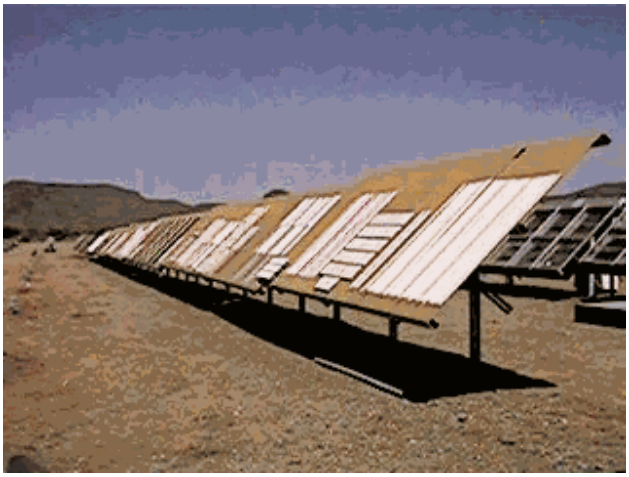
dataTaker

Application Note

Degrading of Building Materials

Customer Requirements

A building materials manufacturer is investigating the effects of the weather on the products which they produce. An on-site weather station is required as part of this long term monitoring project to measure various properties including solar radiation. Their primary aim is to determine how rapidly and in what way degradation occurs to different materials.
The weather station must be rugged and have a large storage capacity so that it may be left to record autonomously for extended periods of time.



Weathering in the Sun: The effects of the weather on building materials are being studied over extended periods of time.

dataTaker DT82E

1. A cost effective data logger designed with the environmental market in mind
2. Up to 6 analog (±30V) sensor inputs
3. Built-in web and FTP server allows for remote access to logged data, configuration and diagnostics
4. Modbus slave functionality allows connection to SCADA systems
5. Smart serial ports capable of interfacing to RS232 and SDI-12 sensors or modems
6. Rugged design and construction provides reliable operation under extreme conditions
7. Includes USB memory stick support for easy data and program transfer

dataTaker Solution

Equipment

dataTaker DT82E Enviro-logger
USB Memory Stick

Sensors

SDI-12 Weather Transmitter (temperature, humidity, rainfall, wind speed and direction)
Pyranometer (solar radiation)
Ultraviolet Radiation
Thermocouples

Implementation Notes

An advanced weather station is assembled using a *dataTaker* DT82E, an SDI-12 weather transmitter, a pyranometer and a UV radiation sensor. In addition to collecting meteorological data, this weather station uses thermocouples to measure and log surface temperatures over a gradient from black-body to white-body surfaces. Readings from all sensors are continuously recorded on-site and stored in the DT82E internal memory and archived to an attached USB memory stick.

Data is transferred from the site when the materials are inspected by simply replacing the USB Memory Stick with another and carrying this to the office where the data is easily downloaded to PCs for analysis.