



Danish Regional Hospital Pump Installations Underwent Major Retrofit

Silkeborg Regional Hospital is located in Silkeborg, one of the oldest cities in Denmark. The hospital specializes in general medicine, orthopedic surgery, and gynecology, and with over 1200 doctors, nurses, and administrative staff as well as more than 100,000 patients per year, is one of the biggest hospitals in Denmark.

The hospital maintenance staff was handling a lot of onsite inspections. The hospital decided to contact Grundfos as they needed a solution that would give them the opportunity to monitor and control the pumps without having to rely on onsite maintenance staff 24/7.

The Challenge

Previously dependent on visual inspections

The installations concerned were a Hydro MPC-E booster for constant pressure water supply and a set of Grundfos TPE circulator pumps at the central heating inlet. Each installation consisted of three speed-controlled pumps; all controlled and monitored by a Grundfos Control MPC multi-pump controller.

Despite the communication capability built into the Control MPC, the hospital's four-person technical team had to perform visual inspections. If incidents occurred outside working hours, the technician on duty from home would have to drive in to check and remedy the situation. The same applied if system conditions required optimization.

Standard I/O LON interfaces could have provided simple data, but the information value was considered insufficient. It is not enough to know that an alarm has occurred; a detailed description is needed for the technician to determine how urgent the situation is.

The hospital already had a LONWORKS network in place which connected all BMS equipment throughout the entire building. So according to Operations Manager, Soeren Christiansen, it was crucial that the equipment was based on the LONWORKS technology; even to the extent they would rather forego the entire project was that not possible.

The Solution

Monitoring and control via any SCADA system

The Grundfos CIU was a welcome option for bringing the pressure booster and heating circulators online. The CIU is a standard interface for data transmission between a Grundfos pump or controller and virtually any SCADA system – in this case LONWORKS.

The communication interface is fully compliant with the standard LONMARK functional profile 8120 "Pump Controller"; ensuring interoperability with other LONMARK certified devices. Without interrupting the water or heating supplies, the CIU unit was installed in both existing Control MPC control panels. A Grundfos technician installed the unit successfully in half an hour. Finally, without previous experience with the CIU, the hospital's own electrical engineer carried out commissioning in only half an hour – again without any problems.

With the new equipment, facility managers can monitor, control and optimize their electrical installations, from their SCADA system. They can do this from anywhere around their facility – or even from

home. The more installations that are connected, the more a facility manager can capitalize on this technology.

The system allows for remote notifications in the event of system failure, saving the hospital technicians substantial amounts of time in their everyday work.



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The Outcome

Faultless monitoring and control

Drama is pretty much the last thing the technicians want or need in their work at the hospital. In this respect there have been some distinct advantages with the CIU. The hospital now has a complete solution comprising pumps, controllers and communication interfaces where each component is integrated and optimized to work together. While this case was a retrofit, the same set-up is available as a complete turnkey solution, which significantly improves reliability compared to components sourced separately.

During a tour of the installations, staff reported that there had been no issues with data exchange at all. Now if an incident occurs during operation, they can react from anywhere onsite or offsite. And, as Soeren Christiansen explains, if the hospital needs to regulate the heating at night, “we just change the settings from home.”

With the new Grundfos CIU communication interface, the hospital has recently brought existing Grundfos pump installations online via their LONWORKS network. After half an hour's straight-forward commissioning, data exchange between the pumps in the system and the SCADA system was a reality, and there have been no issues since.



Grundfos Communication interfaces

- Grundfos CIU – wall mounted/DIN-rail unit;
- Grundfos CIM – Built-in module for 11-22 kW Grundfos E-pumps;
- Supported protocols: LONWORKS, Profibus, Modbus, GENIbus, BACnet, GSM/GPRS;
- Standard functional profiles ensure interoperability with other devices.

Benefits:

- Visual inspections of the equipment no longer needed;
- Fast and easy installation into existing network, using standard functional profile;
- Logging of pump data possible from BMS;
- Monitoring of pump system flow and energy consumption;
- Available as complete turnkey solution from Grundfos.

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