Celsius

Passive Micowave Temperature Measurement

Loma Celsius

Accurate, Easy to use, Non-destructive Temperature Measurement System

Summary

Meeting the increasing need to reduce product wastage and energy costs, Loma Scientific has produced Celsius, utilising patented microwave thermometry technology.

The Celsius machine is the first of its kind, offering accurate and fast non-evasive temperature measurements for a wide variety of food products. The system measures the equilibrium temperature of the product rather than the surface or core temperature. This produces faster, consistent and more accurate readings because the temperature measurement is not reliant on the positioning of a traditional thermal probe

With the Celsius system, products do not need to be thrown away after testing, and there is no requirement to outlay for replacement probes, resulting in significant savings in quality assurance costs, with the added benefit of an improvement in the efficacy of quality assurance procedures

The Celsius machine is simple to operate and eradicates the risk of operator error as readings are stored automatically. In a short period a Celsius machine will have tested thousands of products – all of which can be returned to the line after testing, meaning you will benefit from an excellent return on investment.

By eliminating unwanted variances in product temperature, need for probes, the risk of operator error and product wastage, it's clear that Celsius can provide a cost-effective and practical solution to your temperature control requirements.

Benefits at a glance:

- Versatile: Celsius covers all product types and calculates any temperature variations
- Easy to use: Celsius removes human error and requires little skill to use
- Accurate: +/- 0.2 ºC (0.36ºF) - readings in seconds
- Non-Destructive: No product wastage and disposal costs
- Reliable: Heavy duty design for 24/7 operation

Celsius – Non-Destructive Temperature Measurement

Benefits of Non-destructive temperature measurement

Most manufacturers are under pressure to improve service quality and productivity while cutting costs. Advances have been slow in the field of temperature measurement.

Thermocouple probes and infrared systems have been around for years although both systems have their limitations. The probes for instance, cause irrevocable damage to products, can be easily broken, take only the temperature at the tip of the probe, are slow and only accurate to within 1.5 degrees. Likewise Infrared systems are limited by their measuring, which detects the external temperature of the packaging or just the surface temperature of the product. In the hunt for greater levels of efficiency and enhanced performance, these characteristics have become increasingly hard to justify.

With these factors in mind Celsius was designed to answer the needs of the modern food manufacturer.

Celsius is not an alternative but the new standard offering:

Superior quality assurance: Celsius is proven to offer the most accurate measurements available. Celsius will not miss any hot or cold spots as it takes into account the entire product, giving the "desired" equilibrium temperature.

Increased production efficiency: Celsius offers the quickest results available to the industry, with minimum operator skill and training required. Human error and paper work is also removed due to Celsius's detailed electronic record keeping. Accessing records is also easier and quicker then before with a high speed Ethernet connection.

Improved traceability: With traceability becoming increasingly important, Celsius solves this need with the use of the barcode reader. This compliments new levels of accuracy, record keeping and access to results. The barcode reader provides the manufacturer and retailer with 100% proof evidence of the time, date, operator name, product barcode and recorded temperature among other things.

Considerable savings: Celsius offers impressive paybacks, with savings made due to the removal of product wastage, packaging, replacement probes, rejected products and increased production efficiency as well as major energy reductions.

Technical Specifications

Windows full color touch-screen

Upgradeable Software

Electronic record keeping

Full accountability and traceability with Barcode Scanner

Impedance matched cavity providing new levels of accuracy

High speed Ethernet connection for instant access to records

Simple operating procedure, so no need for skilled workers or training

Windows based touch screen displaying temperature reading in 5 seconds showing trends by product.

Easy installation. Simple plug in

Easy validation

No packaging effect except completely covered foil wrap

International Awards

Europack innovation award—France
Frost & Sullivan innovation award—International
BSA new product award—UK
PPMA design & excellence award—France

About Spectrum Inspection Systems

Spectrum Inspection Systems is a world class manufacturer of inspection systems for the Cintex, Loma and Loma Scientific brands, with installations in over 60 countries and in most of the world's largest food and packaging companies.

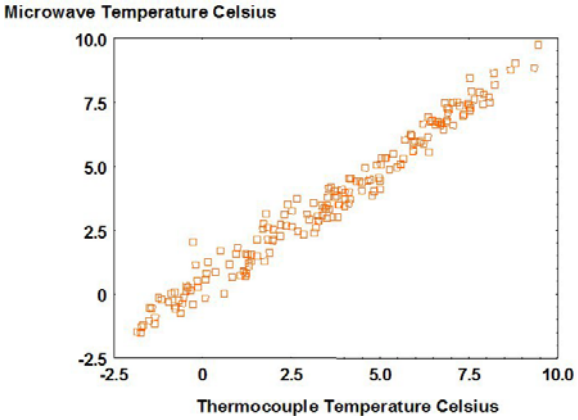
Spectrum Inspection Systems holds ISO 9001 certification and has earned a reputation for the consistent quality and advanced technology of its products, the results of a continuous and far-reaching research and development program.

Short lead times, modular design together with our passion for customer service, allow you to:

1. Maximize your production up-time
2. Maintain your self-sufficiency
3. Help your customers comply with and exceed consumer and government demands for product safety.

Finish:	Stainless steel effect.
Display Size:	130mm x 100mm (5 x 4 inches)
External Dimensions:	640mm (H) x 510mm (W) x 440mm (D) 20.25 Inches x 17.5 Inches x 25.25 Inches
Display Type:	Windows touch screen
Cleaning:	Wipe
Supply Voltage:	230V/ 1ph/50 Hz N+E 110V/ 1ph/60 Hz N+E
Environmental Temperature Range:	-5ºC to + 40ºC (23ºF to 104ºF)
Door Closing Mechanism:	Self closing, Push button release
Measurement Accuracy:	-30 to 0ºC: +/- 0.4 (-22 to 23ºF) -5 to 30ºC +/- 0.2 (23 to 86ºF)
1 x RS232:	1 x Bar code reader input
Ethernet:	Live data available via network
Product Temperature Range:	-5 to 30ºC (Chilled) (23 to 86ºF) -5 to -30ºC (Frozen) (23 to –23ºF)
Max Product Size:	320mm x 320mm x 100mm High 12.5 inches 12.5 inches x 4 inches
Weight of Celsius:	64 kg (141 pounds)

Celsius correlation



All Loma systems are manufactured to the exacting standards of ISO9001 and supported by a world-wide network of sales and service operations

Loma reserves the right to improve or change specification without prior notice

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