

## TEMPERATURE PROFILING SOLUTION FOR SENSITIVE CASTING PROCESS

GRANT SQUIRREL DATA LOGGER PROVIDES HIGH ACCURACY MEASUREMENTS



CAS DataLoggers provided a portable data logging solution to a major manufacturer who specialized in casting a material that needed to cool gradually in an extremely temperature-sensitive process. The plant's existing temperature profiling tools were inaccurate and unreliable which often led to a defective product that was either too brittle or noticeably discolored.

Without being able to monitor the process with sufficient accuracy, it was difficult for supervisors to tell if the temperature was right at any given time. A new emphasis on quality control led the plant to search for a portable data logging solution which could provide high accuracy temperature profiling. This system also needed to have a large on-board memory and alarm outputs to alert personnel whenever product temperatures suddenly went out of specification.

## INSTALLATION

The manufacturer installed a [Grant Squirrel SQ2010 Portable Universal Input Data Logger](#) in a main access point in their casting area. CAS DataLoggers also supplied the plant with 4 [thermocouple](#) probes which were connected to the data logger to monitor product temperature during process. The compact, battery-operated SQ2010 data logger featured 8 universal analog input channels allowing measurement of temperature with thermocouples at a 0.1% accuracy as well as the measurement of



other parameters such as current, voltage, and resistance. The data logger included 2 alarm/relay outputs which provided the plant with reliable alarm capabilities. It also featured a built-in 2-line x 40-character LCD display to display current measurements and a keypad which could be used to start/stop recording.

## USAGE

World-renowned for their ruggedness and durability, the Squirrel data logger was able to stand up to the extreme environmental conditions in the plant. For quality control, all of the temperature readings taken from the cooling product were recorded onto the logger's internal memory which could store up to 1.8 million readings. The recorded data could be easily downloaded to a PC using the USB port on the data loggers. The device's handheld portability was also a major convenience, only about the size of a small book, users found the SQ2010 to be robust, dependable and very easy to use.

The [SquirrelView software](#) included with the logger provided fast data downloads from the internal memory of the logger, analysis of download data and export as a CSV file for use with other analysis tools. It provide a flexible data presentation allowing supervisors to quickly display and analyze real-time or historical data in tables or graphs. SquirrelView also enabled quick configuration of the data logger using a user-friendly, spreadsheet-style interface.

## BENEFITS

The manufacturing plant's temperature profiling methodology was significantly improved following installation of the Grant Squirrel SQ2010 Portable Universal Input Data Logger. Subsequent quality control metrics reported a lower incidence of scrap, increasing efficiency and product consistency. One cost-effective Squirrel data logger was all it took to continuously collect and present all the temperature profile data in an organized, convenient format and to handle all alarming. Now the plant had total control over the once-unpredictable casting process.

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For more information on [Grant Data Loggers](#), temperature profiling or to find the ideal solution for your application-specific needs, contact a CAS DataLogger Application Specialist at **(800) 956-4437** or [www.DataLoggerInc.com](http://www.DataLoggerInc.com).