

AUTOMATED MONITORING OF HVAC TESTING EQUIPMENT WITH DATA LOGGERS

DATA TAKER SYSTEMS ENABLE REMOTE MONITORING & DATA TRANSMISSION

CAS DataLoggers supplied the dataTaker monitoring solution for use on HVAC testing equipment last year for a product development department in a Californian startup energy company. The business produces refrigerant products for use in several HVAC applications to increase energy efficiency in coolants, air conditioning systems in storage and transportation, and in industrial and automotive lubricants. Project Manager Kendall Blair had previously relied on older data logger models but now required a device with a built-in display that could automatically send all collected data directly to a remote PC. With that in mind he contacted CAS DataLoggers to get more information.



INSTALLATION

Blair's department now utilizes a pair of dataTaker systems and a channel expansion module for real-time data capture in the testing of their HVAC control systems. The new [dataTaker DT80 Intelligent Data Logger](#) is ideal for monitoring nearly any physical value the project needs. In this application, the dataTaker DT80 is a single solution measuring temperature and pressure along with a few polynomials. Before each test, users connect Type K thermocouples and surface probes to the data logger and place them on every part of the HVAC systems under monitoring, recording temperatures at several points throughout the whole process. Blair explains, "We're still crunching the numbers; we use the dataTaker to handle the calculations too."

USAGE

The DT80 gives the HVAC testing equipment project 5 to 15 universal analog sensor channels, 12 digital channels, and a serial sensor channel enabling connection to most sensors. The business has a shop adjacent to the building for indoor testing, and the dataTakers are also put to use in the field: a local university has been supplied with their product to conduct outdoor performance validation trials.

The DT80 has built in Ethernet which gives Blair and his team the ability to setup remote data transmission to an office PC within the building—all on an automatic schedule. For local storage, the DT80 can store up to 10 million data points in its user-defined memory, and users can choose to archive data on alarm event, copy to USB memory and transfer via FTP. This way the team can decide how they want to connect to the data logger. Rather than having to manually unload data, the department can simply rely on the remote monitoring capability of the network connected data logger.

Our dataTaker loggers boast a rugged construction that stands up to years of constant operation. These systems have survived falling off of moving trucks, being left in extreme heat, and all kinds of industrial spills and accidents.



EASY SETUP & CONNECTION

The team's [Channel Expansion Module \(CEM20 module\)](#) increases the channel capacity of the dataTaker data logger by turning 1 of their universal analog channels into 20 more. Using the same dual isolation technology as the DT8x range of data loggers, each channel of the CEM20 can be used for 2 isolated inputs or 3 common reference inputs to boost their maximum inputs: "We have a higher channel count of about 30 at the moment, and it's easy to just connect the module to one of the dataTaker's channels."

This is a cost-effective way for the test program to accommodate their higher channel count, and up to 5 CEM20 modules can be added to the DT80 for a max of 100 channels/300 inputs. The module is compact enough to be positioned anywhere in the area and is powered directly from the data logger's 12V source.

Summing up the dataTaker's universal connection and communications features, Blair comments, "I am very happy that we picked up the DT80 datataker—it has helped us to refine our focus and see so many more aspects of our test equipment's performance. Our results are getting better all the time."

EASY-TO-LEARN SOFTWARE

[FREE graphical software](#) is integrated in all dataTaker data loggers—dEX is a user-friendly browser based interface allowing quick logger configuration and setup. Now the team can view real-time measurements, calculations, and diagnostic information, visualizing their data as mimics, trend charts, and tables. The software also retrieves historical data for analysis. These features are easy to implement since dEX has no application to install, runs directly from a web browser, and can be accessed either locally or remotely anywhere that a TCP/IP connection is available.

FREE TECH SUPPORT

As dataTaker's Master Distributor for North America, we work with these systems every day and can provide your business with the technology to cut costs and save time. Blair and his team were new to dataTaker but were able to get setup quickly after a few calls to CAS DataLoggers Technical Support Specialist Brent Irwin who helped the company get their network set up using the cellular aspects of the DT80M. "We do have questions on occasion, and in those instances, Brent has been a terrific source for solving problems and a great representative of your products and company. Everyone likes to use innovative new technologies, but that doesn't mean much without prompt, knowledgeable, personable support—thank you for giving us the full package."

For further information on the [dataTaker DT80 data logger](#), monitoring HVAC testing equipment, or to find the ideal solution for your application-specific needs, contact a CAS Data Logger Application Specialist at **(800) 956-4437** or www.DataLoggerInc.com.