

**Industry: Building Management**  
**Products Used: Modular PLCs**

# Perfect Control Systems for an Exclusive Wellness Oasis

Whilst ordinary saunas can get by with just a few switches and a three-point temperature controller, modern spas need carefully-planned control systems and operating terminals. At the spa centre of the Yachthafenresidenz Hohe Düne hotel, state-of-the-art control systems unobtrusively help to create a stylish atmosphere and enhance the well-being of the discerning guests.



All the control systems for the Hohe Düne's lavish spa facilities were delivered by GridControl of Ruhpolding.

"The key components of the automation system are the programmable logic controllers and their control terminals," explains Fritz Grübl. "We have been sourcing these products from Mitsubishi Electric ever since 1995."

The GridControl engineers chose the modular MELSEC System Q as the foundation for the control systems to be installed in the Hohe Düne's multifunctional spa. This versatile programmable logic controller (PLC) is the most powerful model in the Mitsubishi Electric range; among other things, it can accommodate up to four different processor modules on a single backplane. "This was necessary because of the very large number of inputs and outputs," says Grübl, explaining why his team chose to switch to the more powerful PLC platform. In the past, GridControl had always used the compact controllers of the FX series. To date, the company has delivered over 900 control systems, the first for a hotel in the Bavarian town of Reit im Winkl.

Application story first released in August 2005

Like all Mitsubishi Electric's compact and modular controllers, the System Q PLC is programmed under Microsoft Windows, using one of two software packages: the modern GX IEC Developer (European IEC 61131-3 standard, Function Block, Ladder Diagram, Instruction List, Structured Text and Sequential Function Chart languages), or the popular GX Developer (Ladder Diagram, Instruction List, Sequential Function Chart). "The modular software architecture and the well-matched components enable us to develop a customised control console for a system very quickly," says Grübl enthusiastically.

An intuitive user interface was a top priority for the developers. In addition to this the interface and the control terminal had to have an attractive design to match the exclusive setting.

GridControl chose a control terminal from Mitsubishi Electric's new E1000 series for operation and visualisation of the spa systems.

All messages and alarms can be confirmed on-screen and can also trigger automatic emails, SMS text messages or faxes, which are sent by the controller via a connected modem. For example, if the aroma fluid in a steam bath runs low the controller automatically sends an order to the supplier.



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Fritz Grübl  
 GridControl in Ruhpolding, Germany



A process visualisation system that provides a detailed image of current system status and reports malfunctions makes operation easier and increases the everyday availability of the system.