



## MONITORING & ALARMING FOR AIR COMPRESSOR FAILURE

### 8 CHANNEL ACCSENSE VERSALOG MONITORS CURRENT & VOLTAGE



A CAS DataLoggers Applications Specialist took a call from a processing plant that needed to monitor the current and voltage fluctuations in several of their failing single-phase compressor motors. The plant manufactures ice cream and other popular desserts, and AC motors in refrigeration units run constantly to preserve the product. When these compressor valves start to leak, the storage room temperatures can sharply rise and threaten the frozen food. For example, the motors' effectiveness could be strained by low-voltage conditions. Before you can determine how to fix

voltage fluctuations, you must determine if they exist and how extreme they are by monitoring for air compressor failure. A data logger can do just that.

The supervisor needed a multichannel data logger to monitor and alarm the equipment's current/voltage, to view the load on the compressors, monitor for air compressor failure, and take immediate measures to counter this. For example, a very common application is end of line test of the operation of a fluid control valve. The manufacturer will establish a pressure/flow performance curve and each part that is shipped must include a document showing that the device has been tested and shown to meet its specifications.



## INSTALLATION

CAS DataLoggers provided the plant with two portable recorders with standalone operation. Each unit has seven range-programmable voltage and current external inputs for multichannel machine monitoring. The data logger also logs ambient temperature on one channel, which is especially useful in gauging the effectiveness of the compressor units.



Users connected the data loggers to external voltage and current transducers which were then hooked up to the single-phase compressor motors, a pair of motors at a time. Four of each logger's channels then began monitoring their current/voltage levels (two inputs recording each parameter).

## USAGE

Accsense VersaLog data loggers use a 16-bit ADC converter for high-resolution

measurements. The logger also features a fast sampling mode and supports USB and Ethernet connections enabling convenient local and remote access. The loggers support a user-selectable sampling range from 20 milliseconds to 12 hours. Each combo logger's 8MB Flash Memory stores up to 4 million measurements and stores data in non-volatile flash memory for later retrieval, while the 10-yr battery life guarantees extended operation.



Users periodically connect the loggers to a different pair of motors to ensure their dependability; the recorders' small size and light weight enable portable placement. These data loggers are designed with a rugged, splash-resistant aluminum enclosure, and their internal electronics are protected against moisture by a conformal coating ensuring reliable operation even in this industrial environment.

Additionally, each data logger's alarm and excitation outputs alert workers to sudden current and voltage fluctuations in the motors by triggering external telephone dialers. This way, workers can quickly respond and prevent their products from spoiling.

## SOFTWARE

[SiteView Windows software](#) is an inexpensive application that works with Accsense VersaLog series data loggers for downloading, configuration, data analyzing and plotting. Its intuitive graphic interface and powerful functionality let users get a quick start on this application. SiteView's fast communication speed enables quick downloads, while multiple file loading makes it easy to compare data from the multiple units. SiteView also features real-time viewing and chart recording capabilities which entirely replace chart recording devices.



## BENEFITS

Accsense VersaLog was an inexpensive and effective way for the plant to monitor its single-phase compressor motors for both current and voltage, helping workers to maintain them and get an indication of when they were in danger of failing. The multichannel loggers were accurate, easy to use and had a large memory.

CAS DataLoggers Applications Specialist Tony King comments, "These new combo loggers give you current and voltage inputs, a large memory, and high accuracy with the ADC. You can also log ambient temperature and setup alarms to notify you when your values go out of spec. All in all they're a great value for your projects."

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For more information on our [Accsense VersaLog Data Loggers](#), monitoring for air compressor failure or to find the ideal solution for your application-specific needs, contact a CAS DataLogger Application Specialist at **(800) 956-4437** or [www.DataLoggerInc.com](http://www.DataLoggerInc.com).