Calibration Source CS500

Temperature Source for Calibrating of Pyrometers

Small Portable Calibration Source for Calibration of Radiation Pyrometers at Temperatures up to 500°C

- **Temperature range: ambient +10°C to 500°C**
- **2 large temperature displays for setpoint and actual source temperature**
- **Fast temperature setting via arrow keys**
- **Sensor input Type K for secondary temperature measurement**
- **RS232 connection for remote digital interface for user selectable temperature set points and read out of blackbody temperature.**
- **Calibration correction table with 48 correction points employing CS500 software allows user to build a calibration curve utilizing a transfer standard pyrometer to obtain true radiometric temperature calibration. This method corrects for thermometric calibration errors by adjusting temperature offsets.**

Application

The CS500 is a small, portable calibration source, which is used for the verification of pyrometers up to 500°C. Setpoint and actual value are shown on the large screen at the same time, the setpoint can be easily changed via arrow keys. The maximum temperature is reached in 30 minutes, the heating operation is shown by an LED.
In addition, the CS500 provides an RS232 interface port to control and read out the device data via interface commands.
Further, the CS500 can be used as thermocouple meter. Once a thermocouple is connected to the front port, the setpoint value display switches to external temperature sensor measurement.

Technical Data

Temperature range	Ambient +10°C to 500°C
Setpoint entry	25 to 500°C
Temperature uniformity	±0.1°C
Temperature uncertainty	±0.25% ±1°C
Heating time	30 min (25°C to 500°C)
Aperture	Ø 30 mm
Depth	150 mm
Emissivity factor	> 0.99 (at wavelength ranges between 5 and 14 µm)
Control sensor	Thermocouple type K. For the control sensor, in the range of 25 to 500°C, a correction table can be stored with a total of 48 correction points with a max. distance of each point of ±12.7°C
Input external sensor type K	Measuring range -50 to 500°C Uncertainty 0.3°C ±1 digit
Measuring rate int. / ext. sensor	> 5 Hz
Actual value display	4 digit 7 segment LED, 14 mm high, resolution 1/10°C
Setpoint display or actual value for external sensor	Automatic switch with plugged external sensor; 4 digit 7 segment LED, 14 mm high, resolution 1/10°C
Heating indication	Red LED
Serial Interface	RS232, galvanically isolated, optionally with RS485 (addressable)
Thermal protection	■ Built-in thermal fuse in the heating circuit ■ Device temperature monitoring ■ Radiator temperature monitoring ■ Automatic cool down (fan over-running) ■ Control sensor monitoring with switching off the heating in case of failure
Power supply	230 V AC, 50 Hz
Power consumption	750 VA
Instrument fuse	4 A delay fuse
Dimensions (H x W x D)	140 x 250 x 260 mm
Weight	5.9 kg
Operating temperature	0–50°C
Storage temperature	-20–85°C
CE label	According to EU directives for electromagnetic immunity

Reference Numbers

CS0500 CS500 Calibration source

Recommended Accessories:
DI16 Precision Transfer Standard Pyrometer Diadem, 250–1400°C, spectral range 1.45–1.8 µm, to verify calibration sources

Sensortherm GmbH
Infrared Temperature Measurement and Control
Hauptstr. 123 • D-65843 Sulzbach/Ts.
Phone.: +49 6196 64065-80 • Fax: -89
www.sensortherm.com • info@sensortherm.com