

Eckelmann

Virtus Tectum Grid - Building Intelligence

The Digitalisation of Building Automation



Eckelmann AG

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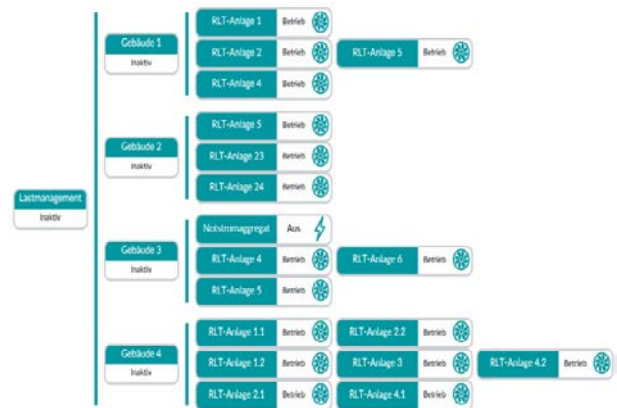
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Sitz der Gesellschaft: Wiesbaden Amtsgericht Wiesbaden HRB 12636

Building IoT

The digital transformation is making its way into building management and is enabling the digitalisation of processes. Benefit from our know-how in Industry 4.0 and design your Building 4.0 with us.

With our IoT-based management platform Emalytics, we support you in breaking out of the classic structures of building automation and creating added value for your intelligent building.



Throughout the planning and life cycles of your building, we provide innovative concepts, solutions and products to ensure economical operation with a high level of user comfort.

Building Intelligence is the answer to the increasing complexity of future-oriented buildings.

IoT-Based Building Management: Smart Functions for More Flexibility in Utilisation

The central element for the digitalisation of a building is building automation. With our Virtus Tectum Grid (VTG) building management system, you can integrate conventional building automation into the building IoT network of the future. The IoT-based framework combines management and operating equipment as well as energy monitoring in one intelligent platform. Thanks to the open connection of all common building technology protocols, flexible building management with smart functions is made possible. Whether new buildings or the simple connection of existing systems – benefit from simple engineering and a superimposed system for all applications.

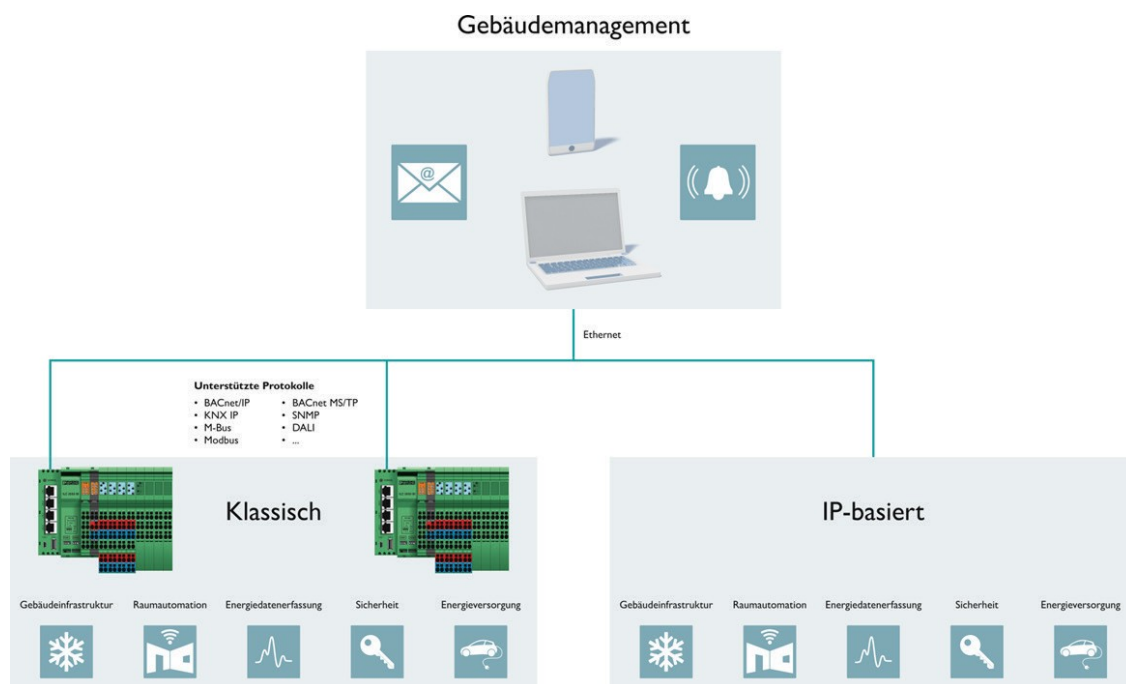
Your Advantages

- Optimisation of life cycle costs: one system for all applications
- Flexible and future-proof: connection of all common building technology protocols
- Easy integration of new and existing buildings thanks to IoT-based and classical communication
- Upgradeable, updateable and secure according to the rules of IT architecture
- Reduction of hardware costs through future-oriented automation technology

Virtus Tectum Grid Building Management System

The Virtus Tectum Grid building management system enables easy connection of field devices or systems with serial or Ethernet interfaces, as well as the classic signals from current, voltage and resistance transmitters and potential-free contacts. The core element of Virtus Tectum Grid is the IoT framework, in which the data of all trades are normalised to a uniform format. The captured data points are defined only once and are thus available to the complete system. The data point becomes a data information object that can be accessed throughout the network – whether in the controller, the server for visualisation or on other devices. This way, all data is always available in the same structure.

The system's data security is ensured by communication with TLS encryption and integrated update and patch management of the connected IoT controllers. An automated backup of applications and set parameters is also possible. Authorisation to access data can be flexibly defined by different user roles.



System Architecture of the Building Management System

VTG's system architecture supports easy migration of classic and IP-based building automation.

The advantage: With VTG, we also create investment protection for future expansions of your building automation towards smart and intelligent IoT-based building management.

Cyber Security in the Virtus Tectum Grid

Cyber security plays an important role in smart buildings. The basis for smart buildings is end-to-end barrier-free connectivity. The focus here is on the provision and use of building and user data. Cyber security is thus a crucial aspect for the operation of smart and intelligent buildings.



Due to the increasing cyber threats in networked buildings, Emalytics offers a comprehensive range of control mechanisms, we call it "SECURE ON DEFAULT" We make your building more secure by a simple configuration of the security mechanisms.

- Authentication
- Identity infrastructure and PKI integration
- Role-based access control
- Authorisation on API encryption of all communications
- Administration of user accounts e.g. through password assignment
- Review of all user activities

Building Automation with Virtus Tectum Grid

VTG offers the possibility of combining all data from plants and trades. These can be visualised and managed via normalisation, regardless of protocol or manufacturer. In addition to the installation on the server or the cloud, it is possible at any time to operate VTG via a web server on HTML5 standard.

The focus is on the user and his operational process. Due to its intuitive operation, Virtus Tectum Grid offers the user the possibility to design his start page according to his needs. As soon as the organisational process requires alarm and fault message forwarding via e-mail and/or SMS, various scenarios can be mapped here, including time schedules, logbook, etc.

Supported Protocols and Drivers

The following protocols are available to you: KNX, Modbus, BACnet, DALI, SMI, EnOcean, SNMP, MQTT, REST etc. as well as more than 300 drivers (including third-party providers).

Building Visualisation with VTG Visualisation

Ready-made system diagrams and symbols in 2D and 3D for the integration of heating, air conditioning and ventilation are included for quick implementation. Optionally, system symbols based on the standard are available. Buildings and floor plan views can be imported and displayed either in 2D or 3D. With the building visualisation of Virtus Tectum Grid, you can transfer all captured data tailored to your needs in both 2D and 3D. Information can be assigned to and shown on these displayed segments.

Whether you need a comprehensive overview of individual trades or distributed properties – create individual dashboards for displaying, evaluating and comparing your data. The use of standard web technologies ensures a freely selectable operating concept.

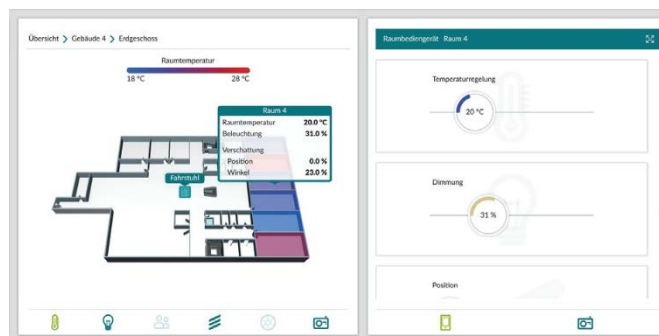
Overview

The simple and comprehensible start page allows the user intuitive operation and enables quick access to the desired part of the system.



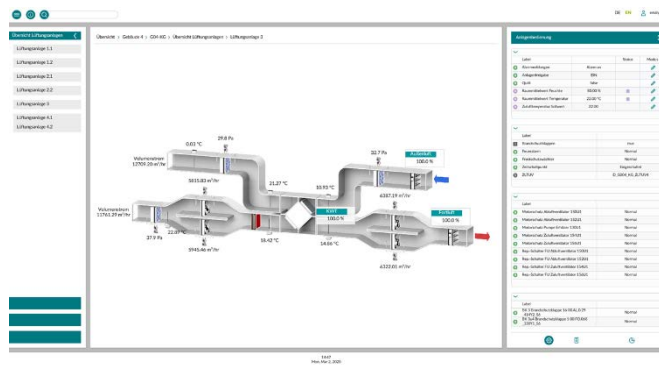
Room Automation

Direct operation of the room functions via the Virtus Tectum Grid means that an on-site control point is no longer necessary.



Technical Facilities

The representation of the technical systems in 2D format with DIN symbols or in 3D representation provides a clear overview of the current status of the system.



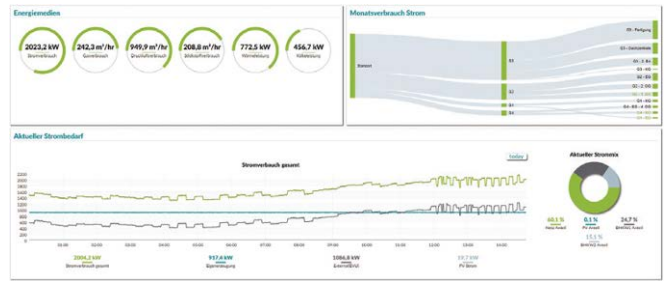
Trends

The course of temperatures, operating hours, etc. is recorded and can be visually displayed in various diagrams in dashboards. A defined collection of data can be forwarded to external locations.



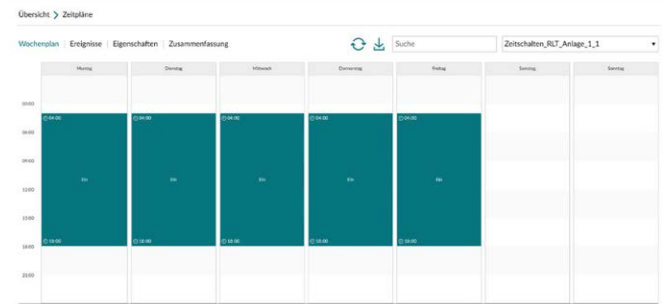
Energy Monitoring

The collected data can be displayed visually in different ways. It is also possible to export the data.



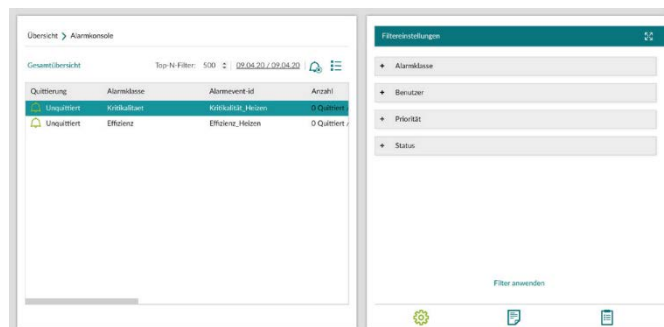
Time Schedules

The switch-on and switch-off times are coordinated centrally via the time schedules. Higher-level events such as public holidays are created centrally.



Alarm Console

In the alarm console, alarms are displayed in a list and can also be acknowledged. In addition, various filter functions are available for searching / sorting.



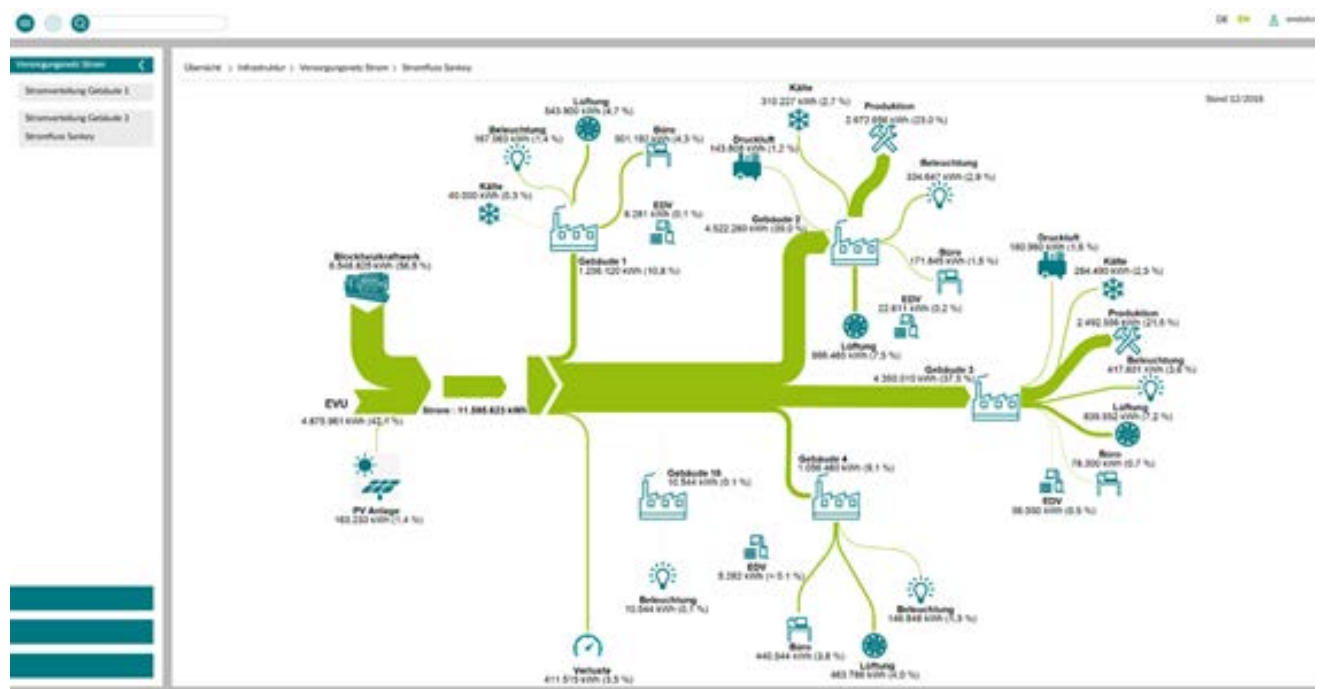
Building Automation - Building IoT Controller

The VTG 2050 BI is convincing with its high interface density, modularity and performance. This is the basis for the efficient automation of all trades of the technical building equipment.

Thanks to its modular design, the system can be expanded at any time with a variety of additional interfaces.



Building Intelligence - Use Digital Potentials in Building Automation with Virtus Tectum Grid



- Increasing the well-being and performance of users through demand-oriented infrastructure and equipment, such as co-working spaces and user-controlled room automation Monitoring and economic optimisation of supply processes in the building through needs-based key performance indicators (KPIs)
- Flexible and adaptable room concepts during operation through open IoT-based management platform VTG
- Increasing the market attractiveness of properties and improving building performance through additional application and use scenarios

In Dialogue with Customers and Partners

Eckelmann is a manufacturer of refrigeration controllers for refrigeration and building management. What is needed here are systems that offer holistic energy and building management while also fully exploiting the potential of new technologies. With our E*LDS and Virtus LINE product ranges, we offer all the options for controlling, operating, networking and monitoring compound refrigeration systems, cold rooms and refrigeration units, building automation and building management.

Your Contact Persons

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For further information, please visit www.eckelmann.de/elds

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