

## Optimizing Air Compressor Efficiency with an Intelligent Data Logger

### Compressor Test Setup Uses dataTaker DT-80 Data Logger

Compressed air is a power source commonly used by manufacturers worldwide. As manufacturing capacity expands the capacity of the compressors need to increase to meet the increased demand. From a business standpoint it's critically important to select a compressor of the correct capacity, if the selected compressor is too large then it will only operate occasionally and still consume a lot of power even when idling.



A company specializing in compressor installation required a small but powerful data acquisition unit to record the on/off time and current consumption of a wide range of compressor models. This system needed to be easy for field personnel to operate with simple software. CAS Data Loggers provided the compressor company with dataTaker DT-80 Data Logger, Current clamp, and a Panel Mount Display

The company sourced a dataTaker DT-80 Intelligent Data Logger from CAS Data Loggers to log both compressor run-time and current consumption. First a field engineer places a current clamp around the compressor supply. He can then monitor the logger while the compressor is operating in its loaded and idle states. The field engineer is able to adjust sensitivity levels from a panel-mounted display, and once the levels are set, he can fix the threshold values to prevent anyone from tampering with the test. The user then leaves the standalone *dataTaker* data logger on site to record the current levels and on/off time.

### Universal Data Logging

The dataTaker data logger has analog, digital, and serial data recording capabilities, allowing up to 10 isolated or 15 common referenced analog inputs to be used in many combinations. These universal inputs enable connection to most sensors so that current/voltage, temperature, 4-20mA loops, or nearly any physical or electrical value can be logged and scaled into engineering units. At the end of the energy survey period,

the manufacturer uses the collected run-time and current consumption data to determine if the compressor is of correct size. Additionally the dataTaker's durability provides years of reliable operation, and the logger's large memory stores up to 10 million data points for extended logging sessions.

### **Choice of Communications:**

The DT-80 features several communications options including RS232 with modem support, Ethernet, and USB memory stick ports so that users can connect locally, remotely, or over the Internet. FTP provides data directly to the manufacturer over the internet or mobile phone network. This gives the dataTaker data logger considerable flexibility in any application: users can choose to use the DT-80 as a stand-alone data logger; for local data acquisition when connected to a PC; or for remote unattended data collection connected to a centralized computer via modem or the internet. Using a network setup, users can monitor the dataTaker DT-80 from any remote location in the world using its built-in web interface. The DT-80 also offers built-in support for Modbus RTU communications.

Built-in dataTaker dEX software is included with the dataTaker data logger and uses a Windows Explorer-style graphical interface allowing quick setup and configuration of the data logger. Users now configure and run the software directly from a web browser to access the DT-80 locally or remotely online. The engineer can view all measurements in real time and display them as dashboard dials which are easily read from a distance. Operators can use any of the dataTaker's integral communications ports to view dEX, including USB, Ethernet and RS232.

### **The Single Solution**

Here the DT-80 serves as a single solution to log run-time and current consumption while also containing the necessary software for data analysis and report generation. The manufacturer's energy surveys take much less time now that the readings are taken and extracted from one system so users don't need to spend time learning multiple devices and software packages. This helps them to more quickly find out if their compressors are of the correct size and maximize their efficiency.