



Tough as a Bear ... But More Reliable Data Logging / Data Transport

Coastal Environmental Systems, Inc.

For over 23 years, Coastal Environmental Systems, Inc. has designed, engineered and manufactured professional-grade environmental data acquisition systems. Their systems collect environmental data used by organizations such as the National Weather Service, the National Aeronautics & Space Administration, and National Center for Atmospheric Research, and the National Oceanographic & Atmospheric Administration. This data provides vital information regarding weather trends, environmental effects, water levels and quality, and even road conditions.



Don't Let Nature's Elements Block Your Data

Coastal's ZENO[®] weather stations are located in more than 2400 areas across North America. Many are located in remote, extreme environments – from the ice crystals of the Arctic to the sand dunes of the desert. Gathering data from 2400 locations every month is no easy task, especially considering the not-so-friendly weather conditions in which some of the ZENOs are located. Coastal wanted to improve their current process by implementing a data transport device that would offer:

- Long-term support, as retrofitting two thousand four hundred ZENOs in the field is simply not feasible
- Ease-of-use in the field and in the office considering the large number of data sources
- Ruggedness to withstand the extreme environmental variances
- Reliability from the word “go” to avoid 2400 in-field modifications
- Cost-effectiveness to meet budget constraints

The Solution is KEY

“Needs Analysis” meetings with Coastal led the Datakey Electronics team to the perfect solution. The first part of their data transport solution was the SFK1Mb. It is a 3.3V Key with 1Mb of serial flash memory which offers advanced write protection mechanisms. It is accessed by a high-speed SPI-compatible bus, and is particularly effective in applications in which large amounts of data need to be stored and transferred.



Fully Engineered

The KC4210 Keyceptacle[®] was chosen for its ease of integration into Coastal's ZENO. This Keyceptacle provides intuitive operation, positive Key retention and an LOFO contact that may be used to alert the host bus that a Key has made secure contact with the Keyceptacle so signals can be transmitted. The last element of the project was the KeyLink[™] II – a multi-protocol serial Key Reader/Writer that connects to a PC or host hardware via an RS-232 or USB interface.



Over, please...





Datakey[®]
ELECTRONICS

CASE STUDY

Coastal Environmental Systems, cont.

Trust Datakey in the Elements

The engineering behind this project was crucial for data availability and accuracy. At 80° below with a polar bear on your tail, fast and easy-to-use topped the list of requirements every time. Successful needs analysis and product implementation delivered the solution. At the many field locations, the weather data is stored in the ZENO weather stations. Once a month, the caretaker of the weather station travels to the device, inserts the Key into the Keyceptacle[®] and downloads the recorded information on to the SFK1Mb Key. The Key is then mailed to the appropriate organization, where it is plugged into the KeyLink[™] II and is easily uploaded to a PC for data manipulation and analysis.



They Chose Datakey Electronics

Coastal turned to Datakey Electronics because of their proven track record of over 30 years in the portable memory industry. The implementation of this standard catalog product from Datakey Electronics produced stellar results. It gave Coastal's weather stations the portable, rugged reliability to handle the environmental extremes. In addition, it was easy to use, and it put money back into their budget by not sending more costly options into the field to collect the data. Datakey Electronics' long-term support will also provide Coastal with long-term savings by negating the need for ZENO re-designs.



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