



By demonstrating Motor Insight's ease of use and ability to provide useful data, Eaton enabled the CMC to recognize the benefits of its solution over the competitor's offering and determine that changing the course of its application development process was in its and its customers' best interest.

California Motor Controls Develops Feature-Rich Pump Control Solution Using Eaton's Motor Insight™

Location:
Benicia, CA

Problem:
Customer frustrated with monitoring product's complexity of set up and use

Solution:
Eaton's Motor Insight

Results:
Customer and end-user gain cost savings

California Motor Controls, Inc. (CMC) was in the midst of developing a pump monitoring solution. When it learned of Eaton's Motor Insight overload and monitoring relay and the benefits it could provide—reduced set up time, more functionality, rich data and diagnostics, all in a cost effective package—CMC changed its plans.

Programming Ease

CMC President Tom Duling explains, "The first thing that caught my attention about the Motor Insight was how easily it could be programmed.

I knew immediately that it would be far easier to work with than the other relay because it supported more of the Modbus functions and was laid out more logically. Those two factors are extremely valuable because they give our customers additional data and a more user-friendly product that is easier to navigate and set parameters.

"Since Motor Insight supports Modbus function 16, programming is far easier because it allows me to write multiple registers with one command from my PLC.

With the other supplier's relay, I would have to write many additional lines of code in order to communicate all the information from my PLC to the relay. With Motor Insight, I just write one instruction."

To program the other relay frequently, three steps were

required to set up a multiplier for current. For over current protection, the amperage and the full load amps of the motor needed to be set into the monitoring device so it would trip when the current exceeds the setpoint.

Duling notes, "The other supplier's product did not provide the same resolution. When you are dealing with larger 200 or 300 horsepower motors, the amp setting is much higher. Consequently, the span of this range has to be adjusted to include a 300-amp trip. As you expand the range, you get reduced resolution. With the Motor Insight, the set point resolution is constant."

CMC recognized that this decreased resolution would pose a problem to its customers. The company's pump control product uses a color touch screen controller

for users to input setpoints. With the other supplier's product, once the setpoint was entered on the screen and the value written into the relay, the unit would change the value. CMC anticipated that this would cause customer concern and generate calls regarding its pump control solution's performance.

Duling reports, "After Eaton demonstrated the Motor Insight, I saw that it was going to work based on exactly what was entered. Given all of the challenges that the Motor Insight would eliminate and the additional capabilities it offered including its ability to provide more data because of the Modbus registry mapping, I decided to abandon the other supplier's relay."

Even though CMC was well along in the development of its new pump control product line with the other supplier's relay and recognized that some rework, reprogramming, and rewriting operating manuals were required, the company believed that incorporating the Motor Insight

would significantly improve its product and provide its customers with a more comprehensive solution.

Since CMC's controller has a built in web server, by connecting Motor Insight to the controller, voltage, amperage, power, and operating conditions can all be monitored remotely. CMC's pump control solution, which includes a level controller, transducer, motor starter, and enclosure affords users an economical way to gain the same control and monitoring advantages as larger scale SCADA systems.

Looking Ahead

With the addition of Motor Insight into its pump control solution, CMC is now able to protect pumps from running without water and burning up, as well as preventing mechanical jams caused by foreign materials. Still, CMC is exploring providing additional capabilities. The company is currently surveying customers to determine if adding an automatic reverse, forward, reverse sequence to clear jams would be a valuable feature. If the idea is deemed worthwhile, Motor Insight will play a role in its implementation.



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