



Ultra Contact Label

Enabling Better Quality and Safety Decisions Through Temperature Monitoring

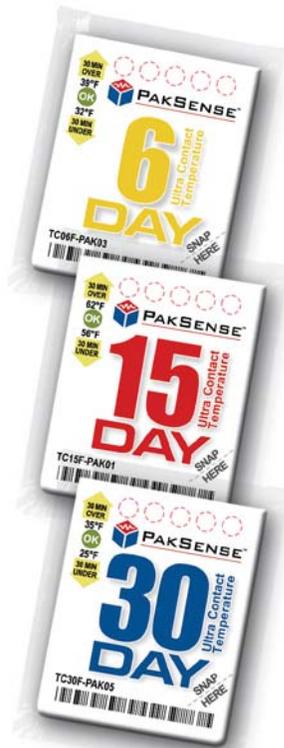
PakSense Ultra Contact Labels are flat, about the size of a sugar packet, and are able to digitally record time and temperature of a product's environment during distribution or storage. Standard temperature range specifications for the most frequently shipped perishable items, including beef, poultry, seafood, and different produce categories are pre-programmed into labels by PakSense. Users simply order the appropriate label, snap the corner to activate it, and attach it to product or product packaging prior to shipping.

PakSense Ultra Contact Labels sample temperature every minute, ensuring that significant temperature events are captured. Labels are encased in waterproof food-safe packaging and are identified by a unique serial number. They are different than other temperature monitoring devices because they take a surface read of whatever they are attached to, providing a closer approximation of actual product temperature versus general ambient temperature readings. PakSense Ultra Contact Labels are easy to use and provide incredible insight into what happens to product during distribution.

KNOWLEDGE EMPOWERS

PakSense Ultra Contact Labels can be read in two ways. First, LEDs (light emitting diodes) indicate if a shipment remained within acceptable temperature specifications. LED indicators are useful because they provide visual indication of whether temperature abuse occurred during shipping, enabling quick accept/reject decisions.

For a more comprehensive view of temperature fluctuations experienced during distribution, all temperature readings stored in the memory of the PakSense Ultra Contact Label can be downloaded via the PakSense Reader into a Microsoft Excel spreadsheet. Once downloaded, a Microsoft Excel document is generated and is automatically saved as the serial number of the label. Each Excel document contains a summary page of temperature information, a graph, and detailed time and temperature listings. The data in the spreadsheet is locked and protected with a secure computer-generated password. While the data is locked down, annotations may still be added to the graph.



PakSense has developed standard label configurations that should satisfy the majority of your needs. Labels are available with visual temperature alert indicators and as data loggers.

VISUAL ALERT LABELS

PakSense Ultra Contact Labels with visual alert indicators will flash a warning LED if product is out of temperature range for 30 minutes or more. They are also programmed with a 30 minute delay after activation to allow for loading and to prevent false alerts from triggering.

6 Day PakSense Ultra Contact Label – for product in transit 6 days or less. The 6 day label records a hard temperature data point every five minutes.

15 Day PakSense Ultra Contact Label – for product in transit 7 to 15 days. The 15 day label automatically stores a data point every 15 minutes. During this period, temperature is sampled every minute and an average is calculated every five minutes. If there is a significant temperature swing of 2.7°F (1.5°C) or more during that 5 minute period, the label will record the five minute average. In this manner, temperature is recorded every 15 minutes but significant events are recorded as well.

30 Day PakSense Ultra Contact Label – for product in transit 16 to 30 days. The 30 day label automatically stores a data point every 30 minutes. During this period, temperature is sampled every minute and an average is calculated every five minutes. If there is a significant temperature swing of 2.7°F (1.5°C) or more during that 5 minute period, the label will record the five minute average. In this manner, temperature is recorded every 30 minutes but significant events are recorded as well.

Please reference the PakSense Part Number Insert for a listing of available temperature alert ranges.

DATA LOGGERS

PakSense Ultra Contact Data Loggers have visual alert indicators removed. They record the temperature and time history for the product for the duration of operation.

6 Day PakSense Ultra Contact Data Logger – for product in transit for 6 days or less. The 6 day version automatically stores a data point every 5 minutes.

15 Day PakSense Ultra Contact Data Logger – for product in transit for 7 to 15 days. The 15 day version automatically stores a data point every 15 minutes. During this period, temperature is sampled every minute and an average is calculated every five minutes. If there is a significant temperature swing of 2.7°F (1.5°C) or more during that five minute period, the label will record the five minute average. In this manner, temperature is automatically recorded every 15 minutes but significant events are recorded as well.

30 Day PakSense Ultra Contact Data Logger – for product in transit for 16 to 30 days. The 30 day version automatically stores a data point every 30 minutes. During this period, temperature is sampled every minute and an average is calculated every five minutes. If there is a significant temperature swing of 2.7°F (1.5°C) or more during that 5 minute period, the label will record the five minute average. In this manner, temperature is recorded every 30 minutes but significant events are recorded as well.

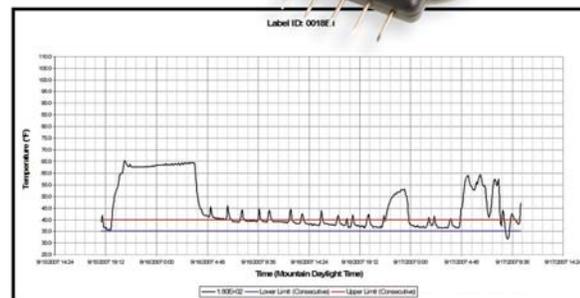
60 Day PakSense Ultra Contact Data Logger – for product in transit for 46 to 60 days. The 60 day version automatically stores a data point every 50 minutes. During this period, temperature is sampled every minute and an average is calculated every five minutes. If there is a significant temperature swing of 7.2 °F (4°C) or more during that 5 minute period, the label will record the five minute average. In this manner, temperature is recorded every 50 minutes but significant events are recorded as well.

90 Day PakSense Ultra Contact Data Logger – for product in transit 61 to 90 days. The 90 day version automatically stores a data point every 75 minutes. During this period, temperature is sampled every minute and an average is calculated every five minutes. If there is a significant temperature swing of 7.2°F (4°C) or more during that five minute period, the label will record the five minute average. In this manner, temperature is automatically recorded every 75 minutes but significant events are recorded as well.

PakSense Ultra Contact Custom Label – for an additional charge, virtually any feature of the PakSense Ultra Contact Label can be customized. Specific upper and lower temperature ranges can be programmed into each label. Graphics of the product being shipped or a company's logo can also be added to the label. With information provided by the customer, PakSense can also calculate a remaining shelf-life estimate to help determine what effect temperature has had on product during transport. Contact your PakSense representative for further details.



PakSense Reader



Sample Graph



PAKSENSE™
Sensory Solutions for Packaging



How Will **You** Use It?

- Status lights enable quick decisions
- Temperature sampled every minute
- Promotes temperature mapping of a container
- Food-safe packaging and surface reads — provides closer approximation of actual product temperature
- Small size promotes placement within small containers
- Waterproof packaging
- Easily mailed back in the postal system
- Non-volatile memory - data can be downloaded at any time in the future
- File with a bill of lading or other documentation
- Low infrastructure and easy implementation
- Small environmental foot print

PRODUCT SPECIFICATIONS

Size: 1.8" x 2.2" (45mm X 57mm) pouched size, .3 ounce (8.5 grams)

Memory: Non-volatile 4K or 2,000 data points

Shelf Life: 9 months from date of manufacture

Calibration: All temperature sensors calibrated during manufacturing process, ongoing calibration is not required

Temperature Sampling Frequency: One minute

Recommended Operating Range: -22°F to 140°F (-30°C to 60°C)

Typical Accuracy:

±0.9°F(±0.5°C) between 14°F to 86°F(-10°C to 30°C)

±1.26°F(±0.7°C) between 86°F to 140°F(30°C to 60°C)

±1.26°F(±0.7°C) between -22°F to 14°F(-30°C to -10°C)

Temperature Resolution: .1°F/C

Label Pouch: Waterproof, food-grade packaging

Readings: Surface or ambient

Start Up Delay: Standard 30 minutes or configurable 0 to 120 minutes

Alarm Display Data: Light emitting diodes signify temperature breach

Alarm Configurations: Consecutive standard or cumulative via custom order

Recycle Options: Available through PakSense GreenSense program

TECHNICAL SPECIFICATIONS — PakSense Reader

Power – 2 standard AAA batteries

PC connection via USB cable (provided)

TECHNICAL SPECIFICATIONS — PakSense Software

Supported Operating Systems:

- Windows 2000/Office 2000
- Windows XP/Office 2007
- Vista/Office 2007
- Windows XP/Office 2003
- Vista/Office 2003

PakSense, Inc.
9939 West Emerald
Building C
Boise, Idaho 83704
+1-208-489-9010

www.paksense.com
info@paksense.com



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