



## LT-440™ Dielectric Channel Specifications



The LT-440 Dielectric Channel, an upgrade of the LT-439, is a cost effective, compact instrument designed for cure monitoring in R&D, Quality Control/Quality Assurance and manufacture of thermoset materials—resins, composites, paints and coatings. The LT-440 will accept all Lambient Technologies dielectric/conductivity

sensors, and most other dielectric or conductivity sensors.

Measurements from the LT-440 may be interfaced to any control network through its standard RS-232 serial port or optional RS-485 serial port. Each LT-440 supports one dielectric sensor and one thermocouple but up to 127 individual Dielectric Channels may be connected on a single RS-485 line. This low-cost flexibility eliminates complex cabling and allows simultaneous, multi-channel cure monitoring of material state at any point in a large part.

Lambient Technologies provides optional CureView software to control the LT-440 for a complete dielectric cure monitoring system. With CureView the user can define cure monitoring parameters, acquire and store data, recall and analyze data, and plot and print results. Information about cure state from the LT-440 also can be easily incorporated in the user's own process control software.

The standard LT-440 Dielectric Channel has 10 Hz, 100 Hz, 1 kHz and 10 kHz excitation frequencies. An extended frequency option expands the range to 1 Hz – 100 kHz with integer frequencies within each decade. When used with either disposable or reusable dielectric/conductivity sensors, also available from Lambient Technologies, or the user's own sensors, the LT-440 Dielectric Channel Interface becomes a complete system for dielectric cure monitoring in all processing environments.

## Specifications

**Physical:**

**Dimensions:** 8.9" width x 4.3" height x 7.9 depth"  
(22.6 cm width x 10.9 cm height x 20.1 cm depth)

**Weight:** 2 lbs (0.9 Kg)

**Electrical:**

**Power:** 100 VAC – 240 VAC, 50/60 Hz autoswitching universal input, 1 A max

**Measurement:**

**Available standard frequencies (Hz):**

10	100	1 K	10 K
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**Extended frequency option (Hz):**

1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0
10	20	30	40	50	60	70	80	90
100	200	300	400	500	600	700	800	900
1.0 K	2.0 K	3.0 K	4.0 K	5.0 K	6.0 K	7.0 K	8.0 K	9.0 K
10 K	20 K	30 K	40 K	50 K	60 K	70 K	80 K	90 K
100 K								

**Measurement speed:** 1.5 sec or less / measurement for 10 Hz or greater  
6 sec/measurement for 1 Hz

**Excitation amplitude:** Sine wave, 2.0 V nominal (4.0 V peak-to-peak)

**Inputs:** 1 dielectric sensor, 1 thermocouple, 2 digital triggers (0-5 V)

**Outputs:** 2 digital outputs (0-5 V)

**Dielectric sensor type:** Interdigitated, parallel plate or single electrode

**Thermocouple type:** J standard, K by special order

**Communications:** USB (RS-232 with adapter standard), RS-485 optional

**Multi-channel capability:** Up to 127 LT-440 units on a single RS-485 line

**Software:**

**Optional—CureView site license:** Complete data acquisition package with full analysis capability and features, including Critical Point Analysis.



**Lambient Technologies L.L.C.**  
649 Massachusetts Ave., Cambridge, MA 02139, USA  
(857) 242-3963  
<http://www.lambient.com>  
[info@lambient.com](mailto:info@lambient.com)