

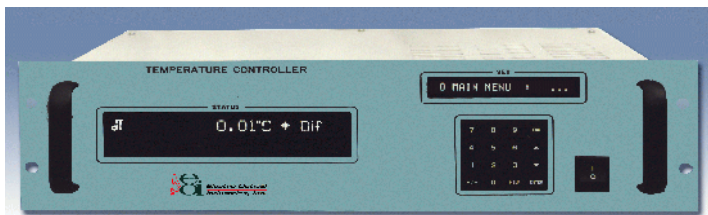
CDS100 Differential Temperature Sources

The EOI CDS Differential Temperature sources create precise, adjustable thermal contrast patterns primarily used in testing and characterization of IR imaging systems.

The CDS Series features set point resolution of 0.003°C. These exceptional capabilities enable accurate evaluation of the most sensitive IR systems.

Configuration

These sources are available in a stand alone configuration or integrated into one of the many Target Simulators and Automatic Test Stations EOI offers. Source sizes (target area with 15°FOV) range from 1.80x 1.80 to 180x 180.



Controller

Each Commercial Differential Source is supplied with a 19" rack mount digital controller. Operated manually from the front panel keypad or automatically using any of the four built in computer interfaces, this versatile controller also controls all optional equipment.

Calibration

Each CDS100 System is calibrated at EOI prior to shipment. Recommended calibration cycle is 6 months. Calibration is traceable to ITS-90 via the National Institute of Standards and Technology (NIST). Calibration tables are stored in memory and are easily updated via the front panel keypad.

Slew Control

A remote hand held controller box is included which may be used to facilitate observer optimization while measuring MRTD.



Menu Selections Include:

Temperature Setting

Control Mode Set

- Differential Mode

- Absolute

- Differential Mode

- Effective Differential

Display Resolution

K, /C, /F

Remote/Local Control

Ready Window Tolerance

Interface Parameters

Power On Configuration

Self Test

Calibration:

- Access by User Assigned Password

Targets

An extensive list of standard four bar, slit and circular targets is available. EOI also supplies custom targets. Custom targets can be any pattern with a minimum dimension of 0.001" (.025mm).



OPERATIONAL MODES

Differential Temperature Mode

Temperature control of the thermal contrast between controlled surface (source) and target.

Absolute Temperature Mode

Control of source at absolute temperatures.

Effective Differential Mode

Compensation for emissivity differences or losses in adjunct optical systems so that zero differential temperature corresponds to zero radiometric contrast.

Computer Interfaces

Complete computerized control of the system is available through built-in interfaces.

- IEEE 488 RS-232,
- RS-422 and RS-485

Source Dimension In Inches (mm)

Model Number	Depth to Emitting surface	Emitting Surface	Width	Depth	Height	Optical Centerline
	A	B	C	D	E	F
CDS100-02	1.2	1.8 (45)	3.5	6.6	4.8	2.7
CDS100-04	2.7	2.9 (73)	8.0	8.5	7.5	3.5
CDS100-06	2.7	4.6 (116)	10.0	9.7	9.5	5.0
CDS100-08	2.7	6.6 (167)	12.0	10.4	11.5	6.0
CDS100-10	2.7	8.6 (218)	13.0	9.4	13.5	7.0
CDS100-12	3.0	9.6 (243)	14.0	9.0	14.5	7.5
CDS100-14	2.9	11.6 (294)	16.0	9.7	16.5	8.5
CDS100-18	2.7	15.5 (394)	27.5	9.5	32.0	16.3

Specifications

Stability	±0.003/C
Absolute Temperature Range	0 to 100/C
Differential Temperature Range	-25 to +75/C
Emissivity	0.97±0.02
Absolute Temperature Accuracy	±0.03/C
Set Point Resolution	0.01/C
Uniformity (within ±5) T)	±0.01/C
Display Resolution	0.01 or 0.001
Slew Rates Including Settling Time to 0.01/C	0.1) T - 18 to 22 sec. 1.0) T - 30 to 35 sec. 10) T - 60 sec.
Cable Length	8 feet standard, others available
Controller Size*	5.25" H x 19" W x 18" D (rack mount)
Line Voltage*	100, 200, 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.

How to Order

Select desired model and specify option by adding suffix. Example: Model CDS100-04/W Differential Source with 4" x 4" clear aperture/2.9" x 2.9" useable target area with optional 12 position manual target.