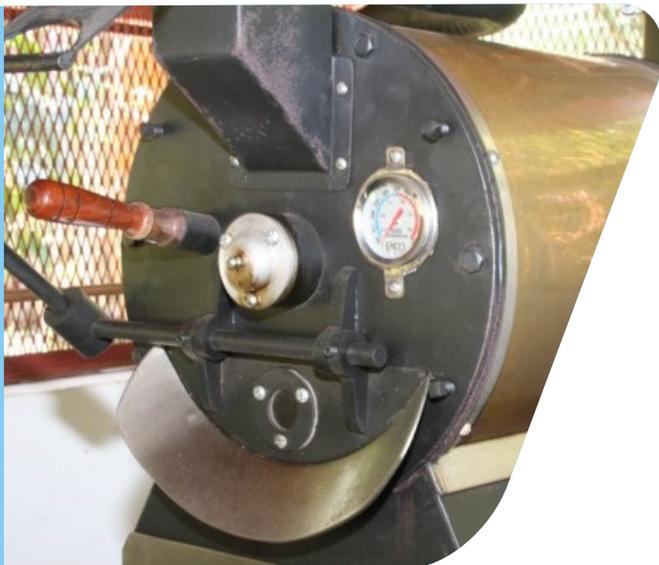


## MAINTAINING A COFFEE ROASTING TEMPERATURE PROFILE

### COFFEE ROASTING PROCESS WITH WIRELESS TEMPERATURE MONITORING



CAS DataLoggers provided the coffee roasting temperature profile solution for a small coffee roaster producing home-brewed blends in the back of his small storefront. Original flavor creation required repeated experiments with green coffee beans sourced worldwide, poured into an industrial roaster and warmed to about 220°C (428°F) for a city roast with a good brown color that brought out the beans' flavor and acidity.

To ensure a repeatable process and to get a detailed view of the [roasting process](#) to fine-tune new flavors, the owner wanted a user-friendly temperature monitor with wireless communication for quick data collection. This device needed to be compact for installation in a small room and economical enough to fit into the store's modest budget. The owner also wanted alarming functionality to let him control the process whenever temperatures went outside the appropriate range.

### INSTALLATION

The owner installed a [T&D RTR-505-TC](#) Wireless Thermocouple Data Logger in his brewing room, tying it directly to the nearest side of the roasting machine. He then

connected the logger to a Type K thermocouple probe placed inside the roaster along with the beans to continually monitor the high temperatures. As the beans roasted, this data was collected by a [T&D RTR-500](#) Wireless Base Station attached to the wall nearby. Operating on a lithium battery, the datalogger recorded temperature from a wide range of -199°C to +1300°C. Throughout the process, the logger's display gave clear indication of the roaster's current temperature so the owner could quickly and accurately check product consistency.

## USAGE

The thermocouple datalogger's customizable alarm settings alerted the owner whenever the roaster temperature went outside the brew's range, such as a city roast or full city. The system measured and storing the data and communicated wirelessly to the base station sending its current readings during set intervals and monitored for user-set alarm warnings.

The temperature recorder's memory stored up to 16,000 readings, enough to record every second and still log 4 1/2 hours of data. Further, the datalogger's compact size made for an easy fit on the side of the roasting machine, and user-friendly software was included with the wireless base unit for quick setup and configuration before the next batch of beans went into the roaster.

After the beans had finished roasting, it was easy to download all the data: the data logger wirelessly sent its data to the base station from up to 500 ft. away when unobstructed indoors, and the recorder downloaded the datalogger's readings at full logging capacity in just 2 minutes to the office PC. This built-in wireless communication technology allowed him to view current readings and stored data anytime from anywhere (including from home), presented in graph display or exported to other programs.



## BENEFITS

The brewer benefitted immediately from installing the Wireless Thermocouple Data Logger onto his roasting machine. Now the brewer was able to oversee the roasting process to view and document the temperature profile and recreate it in the next batch. The system's ease of use made it easy to get started, with simple configuration and alarm setup. The temperature recorder was also cost-effective for the brewer's limited budget, giving his business wireless monitoring and alarming for an affordable cost.

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For more information on the [T&D RTR Wireless Data Loggers](#), 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](http://www.DataLoggerInc.com).