

REAL-TIME MONITORING & WARNING SYSTEMS FOR CYCLONES

COMPREHENSIVE WEATHER MONITORING USING A DATATAKER DT80

The extensive mining and port facilities situated in remote tropical northwest Australia means that it is essential that the most accurate weather data indicating cyclone formations is available to these vulnerable businesses. Therefore, it's necessary for local facilities to regularly augment the governmental meteorological weather reports they rely on. Recently the management of a shipping company wanted their own environmental monitoring device to achieve this. Due to the extreme weather, a rugged solution was required and to accommodate its budget, the company requested a single solution which could connect with several weather station sensor types. This solution would also need to log nearly real-time data for periodic monitoring during the day and the ability to send its readings to a remote office location as a warning system for cyclones.



INSTALLATION

CAS DataLoggers provided the shipping company with a [dataTaker DT80 Intelligent Universal Input Data Logger](#) which was installed into a weatherproof Pelican enclosure mounted to a pole adjacent to a weather station. The dataTaker DT80 is currently placed at the company's largest port facility, sampling at once a second, fast enough to accurately capture the data. Connected to a wide variety of meteorological sensors, the intelligent data logger measures the temperature, barometric pressure, humidity, and wind speed /direction from the station's anemometer.

USAGE

Using its 5 to 15 universal analog sensor inputs, the data logger converts the sensors' analog signals into digital form and uses its own software to perform initial data manipulation. The system generates hourly and daily weather reports, and when cyclonic conditions form, the data logger creates a new report every 10 minutes. The DT80 then uses its FTP communications capability to push the data to the company's office server. In this way, the dataTaker supplies all the environmental data, giving supervisors a complete picture of prevailing weather conditions.

The client's custom software performs complex weather analysis, while the dataTaker includes its own free graphical interface [dEX software](#). This built-in software was designed to resemble a standard web browser so users could easily perform setup and configuration. The dEX software was directly viewable from a web browser, either locally or remotely over the Internet, and users can access any of the logger's built-in communications ports to view dEX, including Ethernet, USB.



The DT80 stored up to 10 million data points in its internal memory so that users could log as much or as little as needed using independent control of schedule size and mode, and could also choose to overwrite or stop logging once memory was full.

By using its own onsite reports in conjunction with the reports received from the Weather Bureau, the client confirms that they are amassing a high quality set of records from which to predict potentially dangerous cyclones; a warning system for cyclones. When a sudden cyclone does threaten the area, workers are immediately alerted and a well-rehearsed procedure is put into place. Conveyor belts and other vulnerable plant equipment is secured, all ships in port are sent out to sea and the work site is evacuated with only a skeleton force remaining at the facility to keep an eye on the cyclone's effect. This preparation helps to prevent potentially disastrous losses from destructive winds and rain and storm surge.

BENEFITS

Now the company's new cyclone warning system helps them to head off significant losses due to otherwise-unknown weather warnings. Their dataTaker DT80 captures and records all the different types of weather parameters by itself, removing the need to buy additional monitoring systems each with their own software and specifications. The system's large memory allowed extended logging periods, while the dataTaker's rugged construction stood up to field operations in these less-than-ideal weather conditions.

For further information on the [dataTaker DT80 Intelligent Universal Input Data Logger](#), warning systems for cyclones 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.