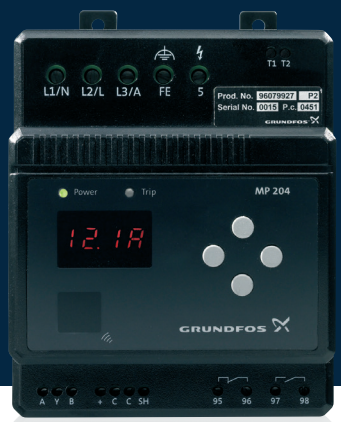
MP 204 & Grundfos Utility Connect

Restores Protein Plant Processing Operations in United States



INTRODUCTION

Sometimes one of the most significant problems when working with pumps and pump systems is knowing and understanding factors in the environment that can influence pump performance.

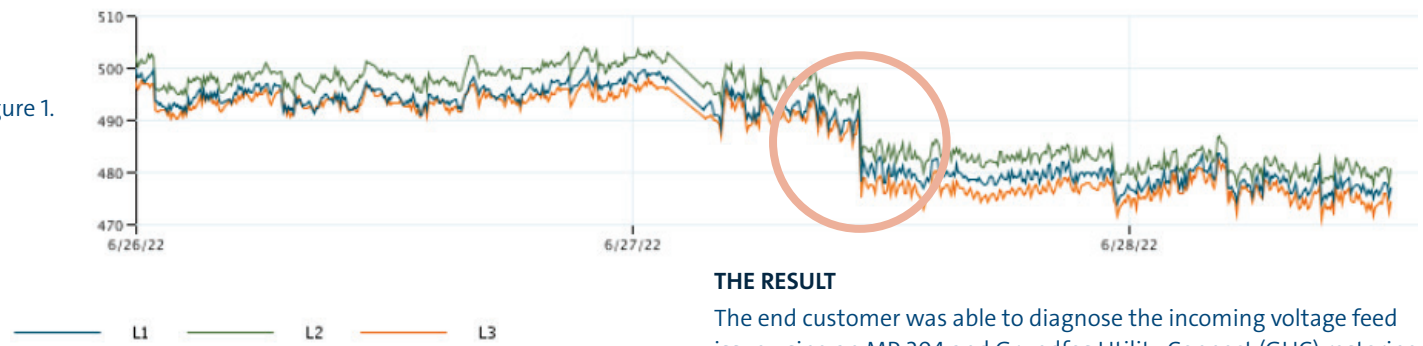
THE SITUATION

A United States protein processing plant had a Grundfos booster system with CRE pumps, used for "spray chill" processes, that was shutting down intermittently when current and voltage thresholds were out of range. This impacted operations. Diagnostics were run on the system to determine the root cause. The customer initially suspected it was the Grundfos CRE because they could bypass the MLE Variable Frequency Drive and the motor "ran fine." When their technician measured the voltage with a handheld multimeter it registered within range at 480V. The customer swapped out the MLE motor, thinking this would be the fix, but this also did not fix the problem. Thinking it might be the harmonics from other nearby motors, an input choke/filter was installed on the incoming power feed before the booster. When this also failed, they went with a different solution using tried and true Grundfos technology to help identify the problem.

THE SOLUTION

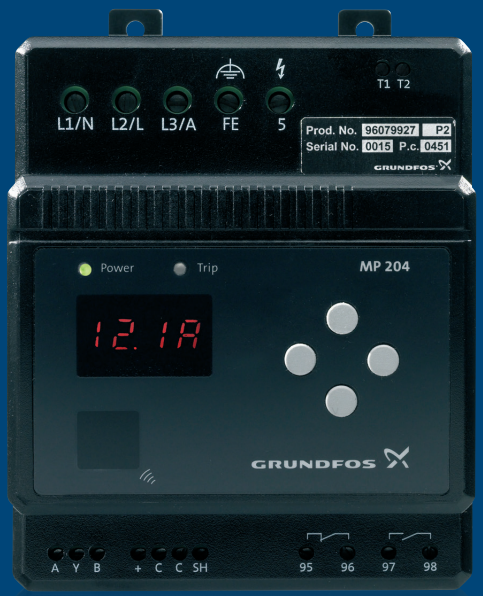
A Grundfos MP204 pump protection device was added on GUC (Grundfos Utility Connect) that allowed for 24/7 voltage monitoring and alarm notifications. After six weeks, it was noticed the voltage would consistently read above 505V instead of maintaining at the optimal level of 480V. The customer consulted with the power company, who reported no issues with their incoming power feed coming into the plant. They then consulted with an electrician that found there was an issue with the incoming voltage being fed from a capacitor bank located within the plant. The electrical maintenance department shut off the capacitor bank, and the station began to operate at a much lower and cleaner incoming voltage. Figure 1 is a screenshot of the voltage trends captured from the MP204 in the Grundfos Utility Connect (GUC) system. The red circle shows when the issue was resolved.

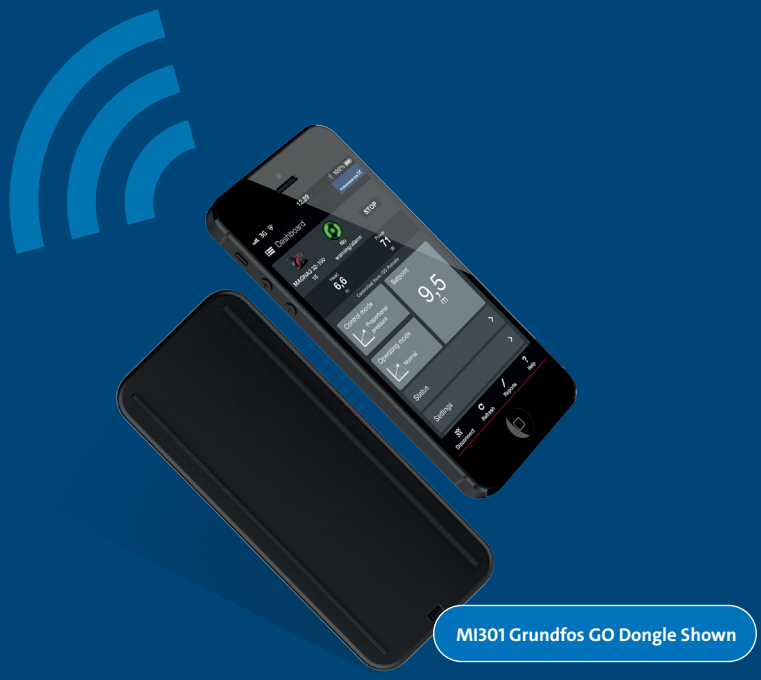
Figure 1.



THE RESULT

The end customer was able to diagnose the incoming voltage feed issue using an MP 204 and Grundfos Utility Connect (GUC) restoring plant operations.





MI301 Grundfos GO Dongle Shown

MP204

The MP 204 is a Grundfos developed motor protection unit that can be paired with almost any pump on the market. The MP 204 protects pump motors against over/under voltages, over/under current, winding insulation breakdown within the motor, and many other variations in power supply, ensuring steady pump performance. The MP 204 is configurable via Grundfos GO or the MP 204 keypad.

MP 204 - SCADA Connectivity Compatible

MP 204 solutions can also be connected to a SCADA system via various open protocols. Use a combination of our Grundfos CIM (Communication Information Module) and CIU (Communication Information Unit) modules to connect.

Grundfos' Cloud-based Monitoring System, Grundfos Utility Connect, allows remote access to pump data. Control the pump, change the settings, and access information such as energy consumption, detailed single and three-phase voltage, and current conditions, alarms, and operational data remotely.

Connections to Grundfos Utility Connect can be created either via wired internet connections or cellular based communications. By choosing Grundfos Utility Connect (GUC), you can communicate via your computer, mobile phones and/or tablets where internet access is available.

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