

Home-Brewing A Good Cup of Coffee

Escort Intelligent Mini Single-Use Temperature Logger

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CAS DataLoggers recently supplied the data logging solution to a master coffee roaster brewing his own product from inside his home to sell at local farmers' markets and through his online store. Creating a quality cup of coffee from scratch required much trial and error as well as a good sense of smell. To design his original flavors and blends, the brewmaster bought green coffee beans from all over the world from many different distributors. When he was ready to brew, first he emptied a bag of beans into the roaster, and then raised his roasting machine's temperature up to 204°C (400°F). Ten minutes into the cycle, the green beans began to resemble the toasty brown color which his customers would see when they opened his product pouches. Post-roast, the beans went into the grinder. After scooping up the aromatic grounds into their packaging, the brewer labeled and sealed the bags and was ready to sell. Having only recently gone into business for himself and having success with some early batches, the brewer's first priority was to give his roasting process repeatability to ensure that the beans had the right taste with every new batch. He needed a reliable temperature monitoring device to monitor the roasting cycle, but his startup company could only budget the most affordable products on the market.



The brewmaster installed an **Intelligent Mini Single-Use Temperature Logger with Internal Sensor** in his brewing room, tying it directly to the nearest side of his roasting machine. The Intelligent Mini datalogger measured the roasting machine's temperature using an internal temperature sensor, recording from -40°C to +65°C (-40°F to 149°F). The logger's multiple function LCD display gave clear indication of the current temperature, helping the customer get all the information on his roast cycle. Recordings were made at a high $\pm 0.5^{\circ}\text{C}$ (1.0°F) accuracy and 0.5°C (1.0°F) resolution. Customizable alarm settings alerted the brewmaster whenever the cycle went out of its optimal temperature curve, and the programmable start function allowed for convenient monitoring. After the beans had finished roasting, all the readings were downloadable via cable with no interface required, and the brewmaster would simply download the data logger's readings onto his home PC and replace it with another single-use logger.

The Intelligent Mini's memory stored up to 1868 readings, more than enough to last the length of many roasting cycles, while sampling frequency could be user-set anywhere from every 1 to 255 minutes. On average, the brewer took about 12 samples every cycle. Further, the Intelligent Mini's compact size of 83 x 57 x 20 mm and 70-gram weight made for an easy fit on the side of the roasting machine. Rated at IP51 for strong durability, the data logger easily stood up to the occasional drop or rough handling.

Free Escort Console software was included with the Intelligent Mini dataloggers for easy downloading and programming. This multi-language software provided a user-friendly and intuitive software approach which simplified programming and data accessibility and helped the brewmaster to use all of the datalogging features. Process-oriented download and programming menus allowed the customer to follow a quick step-by-step format, and with just a little experience he was soon going straight to the tabs he required. The 'Tip of the Day' provided additional information and hints on special features and how to make optimum use of the software, and as a further benefit, an extensive "Help" file was available, which the brewer printed and used as a handy manual.

The brewmaster benefitted immediately from installing the Escort Intelligent Mini Single-Use Temperature Logger with Internal Sensor onto his roasting machine. Using the data loggers to monitor his entire roasting process, he was able to record all the subtle temperature curves and simply reproduce them whenever he made a new batch to guarantee that his coffee always lived up to his customers' exacting standards. All he had to do was simply replace the logger whenever he started roasting a new type of bean or flavor to guarantee that the roasting was closely monitored. The Intelligent Minis were also an ideal solution for the brewer's limited budget, giving him maximum data logging reliability and accuracy at a surprisingly low cost. Now his coffee was sure to live up to its name, with more flavors on the way.

For further information on the Escort Intelligent Mini Single-Use Temperature Logger with Internal Sensor, other ESCORT temperature monitoring solutions, or to find the ideal solution for your application-specific needs, contact a CAS Data Logger Applications Analyst at (800) 956-4437 or visit the website at www.DataLoggerInc.com.

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