One-Stop Box

Alta Solutions' AS-7000 Offers Vibration Protection And Analysis In One System

The AS-7000 can capture up to 64 dynamic signals using two 24-bit analog-to-digital converters per channel.

BY KLINTON SILVEY

Alta Solutions (Alta) has created a modular, one-box system intended to provide critical machinery with both vibration protection and analysis.

Vibration protection is a fairly old technology. Since first edition API 670 was published in 1976, the accuracy, characteristics, and functions of machinery protection systems (MPS) have been well defined. In its basic form, if a machine experiences a predefined level of vibration, then the protection system shuts the machine down. To analyze the cause of the rumbles, usually a separate, portable analysis tool is needed — which often must be operated by a specialist who may or may not be on-site. The delay in analysis capabilities can be costly in terms of downtime while waiting on a specialist to fly in, or in machine failure, which could have been detected and prevented.

The Alta AS-7000 MPS is designed to eliminate the need for two separate systems and simplify the analysis process while still providing vibration protection, which could amount to big savings as companies update their monitoring and protection systems.

"Before, you would have a [US]$30,000 or $40,000 vibration protection system, and those portable (analysis) systems were [US]$60,000 or $70,000, so no one was going to spend two-and-a-half times (the cost of the vibration protection) to put that on every system," said Robert Mihata, president of Alta Solutions. "But now, we're able to take that extra (analysis) system and incorporate for the cost of what you would normally find on just a standard (vibration protection) system."

Mihata is hoping companies will see the value of high-end analysis software when applied to more pieces of equipment and incorporate it when replacing older traditional MPS. Alta's timing for the AS-7000 might be just right.

According to Mihata, a large number of gas turbine engines with Alta condition monitoring and other companies' vibration protection systems equipped were commissioned in the early 2000s. While the monitoring systems were fairly new at commissioning, the vibration protection systems were based on technology that was already 10+ years old at the time. Although they have proven functional, electronic systems degrade with time, and the 20- to 25-year-old technologies are being scheduled for upgrades.

Moreover, the industry downturn has resulted in a lot of knowledge consolidation. There are fewer people trained to

do diagnostics using the older portable systems, and those technicians are spread out. For many pieces of equipment, spending an extra US$60,000 for analysis tools when buying vibration protection is already necessary, is simply not worth the investment.

But safety standards will require updates, regardless. Alta hopes those in need of modernization will consider the AS-7000 to cover both needs in one box at a price point companies can live with. Depending on the needs of the specific machine, an AS-7000 could cost anywhere between US$15,000 and $65,000.

The system itself exceeds API 670 5th Edition guidelines and incorporates a duplicate signal path that integrates the signal analysis capabilities Alta prides itself on. It features an embedded computer that allows remote analysis via any laptop with an Ethernet port. There is no longer a need to make sure the correct channel has been plugged in to.

Every vibration input channel contains two 24-bit analog-to-digital converters, one for the protection function and the second for analysis signal acquisition. The AS-7000 can simultaneously capture as many as 64 dynamic signals.

The 7000 system is offered in either a 9 in. wide or a 19 in. wide chassis. Flexible hardware allows outputs to Modbus, RTU, TCP, Alta Solutions VibDash, OSI soft PI, as well as other historian interfaces. Standard industry contact screw terminals simplify the retrofit task. Sensor power, -24 Vdc for proximity probes and 24 Vdc at constant current for IEPE devices is provided by the 7000 system. The 7000 sensor inputs are compatible with sensors from any manufacturer having an output voltage range of -20 to 20 V ac or dc.

The AS-7000 system supports current interfaces for rotating equipment monitoring, while Alta's development design is supporting future protocols by leveraging IOT technologies.

The system was to be available in early 2017. **CT2**

Featured Products

Compressor Sizing Tool

GE Oil & Gas has launched new software from their Reciprocating Compression division called PowerFlow Sizing Software. This software allows customers to size any of their compression products — Ajax, Cooper-Bessemer and high speed reciprocating (HSR) compressors — replacing three legacy sizing tools. AGA8 and VMG gas analysis and other customizable features are available. Downloads and training are available at:

www.engagerecip.com

Proflo Monitoring Solution

The Proflo USB-IR Adaptor and Proflo Assist software are the latest Compressor Products International (CPI) solutions for monitoring compressor lubrication systems.

The Proflo USB-IR Adaptor and Proflo Assist Software read and transfer information from the Proflo PF1 monitoring device, which records the average cycle time for each 30-minute block of lubrication system operation to a Microsoft Windows-based laptop, tablet or other USB-equipped device through the use of infrared technology. The accompanying Proflo Assist Software presents the cycle time trend data to operations and maintenance personnel, delivering powerful, convenient condition-based maintenance capabilities.

The Proflo PF1 provides real-time access to technicians and alerts operators or engages shutdown protection based on the cycle time of the system. CPI said real-time access to this information can help technicians intervene and prevent a range of problems, including the extrusion of packing and piston rings, locking of the packing case, valve stiction and more.

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