

Non-contact Temperature Measurement

Non-contact Infrared Temperature Measurement System — NCIT-LC Advanced



Design Features

- * Rugged IP65 rated sensing heads survive ambient temperatures to 248°F (120°C) without cooling
- * Precision high resolution optics, up to 22:1
- * Fast response times of < 20 ms
- * Miniature sensing head fits where other sensors can't
- * Intuitive user interface with high resolution LCD display
- * Automatic sensing head detection — plug and play
- * User configurable analog outputs (0/4-20mA, 0-5/10V, type J, K, R or S t/c)
- * Isolated solid state alarm relay output
- * Adjustable Emissivity, Peak Hold, Valley Hold and Averaging functions
- * Standard USB 2.0 digital interface for remote setup

The NCIT-LC Advanced is a powerful **two-piece** infrared temperature measurement system with miniature sensing head and separate communications electronics. The sensor is small enough to be installed just about anywhere, yet it outperforms much larger systems.

Available in a rugged cast metal electronics enclosure, the **LC-Advanced** offers a host of advanced signal processing features you won't normally find in sensors costing much more.

Designed for an **endless range of applications**, the **LC-Advanced** features a variety of sensing head options: Low temperature sensors with a measurement range of -40°F to 1832°F (-40°C to 1000°C), fast response (<20 ms) sensors, and 5 μ m spectral response sensors, providing an impressive array of solutions for your process needs.

The **rugged stainless steel sensing head** ensures reliable long term performance in the harshest industrial environments. Although the LC-Advanced sensor is small in size, it has all the performance you need with 1% accuracy, and a **choice of high resolution optics up to 22:1**.

Standard features include adjustable Emissivity, Peak Hold, Valley Hold, and Averaging functions. All sensor parameters are easily adjustable on the built-in user interface keypad, or remotely with the Windows® 7 compatible DataTemp software via the **built-in USB interface**.

Advanced features further extend the power of the **LC-Advanced** and include user configurable alarm output, digital "recipe" table inputs that can be easily interfaced to an external control system, an external reset input for signal processing, and external inputs for analog emissivity adjustment or reflected energy compensation.

Optional RS485, Modbus® or Profibus® network interfaces simplify integration with a factory or machine control system.

The **NCIT-LC Advanced** — a new level of innovation and performance in non-contact temperature measurement!

Specifications

Spectral Response:LT (Low Temp.)— 8 to 14 microns
.....G5 (glass)— 5 microns

Optical Resolution: LTS — 2:1, 10:1, 22:1
LTF — 10:1
G5 — 22:1

Temperature Range:
LTS (2:1, 10:1) -40° to 1112°F (-40° to 600°C)
LTF (LTS 22:1) 32° to 1832°F (0° to 1000°C)
G5S 482° to 3002°F (250° to 1650°C)

System Accuracy: $\pm 1\%$ of reading or $\pm 1^\circ\text{C}$, whichever is greater

Thermocouple Output Accuracy: $< 1^\circ\text{F}$ (0.5°C)
 $\pm 1\%$ of reading or $\pm 2.5^\circ\text{C}$,
whichever is greater

System Repeatability: $\pm 0.5\%$ of reading or $\pm 0.5^\circ\text{C}$ (1°F),
whichever is greater

Temperature Resolution: LT 0.1°C or 0.2°F

System Response Time: LTS 130ms (90%)
LTF 20ms (90%)
G5 55ms (90%)

Emissivity: 0.100 to 1.100 digitally
adjustable increments of .001

Transmission: 0.1 to 1.000 digitally
adjustable increments of .001

Signal Processing: Peak hold, valley hold, variable averaging
filter, adjustable up to 998 seconds