Case Details

The client, a renowned rice miller and food processor recently installed a new production line that produces various cooked rice based products in reheatable and microwavable polymer sachets. As a consequence the company required a system to monitor the retort cooking and sterilization temperatures, as well as the accumulated F0, during production of various pouched rice products. The capability to download the results was required for analysis and quality purposes.

Key Requirements

Internal calculation
Real-time data collection

dataTaker DT80

1 A cost effective data logger expandable to 100 channels, 200 isolated or 300 single-ended analog inputs

2 Built-in web and FTP server allows for remote access to logged data, configuration and diagnostics

3 Modbus slave and master functionality allows connection to Modbus sensors and devices and to SCADA systems

4 Smart serial sensor channels capable of interfacing to RS232, RS485, RS422 and SDI-12 sensors

5 Rugged design and construction provides reliable operation under extreme conditions

6 Includes USB memory stick support for easy data and program transfer

White Rice: *dataTaker* data loggers were used to monitor the accumulated F0 during the production of pre-packaged rice products.

dataTaker Solution

Equipment

dataTaker DT80 data logger

Sensors

Thermocouples

Implementation Notes

The *dataTaker* DT80 was installed and configured for 12 thermocouple probes to monitor the progress of cooking temperatures in the sachets, and to monitor the development of steam sterilization as measured by F0. The probes are placed centrally into pouches, which in turn are placed at appropriate locations throughout the load in a retort.

During cooking:
• The temperature of each probe is recorded every 30 seconds, and charted real time on a computer screen.
• The partial F0 for each probe is calculated every 30 seconds, and a progressive F0 for each probe is accumulated and displayed on a computer screen.

The real time data is returned to a computer running *dataTaker* software, which displays a trend graph of the temperatures, and a numeric display of the progressive F0 accumulations.

The DT80 also logs the temperature and progressive F0 data into memory. At the end of the cook time the information is downloaded as a CSV file and retained for analysis and quality purposes.

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