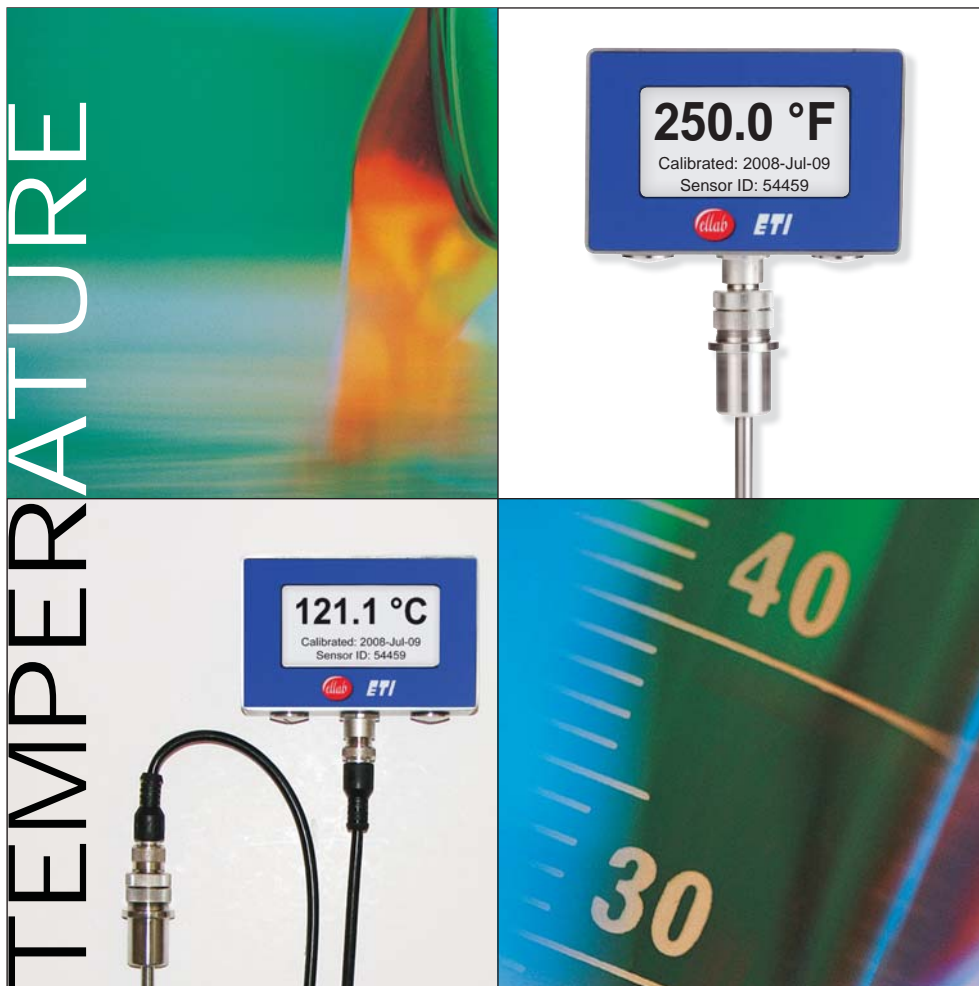
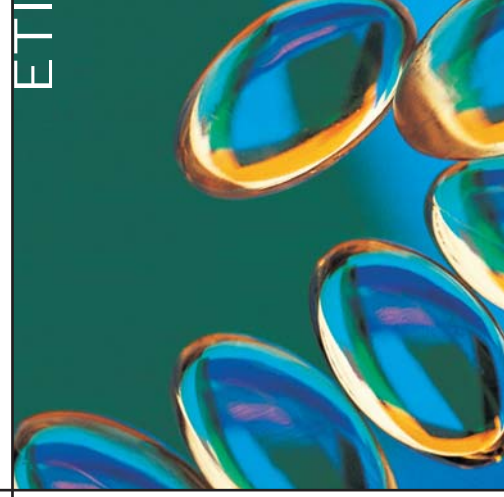


Ellab Temperature Indicator



FDA compliant alternative to
mercury-in-glass thermometers

ETI



The ETI is a high quality digital temperature-indicating device designed for displaying and documenting the processing temperature in retorts. It complies with FDA 21 CFR Part 113, and it is appropriate for thermal processing of low-acid canned foods. The ETI has a digital display that is easy to read, offers an accuracy of $\pm 0.1^{\circ}\text{C}$, and does not constitute a potential source of mercury contamination.

Compliant with FDA 21 CFR Part 113

Documented and traceable accuracy

The ETI accuracy of $\pm 0.1^{\circ}\text{C}$ / 0.18°F is tested against an accurate calibrated reference device and delivered with a NIST traceable (or equivalent) calibration certificate. The ETI probe has a unique ID which shows on the calibration certificate ensuring traceability.

Resistant to electromagnetic interference

To prevent electromagnetic interference from affecting the accuracy of the ETI it is designed according to IEC 61326.

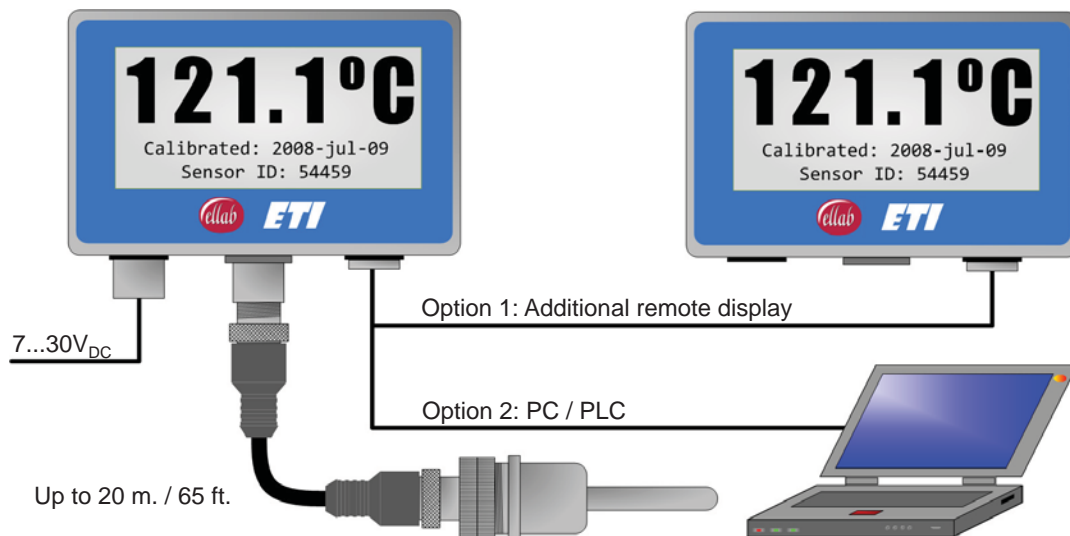
Furthermore, the IP 67 classification of the ETI ensures that it is appropriate for use in an industrial environment.

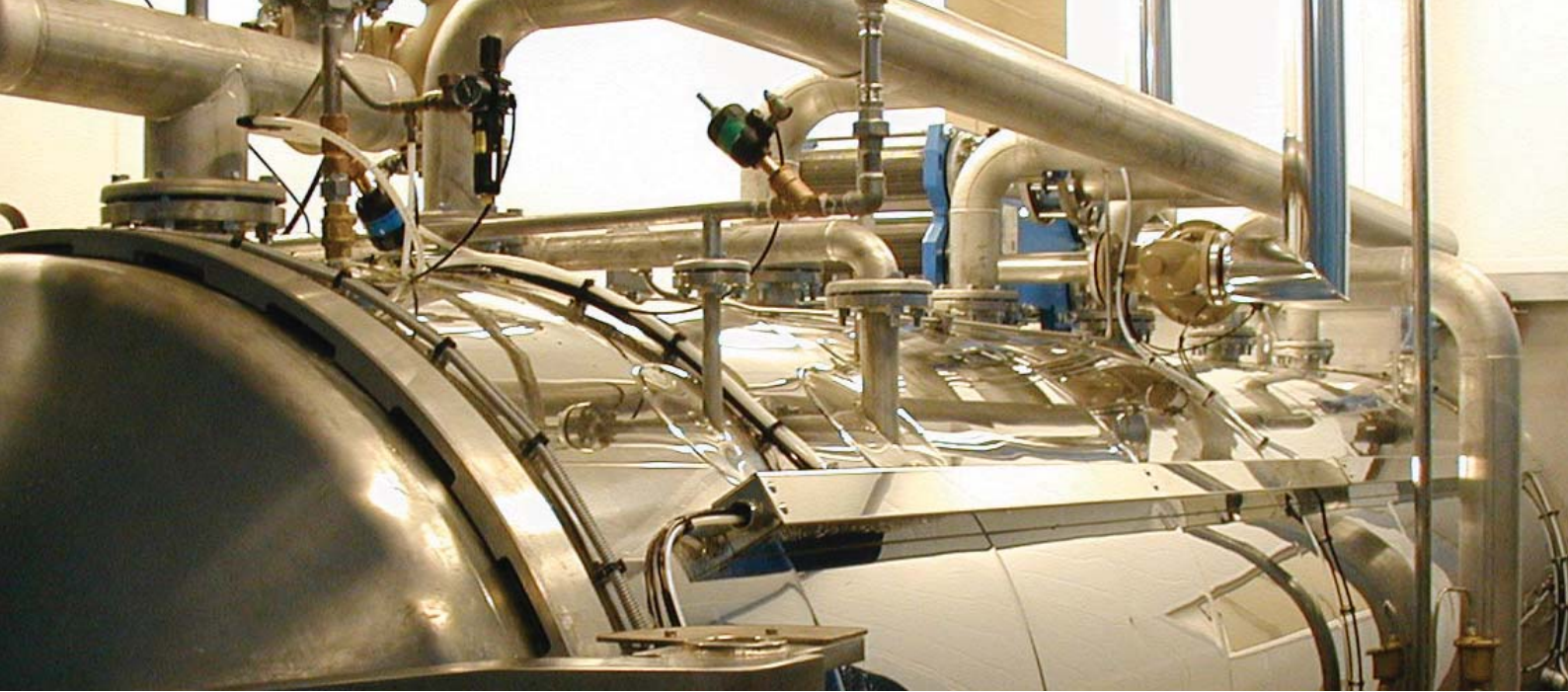
Easy readable temperature

The high quality illuminated LCD digital display clearly shows the temperature with a resolution of 0.1°C / 0.1°F as well as the calibration date and probe ID. The display can be connected to the temperature probe using a cable. This flexible solution ensures that the display can be placed away from the probe making it easy to read. An additional display can be connected to the ETI and mounted in an operator room up to 1,200 m / 3,900 ft. away.

Detection of loss of accuracy

For maximum safety and dependability the ETI uses a dual sensor probe. The intelligent probe has two independent PT1000 sensing elements and A/D converters. The primary sensor is checked against the redundant sensor and a deviation between the sensors exceeding 0.3°C causes an error message to be shown in the display and the ETI alarms the user.





The combination of full compliance with FDA regulations and Ellab's renowned quality and high reliability makes the ETI an excellent choice for retort monitoring. Recognizing that product safety, quality and efficiency are critical to our clients, Ellab has added additional features to the ETI.

Additional Features

Automatic warnings

The ETI display automatically shows a warning before factory recalibration is due or if a system error occur.

Interchangeable probes

Since the A/D converters are integrated in the intelligent probe the ETI display has no impact on probe accuracy. When having two probes available it is possible to use one when the other has been sent in for factory recalibration. This reduces costs and permits users to keep a constant production flow.

Backup battery

The ETI has an internal rechargeable backup battery with capacity for 8 hours operation. In case of a power failure this feature continues to monitor and document the thermal characteristics of the retort.

Data transfer and alarming

A RS485 port allows for an additional display to be connected or transfer of temperature/time data to a computer or PLC system. An output channel allows for automatic alarms.

Internal Memory

The ETI has an internal non volatile memory and can be used as a battery powered data logger and store up to 16,000 data points. Start time and sample rate can be set from the PC software. When the process is complete the ETI is connected to the PC and the data downloaded.

Temperature settings

A hardware switch makes it easy to change between °C and °F.

Flexible installation

Multiple probe lengths and custom fixtures are available to fit all retorts. The display is prepared for easy mounting on DIN rails, PLC cabinets and similar devices.

Software

The ETI is delivered with user-friendly PC software for setting the clock, collecting temperature/time data and generating CSV files which can be exported to Excel. Furthermore, the software offers a feature allowing the user to make in-house probe accuracy verifications that are fully documented in detailed calibration reports.

Calibration

The factory recalibration procedure is made simple as the probe holds both calibration constants and ID which are independent from the display. When sending the probe for factory calibration a certificate will be issued including all the information needed to comply with FDA regulations and ensure the reliability and accuracy of the ETI. The calibration date is easily visible on the probe and the digital display. The ETI display automatically shows a warning 28 days before factory recalibration is due.

Technical specifications

- Calibrated temperature range: 0 to 140°C / 32 to 284°F
- Operating temperature range: 5 to 60°C / 40 to 140°F
- Accuracy: +/- 0.1°C / 0.18°F
- Resolution of 0.1 °C / 0.1 °F
- Intelligent 6 mm diameter stainless steel probe with two independent PT1000 sensors and A/D converters
- IP67
- RS 485 output
- External power: 7 to 30 V DC
- Internal rechargeable battery backup
- Display update rate: 1 second
- Internal 64KB EEPROM
- Sample rate: 1-30 sec.

Warranty

The ETI has 2-year limited warranty.

Ellab

Ellab

For over 50 years Ellab A/S has been a leading manufacturer of Process Validation and Monitoring Systems used in the food, medical device and pharmaceutical industries.

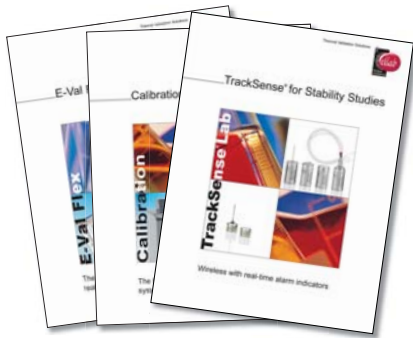


QUALITY SYSTEM
DS/EN
ISO 9001



DS/EN ISO 9001

Ellab quality system is compliant with DS/EN ISO 9001.



Calibration Certifications and Service

Ellab maintains a complete calibration facility for annual certifications and service. All certifications are traceable to NPL and NIST Standards. Service and maintenance contracts are available.

Rental & Demos

Demo systems are available for trial and rental. Please contact your local Ellab representative for details.

Training

Training and equipment installation are available through Ellab. Validation consultants experienced with Ellab equipment are available to assist with IQ, OQ and PQ procedures.

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