

SMART TEMPERATURE DATA LOGGER REDUCES SOLDER WASTE

CAS DataLoggers Provides I-Plug-PDF Temperature Monitors



CAS DataLoggers has just provided the dataTaker 'smart' temperature monitoring system for a manufacturing plant looking for a way to reduce the amount of time and money lost on wasted solder and scrapped products.

The plant's solder pot is a cast iron crucible about the size of a large dorm fridge, housed inside an enclosure with a pushbutton opening. At the start of each shift the pot is heated to about 650 degrees Fahrenheit. Workers dip parts into the solder and as the shift progresses, the crucible can get too hot and burn the solder, which starts breaking down when the temperature goes higher than 850-900 degrees. When parts are coated in bad solder, this can go unnoticed until they're found to be defective and scrapped—sometimes recalled post-sale. Therefore workers had to change out the solder and clean the pot about 3 times a day. Originally the plant required workers to take manual temperature measurements on a clipboard, but often they didn't have time to log all the readings by hand, never mind the difficulty of trying to write with thick gloves on! This just contributed to more pots of solder being dumped, each worth thousands of dollars, and a poor performance indicator for the manager. Therefore it was essential to continually monitor and alarm the soldering temperature throughout every shift. Workers wanted something easy to check that didn't require programming, while the plant manager needed to get a heads-up of alarm events through email.

The plant has installed a dataTaker DT80 Intelligent Data Logger from CAS DataLoggers onto a handcart next to the solder pot's enclosure. A heat-resistant K-type thermocouple immersed in the molten solder leads out from a drilled hole in the enclosure to the dataTaker's universal analog sensor inputs (up to 15 available). During shifts the DT80 displays the solder pot's temperature in real time on its integrated display, recording measurements at 18-bit resolution. High-speed counter inputs, phase encoder inputs and programmable serial sensor channels allow the versatile DT80 to scale and log temperature, runtime and many other values.

Every 5 minutes, the dataTaker takes a temperature reading from the thermocouple inside the solder pot. The logger's 10-million point internal memory stores all values and ensures extended logging runs. The user-defined memory also gives independent control of schedule size and mode so it logs only as long as needed. Built to last in industrial and hazardous environments, the dataTaker DT80 has a robust construction and low power consumption making it ideal for industrial applications like this one.

Whenever the solder gets too hot and begins to burn, the 'smart' dataTaker automatically goes into alarm state to alert whoever's on shift that it's time to change out the pot. During these

events the DT80 simultaneously emails these alarms to the manager's email address, which helps him make sure this gets done every shift in a timely manner. Additionally the dataTaker archives all this alarm event data which is copied to USB memory for later retrieval.

The logger's extensive communications array enables the plant manager to connect to the DT80 locally through USB or remotely over the Internet via RS232 serial communication. The dataTaker's USB memory slot also allows for easy data transfer. Operators can use the web interface to configure the DT80, access logged data, and view current measurements as mimics or in a list using a web browser.

All dataTaker data loggers feature built-in software (named dEX) for setup and configuration. Accessing dEX through the DT80's RS-232 communication port, operators can see the temperature data in real time, create trend charts and dashboard displays, and access historical data for analysis. With an intuitive graphical interface designed similarly to Internet Explorer, dEX runs directly from a web browser and can be viewed anywhere that a TCP/IP connection is available including worldwide over the Internet. Operators can also use the dataTaker's Ethernet and USB ports to bring up the software.

With the dataTaker up and running, the plant's manager expects to see a significant reduction in rejected parts and in the amount of wasted solder. The K-type thermocouples and the dataTaker measure and log the temperatures at high accuracy and reliability, while the DT80's intelligent operation instantly notifies users whenever a pot's temperature is too high and needs to be changed out. Now no one has to stop what they're doing to write on the clipboard in the middle of their shift or waste time dipping parts in bad solder.

For more information on our flagship dataTaker DT80 Intelligent Universal Data Logger which can fully automate and alarm your process, 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.