

## **CES200/CFC SERIES EXTENDED AREA SOURCES**

The **CES200/CFC Series** are the industry standard for extended area infrared radiation sources with a maximum absolute temperature of 200°C. The fast slew rates, high stability, uniformity and emissivity of the CES200 Series sources make them an ideal choice for most IR imaging system testing requirements. Temperatures below 0°C to 40°C are achieved with the addition of an external chiller.

**Fast slew rates and exceptional stability** are the result of EOI's 40 years of blackbody/controller design experience. The temperature controller utilizes a proprietary Proportional Integral Derivative (PID) control loop to provide fast setting times, zero set point drift and excellent temperature stability.

**High Accuracy** in the displayed temperature reading is assured with the use of extremely stable probes and high resolution, precision processing electronics.

**Emitting surface sizes** range from 2x2 inch (51mmx51mm) to 24x24 inch (610mmx610mm). Custom sizes are also available upon request.

**Both IEEE-488 and RS232 Serial Interfaces** are included as standard equipment with the CES200 Series controller allowing greater flexibility for integration into automated test systems.

**A user-friendly menu system**, accessed with a keypad on the front panel of the controller, allows for easy configuration and operation of the CES200 Series system.



**Calibration** of a CES200 Series source is a quick and easy procedure using the front panel keypad and is traceable to the National Institute of Standards and Technology (NIST). The calibration procedure may be easily automated using EOI's Calsof99 calibration software, a Model LT100 thermometer and a computer with a GPIB interface. The recommended calibration cycle for the CES200 Series is six months.



**The CES 200 Sources are suitable for laboratory of field use and features:**

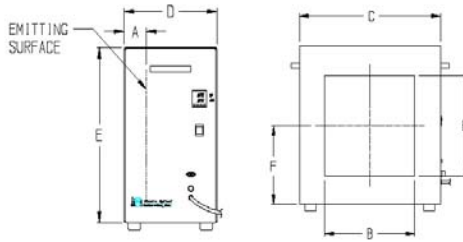
- ◆ **Fast Slew Rates**
- ◆ **High Stability and Accuracy**
- ◆ **Many Standard Sizes**
- ◆ **Two Computer Interfaces**
- ◆ **2 Year Warranty**

CES200 Series extended-area sources are available in stand-alone configurations or integrated into any of EOI's Target Projectors, Simulators and Automatic Test Stations.

### **Available Options**

- ◆ Remote controlled shutter
- ◆ Extended ambient range operation
- ◆ Extended low end - CFC
- ◆ Micro Groove - MG for enhanced Emissivity





### Source Dimension in Inches (mm)

Model	Depth to Emitting Surface A	Emitting Surface B	Case Width C	Case Depth D	Case Height E	Optical Centerline F
CES200-02	0.4 (10)	2.0 (51)	3.6 (91)	5.8 (147)	4.6 (117)	2.7 (69)
CES200-04	1.1 (28)	4.0 (102)	8.1 (206)	6.8 (173)	7.6 (193)	4.0 (102)
CES200-06	1.0 (25)	6.0 (152)	10.9 (277)	6.8 (173)	12.7 (323)	7.2 (183)
CES200-08	1.1 (28)	8.0 (203)	12.1 (307)	8.7 (221)	11.1 (282)	6.0 (152)
CES200-10	1.0 (25)	10.0 (254)	13.1 (333)	7.2 (183)	13.6 (345)	7.0 (178)
CES200-12	1.2 (31)	12.0 (305)	14.9 (378)	8.7 (221)	15.1 (384)	7.8 (198)
CES200-14	1.2 (31)	14.0 (356)	16.1 (409)	8.0 (203)	16.6 (422)	8.5 (216)
CES200-24	1.2 (31)	24.0 (610)	29.0 (737)	6.3 (160)	29.0 (737)	14.5 (368)

### Specifications

Temperature Range	-40° to 200°C
Temperature Accuracy	±0.03°C from 0° to 100°C ±0.05 for < 0°, from 100 to 200°C
Stability	±0.005°C for -40° to 75°C ±0.003°C for 0° to 75°C ±0.005°C for 75° to 150°C ±0.010°C for 150° to 200°C
Uniformity	±0.01°C within ±5°C of ambient temperature ±0.3% thereafter within central 80%
Slew Rate including Settling Time to 0.01°C	10°C: 80 sec
Emissivity	0.97 ±0.02
Emissivity with MG	0.992 (F =0.0015), (2 to 20 μm)
Set Point Resolution	0.01°C
Display Resolution	0.01° or 0.001°C or 0.0001°C
Cable length	8 feet standard, others available
Controller Size*	5.25" H x 19" W x 18" D (rack mount)
Line Voltage*	100,120,220 or 240 VAC ± 10% (switch selectable), 50.60 Hz

\*Larger systems require 220V or 240V and may require a 7 inch high controller or a power amplifier in addition to the temperature controller.