

Temperature Monitoring For Quality Control of Pet Foods

Grant SQ2020-1F8 Portable Universal Input Data Logger

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CAS DataLoggers recently provided the datalogging solution for a large manufacturer of pet food which needed to conduct extensive temperature monitoring on its products as part of its ongoing commitment to quality control. Within the company's processing plant, each product underwent a painstaking series of quality tests to check the condition of many tins of pet food in storage. This control process included ingredient testing and safety checks to ensure consistency and adherence to strict quality standards. Ideally, dry dog food had to be stored at a temperature of less than 70 degrees F, since excessive heat quickly promoted contamination through the growth of mold and caused fats to spoil and go rancid. Therefore this extremely sensitive product needed to be handled with the utmost care to protect both animal safety and the company's reputation for quality and healthy food. Exposure to oxygen also formed a serious health risk to dog kibble, and if condensation formed, this caused the food to further deteriorate. Once past the processing phase, personnel had to avoid storing dry dog food in fluctuating temperatures as this caused additional moisture. Additionally, storage mites commonly thrived in the grains in dry dog foods, posing an allergy risk to animals. One of the most common storage mites developed wherever there was sufficient moisture and/or high humidity, so temperature profiling the food was also needed for pest control. The plant therefore had a need for a highly accurate temperature datalogger with user-friendly software with graphing capabilities for data analysis. High durability and portability were also necessities when working in the confines of the testing area.



The processing plant installed a **Grant SQ2020-1F8 Portable Universal Input Data Logger** in the storage section of its quality testing area, connecting the datalogger to temperature sensors which in turn were used to measure the temperature of each batch of pet food. The Squirrel data logger offered testers a highly accurate (0.05%) battery-powered solution featuring 24-bit analog-to-digital converters for precise measurements. Capable of measuring a wide range of physical values including temperature, humidity, current, voltage and resistance, the handheld and portable SQ2020 datalogger was also well-known for its ruggedness and durability. A built-in display and keypad enabled operation either as stand-alone or as a data acquisition system linked to a PC. The Grant datalogger offered 8 to 16 universal analog inputs and 8 digital inputs as well as up to 16 derived/calculated channels and 4 pulse rate/counter inputs. Additionally, 4 alarm outputs served to notify personnel whenever food temperatures went out of specification, and the device could record up to 14 million readings utilizing a removable MMC/SD card. The SQ2020 was easily configured via integral interface or via PC and offered users both USB and RS232 connectivity.

The SQ2020 plotted the temperature of each batch of pet food, taken from its sensors at one-second intervals. The datalogger was then simply plugged into an office PC and the data was downloaded for lengthy inspection, offering easy data management. The readings were then used to determine optimal processing and storage conditions within the plant.

The Grant datalogger also included FREE SquirrelView configuration and analysis software, complete with a user-friendly, spreadsheet style interface allowing quick set-up of the data logger for any application, speedy data download, and direct export to Excel. As a high-powered option, SquirrelView Plus software was available for additional benefits such as graphical data analyses and advanced reporting options.

The pet food manufacturer benefitted in several key ways following installation of the Grant Squirrel SQ2020 temperature datalogger, most important of which was the increased incidence of spotting contaminated and spoiled samples before they could be shipped. This directly upheld the brand's longtime reputation for quality and thoroughness as well as streamlining the QA process, saving time and money. Testers found that the Squirrel logger was easy to use and configure, and its portability enabled convenient, trouble-free operation at an affordable price.

For more information on the Grant SQ2020-1F8 Portable Universal Input Data Logger, other Grant dataloggers in the highly successful Squirrel line, or to find the ideal solution for your application-specific needs, contact a CAS Data Logger Applications Specialist at (800) 956-4437 or visit the website at www.DataLoggerInc.com.

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