiometer monitors photodetector. The system controller can be used as a photometer (for photometric applications) or a radiometer (for radiometric applications). Labsphere will calibrate the SC-5500 to monitor luminous and radiant flux, luminance, radiance, intensity, and illuminance and irradiance, making it an integral component of any calibration system.

Use the SC-5500 across a range of applications such as a uniquely designed imaging calibration instrument, a lamp measurement photometer, or a laser power measurement system.

## FEATURES:

- Compatibility with Si, Ge, InGaAs, and many other photovoltaic detectors
- Dynamic Range of 7 Decades of Sensitivity
- Stores up to 100 Photometric and Radiometric Calibration Constants
- 32 Output Lines for Computer Control of System Peripherals
- IEEE-488 and RS232 Computer connections

## BEST FOR:

- Controlling Calibration Systems
- Photometric and Radiometric Monitoring of Camera Calibration Systems
- Lamp Measurement
- Photometry
- Laser Power Measurement

## FLEXIBLE DESIGN

The SC-5500 is both a highly flexible, programmable radiometer/photometer and a system controller. The integrated microprocessor-based controller is the communication hub for Labsphere's peripheral components including power supplies, detector multiplexers, and variable attenuator. With a variety of interchangeable detector assemblies, integrating spheres and components, light sources, and power supplies, you are able to create, upgrade, or expand a calibration system in minutes.

## OUT-OF-THE-BOX SOPHISTICATION

The SC-5500 operates out-of-the-box. A 64 digit backlit LCD display allows you to view measurement results, select calibration factors, and set display features and remote communication parameters.

Operation features include up to 100 programmed optical radiation calibrations, manual and auto ranging, digital or analog display, digital filtering, 3 ½ or 4 ½ digit display, display zero, and display normalization display.



SC-5500

# Specifications

## Model Number

SC-5500 B, Benchtop System Control Radiometer/Photometer  
 SC-5500 R, Rack-mountable System Control Radiometer/Photometer

## Order Number

AS-01636-100  
 AS-01636-200

## Properties and Performance

Current Dynamic Range At 25°C	7 decades/A; 1pA - 1mA			
	Range	Resolution	Accuracy (% reeading + counts) 24 hour period	Accuracy (% reeading + counts) 1 year period
	1 nA	0.1 pA	0.05 + 2	0.1 + 5
	10 nA	1 pA	0.05 + 1	0.1 + 2
	100 nA	10 pA	0.05 + 1	0.1 + 2
	1 µA	100 pA	0.05 + 1	0.1 + 2
	10 µA	1 nA	0.05 + 1	0.1 + 2
	100 µA	10 nA	0.05 + 1	0.1 + 2
	1 mA	100 nA	0.05 + 1	0.1 + 2
Voltage Dynamic Range At 25°C	5 decade/V; 10mVdc - 50Vdc			
	Range	Resolution	Accuracy (% reeading + counts) 24 hour period	Accuracy (% reeading + counts) 1 year period
	10 mV	1 µV	0.05 + 2	0.1 + 5
	100 mV	10 µV	0.05 + 1	0.1 + 2
	1 V	100 µV	0.05 + 1	0.1 + 2
	10 V	1 mV	0.05 + 1	0.1 + 2
	50 V	5 mV	0.05 + 1	0.1 + 2
	Display Resolution	4 ½ digits		
Maximum Reading Rate	3 readings/second			
Input	Single Channel			
Input Connector	twist-lock- triaxial			
Input Bias Current	10 pA maximum			
Input Impedance	100 MΩ parallel with 100 pF			
Compatible Detectors	Photovoltaic (Si, Ge, INGaAs)			
ADC Resolution	20 bits			
Nonlinearity	± 1 count			
Temperature Coefficient	± (0.02% of reading + 0.5 counts) per °C			
Operating Environment	0° to 50°C, 0% to 70% relative humidity at 35°C Linearly derates 3% relative humidity per °C from 35° to 50°C			
Calibration	Digital factors are stored in the EPROM			
Calibration Factors	2 to 100 coefficients may be stored in the EPROM			
Power Requirements	100-120/220-240 VAC; 50/60 Hz, 1/0.5 Amp			
Computer Interface	IEEE-488 and RS-232C (Default settings: 8 data bits, 1 stop bit, no parity, 9600 baud)			
Weight	14 lbs (4.75kg)			
Dimension W x D x H	16.5 x 16 x 5 (41.9 x 40.6 x 12.7 cm)			