

# Easy BMS integration with MIXIT

Grundfos MIXIT enables new Grundfos factory  
in Serbia to maximise efficiency and comfort

A straightforward connection over Modbus RTU (TCP and BACnet protocols also available) was central to an energy-optimised HVAC system, in a positive collaboration between Grundfos and system integrators.

Explore Grundfos MIXIT at [grundfos.com/mixit](https://grundfos.com/mixit)

**GRUNDFOS** 

Possibility in every drop



MIXIT controllers and high-efficiency Grundfos pumps were installed around the factory

**Grundfos MIXIT is an all-in-one mixing loop solution that increases building energy efficiency. For an expansion project at the Grundfos factory in Indjija, Serbia, MIXIT was easily and seamlessly integrated into the existing BMS with full control over several parameters from MIXIT and Grundfos MAGNA3 pumps. The expanded factory is fully operational and certified LEED Gold, meeting Grundfos's water- and energy-saving sustainability ambitions.**

#### **The situation**

To scale up production of the latest generation of energy-efficient circulator pumps, Grundfos Serbia embarked on a project to expand our manufacturing plant in Indjija. Established in 2013, the factory would almost double in size with the 17,600 m<sup>2</sup> extension project.

As with all Grundfos building projects, there were clearly defined water- and energy-saving goals in line with our [sustainability ambitions](#). We wished to create a model case in deploying our own technology in order to achieve these, along with LEED certification.

At the core of the new factory's HVAC system, therefore, would be [Grundfos MIXIT](#), our all-in-one mixing loop solution that, combined with high-efficiency Grundfos pumps, optimises energy performance with full control and real-time monitoring.

Key to maximising efficiency and comfort was ensuring that the MIXIT solution would integrate and communicate seamlessly with the factory's existing BMS, [Sauter Vision Center \(SVC\)](#).

**“Having great designers on one side and outstanding developers on the other is a win-win situation. We're delighted with our cooperation with Sauter and the opportunity to prove that BMS integration with MIXIT really is as simple as we intended.”**

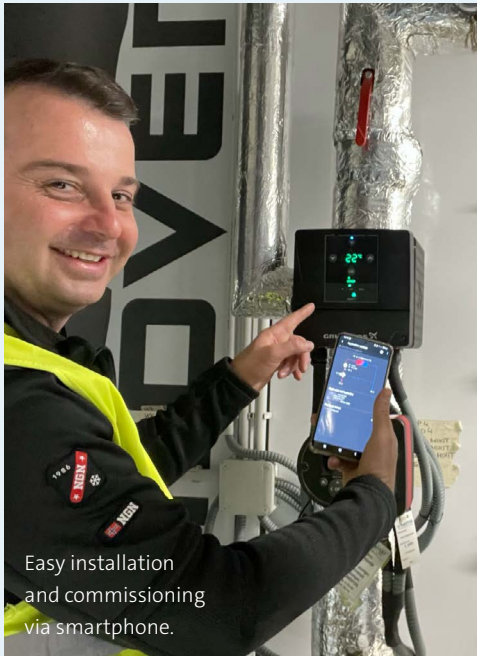
**Kim H. Jensen**, Global Lead Product Specialist  
Grundfos

## The Solution

Early in the design stages, product specialists from Grundfos headquarters in Denmark collaborated with local facility management to plan the HVAC system and the optimal MIXIT implementation.

This combined Grundfos team then met with Sauter developers, who in the space of a single afternoon session with, were able to fully understand the MIXIT solution and the necessary steps needed for the integration process.

During the following six months, the HVAC system including a number of Grundfos



Easy installation and commissioning via smartphone.

MAGNA3 pumps and MIXIT control units was installed and commissioned,

Nine MIXIT controllers of varied sizes were installed: one each for the underfloor heating and office radiators, and a further seven for the air handling units. The MIXIT units were integrated into the SVC BMS by Sauter's development team, with communication in this case over Modbus RTU. MIXIT's built-in fieldbus is also equipped for communication via Modbus TCP and BACnet (MS/TP or IP).

A total of 28 MAGNA3 and 27 TPE energy-efficient circulator pumps, many with ultra-premium efficiency IE5 motors, were installed around the system. A lot of data-points is transferred wirelessly between MAGNA3 pumps and the MIXIT units and in turn to the BMS – a unique solution of seamless communication between pumps and controller from one supplier.

Multiple parameters from MIXIT and Grundfos MAGNA3 pumps are easily integrated into the BMS, enabling total control of all components in a complex system that includes heat pumps, chillers, a geothermal field, dry coolers, heating, cooling, and a full array of Grundfos circulator pumps.

**“The integration of Grundfos MIXIT into our Sauter Vision Center BMS was super easy. We’re really impressed with MIXIT, its open communication and the abundance of parameters available to control.”**

**Mladen Vukanac**, Managing Director  
Sauter Building Control Serbia

## Grundfos supplied

- 6x MIXIT 32-16 R NRV for production area AHUs
- 3x MIXIT 25-10 R NRV for canteen AHU, office radiators, and underfloor heating
- 28x MAGNA3 canned-rotor circulator pumps (17 variants)
- 27x TPE2 single-stage, close-coupled in-line centrifugal pumps (12 variants)
- In addition to HVAC, a complete Grundfos water treatment system was installed



Grundfos MIXIT 25-10



Grundfos MIXIT 32-16



Grundfos TPE2



Grundfos MAGNA3

**“We naturally wanted to make the best use of our high-efficiency Grundfos technology in our new plant. Now in our LEED Gold certified factory we’re saving significantly on energy, water, and costs – and have total control to provide optimal comfort for our colleagues.”**

**Dušan Plečić**, Lead Facility Project Manager

## The Outcome

Connecting MIXIT to the BMS was a very straightforward process for the system integrator, made even easier by positive dialogue and close cooperation between the Grundfos team and Sauter’s expert developers throughout.

Multiple of user-friendly data parameters can now be monitored and controlled via the BMS, such as temperature, flow, limiter functions and more – some of the parameters are transmitted wirelessly from the pumps and thus without any expenditure required on additional communication modules.

Through the BMS, the plant manager is able to control every setpoint in every factory space to ensure optimal comfort for colleagues in all administration and production areas.

The MIXIT system proved easy to commission and implement, and can be further controlled with calendar and scheduling functions, which together with its system of alert functions saves hours in maintenance time.

The entire factory extension is now fully operational and certified LEED Gold, thereby meeting all the rigorous water- and energy-saving efficiency targets established in the planning phase. MIXIT was singled out by the certification organisation as a significant contributory factor in achieving this status.

Grundfos MIXIT

How to connect your MIXIT to a BMS

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