



Customer Requirements

A chocolate manufacturer has received customer complaints regarding spoiled products. Spoilage could have occurred during manufacturing, transportation or whilst the chocolate was with the retailer. Since both temperature and humidity are critical to the well-being of the chocolate it was necessary to closely monitor both during all processes. The manufacturing process has been without fault so the next step is to investigate the transportation. The customer requires a battery powered, portable solution to monitor the temperature and humidity of product onboard refrigeration vehicles.



The perfect sweet:
Transporting fresh chocolate in a vehicle without suitable refrigeration can quickly lead to product spoilage.

dataTaker DT85

- 1 A cost effective data logger expandable to 300 channels, 600 isolated or 900 single-ended analog inputs
- 2 Built-in web and FTP server allows for remote access to logged data, configuration and diagnostics
- 3 Modbus slave and master functionality allows connection to Modbus sensors and devices and to SCADA systems
- 4 Smart serial sensor channels capable of interfacing to RS232, RS485, RS422 and SDI-12 sensors
- 5 Rugged design and construction provides reliable operation under extreme conditions
- 6 Includes USB memory stick support for easy data and program transfer



dataTaker Solution

Equipment

dataTaker DT85 data logger

Sensors

RTD Sensors
Thermocouples
Humidity Sensors

Implementation Notes

To ensure consistent refrigeration of the product, a comprehensive temperature and humidity profile should be gathered for the truck. A variety of sensors for temperature and humidity are connected to the dataTaker DT85, which can be configured to take a continuous series of readings at set intervals.

The logger contains an internal 4Ah rechargeable battery so that it may measure and log without having to apply external power. It would also be possible to charge this battery using the electrical system of the truck.

If the product is being transported by contracted vehicles where the logger cannot be permanently installed, then the DT85 could be transported within a cardboard box along with the product. This allows for monitoring the conditions within the cardboard box, which directly relates to the conditions of the product and the vehicle refrigeration.

Data retrieval is easily performed using a USB memory stick, which can be plugged directly into the DT85 to copy the logged data. This can then be downloaded to a computer where the information can be viewed in a spreadsheet and analysed using Excel. From this it will be easy to tell whether product spoilage is being caused by drivers trying to conserve fuel by turning off the petrol driven refrigeration units.