

Case note

Research company saves 25,000 Euros a year with ABB drives



ABB standard drives for HVAC helped to reduce energy consumption by 10%.

DSM is an international organization that creates innovative products and services in life sciences and material sciences. One of its main research facilities is on the Chemelot Campus in Geleen, the Netherlands.

The original HVAC air handling system at Geleen used inlet guide vanes, which mechanically restricted air flow to between 80 to 85% while the electric motors ran continuously, at full speed. With 24 motors, totalling over 400 kW, this amounted to a high energy wastage.

DSM asked system integrator, Regel Partners, and electrical and mechanical contractor, Burgers Ergon, to look at ways of saving energy. The companies recommended replacing the inlet guide vanes with variable speed control of the supply and return fan motors, using ABB standard drives for HVAC. Each motor was replaced and the new motors fitted with their own IP54 rated ABB drive, either wall-mounted or on a mounting rack close to the motors.

The major benefit of the ABB drives is the reduced energy consumption, which decreased by at least 10%, saving DSM some 25,000 Euros a year.

The drives have a native BACnet capability, meaning they did not need to be adapted using add-on software gateways. ABB standard drives for HVAC are also approved to BTL (BACnet Testing Laboratories). BACnet provides the serial link between the drives and the BMS, allowing remote access to the drive over the Internet and making it possible to change set points instantly from a PC.

All 24 drives can be named uniquely to ensure better integration to the BMS system and each drive is identified in clear text, in accordance with electrical schematics or depending on the drive's task. This allows maintenance engineers to immediately identify the drive, its function and its location.

The BACnet interface also gives easy drive commissioning and/or tuning from a central location, cutting the required commissioning time. Drive parameter sets can be easily copied to other drives using the drive's control panel. BACnet also gives more information about how each drive is performing and helps to monitor the performance of the overall building installation.

Solved problem

- Air handling system had poor control, with motors running continually, wasting energy

Solution

- New motors driven by ABB standard drives for HVAC, featuring BACnet interfaces to the BMS

Benefits

- 25,000 Euros a year energy saving
- Easy control of drives over the Internet



All 24 drives can be uniquely named to improve integration into the BMS.

For more information please contact:

www.abb.com/drives

www.abb.com/drivespartners

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