



Digital Refrigeration Control for energy-efficient supermarkets

Stable temperatures protect goods, processes and reputation





Save energy without compromising on freshness.

Started decades ago as a start-up, we now offer our customers the complete range of state-of-the-art control systems for supermarket refrigeration and refrigeration technology for industrial applications.

We manufacture hardware and software in Germany and support our customers with commissioning and service.



Optimized Control Systems permanently reduce costs and emissions

The use of environmentally friendly refrigerants and increasing demands on energy efficiency are significantly increasing the complexity of modern refrigeration systems.

At the same time, expectations regarding reliability, transparency and cost-effectiveness in operation are growing.

What is needed, therefore, are innovative, holistic solutions that intelligently combine refrigeration, energy and building management. This is the only way to consistently exploit efficiency potential, reduce operating costs and sustainably reduce emissions.

With our Virtus LINE and E*LDS product ranges, we offer a comprehensive portfolio for controlling, operating, networking and monitoring refrigeration systems. From refrigeration systems and cold rooms to refrigerated cabinets, our systems enable precise control, high operational reliability and maximum transparency throughout the entire system.

Holistic energy management

Eckelmann offers integrated energy management by combining all consumption-related subsystems such as cooling, heating, ventilation and lighting.

- Secure operation through cloud-based or on-site monitoring and alerting functions and full usability of mobile devices
- Integration of renewable energy sources, such as photovoltaics or geothermal energy





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Efficiency, security and openness in one system

Sustainable cost-effectiveness throughout the entire life cycle

EAG products reduce operating costs through durability, low failure rates and reduced investment. Optimized service concepts simplify processes, warehousing and spare parts management. Update and upgrade capabilities minimize downtime, while robust industrial quality and specially designed electrical accessories ensure reliable operation.

Easy to operate. Fast service. Safe to use.

The Virtus 5 enables quick commissioning via any web-enabled device. LED status messages support the “easy to maintain” concept and allow initial diagnoses without system access. Virtus Caelum offers clear parameterization with user-specific views and direct access to product documentation, which speeds up troubleshooting and reduces queries.

Openly integrated. Future-proof networking.

EAG systems focus on openness and easy integration: MODBUS-TCP/IP seamlessly connects VPC 5000 and Virtus 5, and third-party controllers and alarms can be integrated directly – without additional hardware. The VCC 500 acts as an integration node, and all building and refrigeration data is displayed centrally in Virtus Caelum or via web visualization/Virtus Tectum Grid.

Long-term performance. Flexibly adaptable.

All system components can be configured and expanded remotely. Virtus LINE enables customer-specific adaptations, while modern standards such as MQTT and machine learning optimize operation. Platform-independent web applications facilitate scaling and backward compatibility with LDS 2.0 guarantees a smooth upgrade path to Virtus Caelum.

Securely connected. Trustworthy and compliant.

EAG systems offer the highest security standards thanks to a comprehensive cybersecurity approach and certificate technology. TLS encryption in the Virtus Tectum Grid protects communication and increases compliance capability. The systems are CRA-compliant to reliably meet upcoming regulatory requirements.

Can be used internationally. Easy to roll out.

Virtus 5 supports up to six languages directly in the system, which greatly facilitates international use. This reduces training costs and familiarization times, while rollouts across multiple locations can be implemented with ease.

Reliable under all conditions

EAG systems impress with their high operational reliability – even under extreme conditions. OEM feedback shows that, compared to other control systems, EAG algorithms cause significantly fewer failures at high outside temperatures, ensuring reliable and uninterrupted operation.

Partner-oriented and close to the customer

Eckelmann focuses on customer proximity: even smaller customers are actively involved and individual requirements are examined. The efficient monitoring platform provides a cost-effective overview of plant data, HACCP, and energy consumption, enabling trading partners to optimally control processes.



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Virtus Caelum – High process efficiency and optimized service for Refrigeration Systems

Cold monitoring reimagined – centralized and cloud-based

In the increasingly digitized food retail sector, Virtus Caelum offers a modern solution for refrigeration systems. The cloud-based platform enables centralized, cross-location monitoring for stores, technical managers and service providers.

This transforms refrigeration monitoring from a mandatory task into an active part of an efficient food retail infrastructure.

Real-time monitoring instead of a PC solution

Unlike stationary PC solutions such as E*LDSWin, Virtus Caelum is a cloud-based system that provides real-time data across multiple locations. Measurements, statuses and events are available immediately, enabling faster responses, more up-to-date decisions and greater security for freshness and plant operation.

All systems at a glance – for better decisions

Virtus Caelum bundles all operating information clearly in one central location. Managers get a clear overview of refrigeration points, system statuses and key figures – either for specific branches or across all locations. This simplifies day-to-day business and makes the technical situation traceable at all times.

Early warning system for greater operational safety

Virtus Caelum detects deviations early on, before they become problems. Trends, limit violations, or atypical developments are immediately visible, allowing proactive measures to be taken, critical situations to be avoided and plant availability to be secured in the long term.

Energy efficiency visible and measurable

Virtus Caelum makes energy consumption transparent and highlights potential for optimization – from incorrect settings and creeping defects to inefficient operating modes. This allows you to reduce costs, increase efficiency and reliably demonstrate results to management, controlling, or audits.

Fast service thanks to clear data

Virtus Caelum creates a shared, up-to-date database for teams and service providers. Faults can be precisely localized, priorities clearly set and service calls efficiently prepared.

This reduces unnecessary trips, shortens troubleshooting times and takes the pressure off everyone involved – while increasing operational reliability and making costs more predictable.

Virtus Caelum Cloud

Virtus Basic Desk

for monitoring and remote maintenance of Virtus systems and refrigeration systems



Virtus Alarm Desk

for advanced fault management – centralized and across locations



Virtus HACCP Desk

for documenting and proving compliance with the cold chain





E*LDS – Proven Refrigeration Control Technology for maximum operational reliability

E*LDS combines powerful control with simple remote monitoring and analysis. Complex refrigeration systems can be quickly parameterized, efficiently operated and reliably maintained. Flexible integration options into higher-level systems ensure economical and transparent operation throughout the entire life cycle.



Customer satisfaction speaks for itself

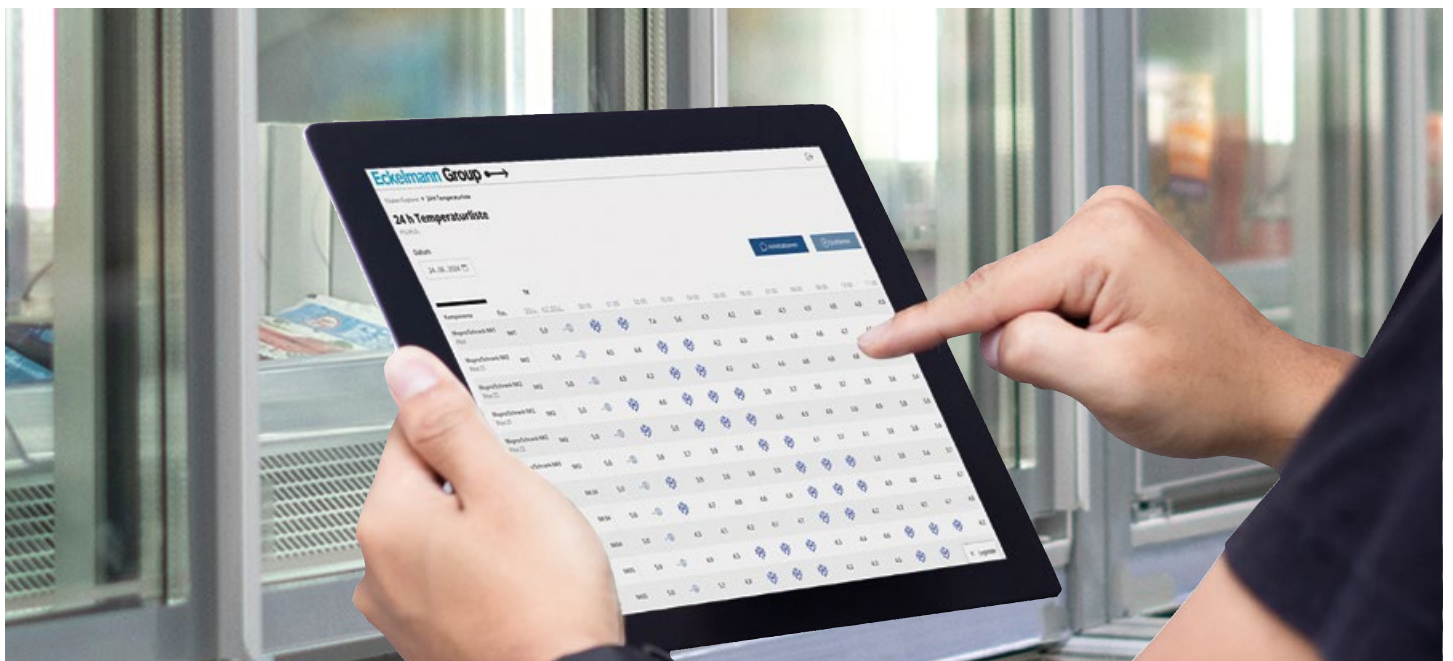
„Since our company implemented Eckelmann AG’s E*LDS technical control system to manage our refrigeration systems, we have seen tremendous improvements in our operational efficiency. The system allows us to precisely monitor and regulate temperatures, resulting in consistent and reliable cooling of our customers’ products.

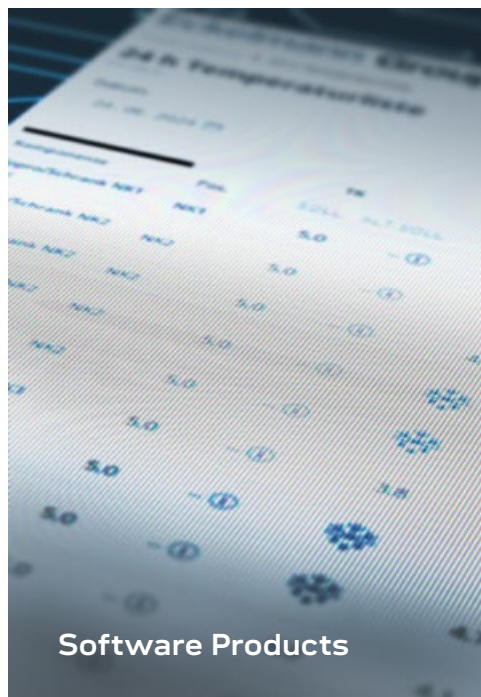
Thanks to the intuitive user interface of the E*LDS system, our employees can easily adjust the various settings and respond to error messages. This has led to a significant reduction in downtime and maintenance costs, which has had a positive impact on our business operations.

In addition, the E*LDS control system has also improved the energy efficiency of our refrigeration system by automatically adjusting the output according to actual demand. This has not only led to cost savings, but has also helped to reduce the ecological footprint of our customers.

Overall, we are extremely satisfied with Eckelmann AG’s technical control system for our refrigeration systems and would recommend it to any company looking for a reliable and efficient solution.”

Moersch-Elektro-Kältebau GmbH

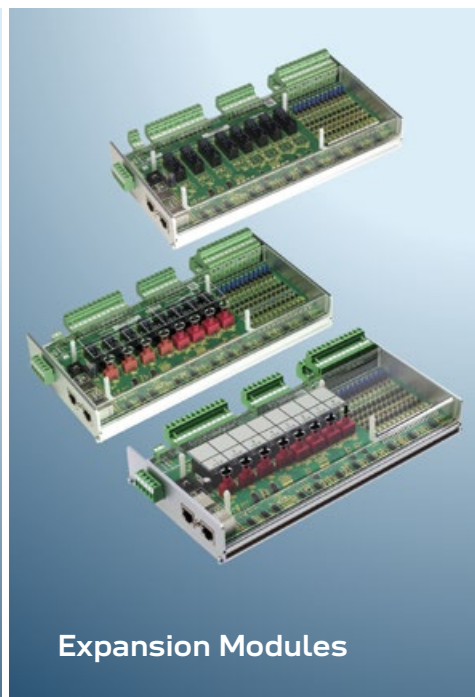




Software Products



System Central &
Operation Terminal



Expansion Modules



Compound Controls



Refrigeration Controllers



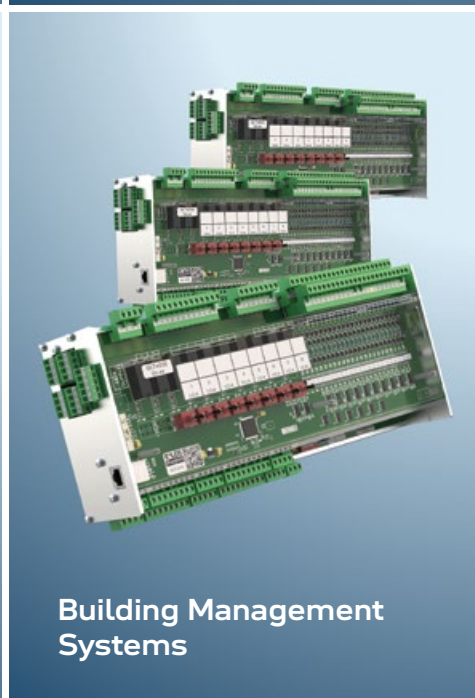
Temperature Displays &
Control Devices



Receiver Module &
Wireless Sensors



Compact Cabinets &
Alarm Boxes



Building Management
Systems

Networked Control Solutions for Refrigeration and Building Management Systems

With “Virtus LINE,” we are introducing a new product line that will replace the E*LDS product line in the future. It includes hardware and software for automating refrigeration systems, refrigerated cabinets, and cold rooms. The “Virtus LINE” product line includes the Virtus Pro, Virtus Caelum, and Virtus Tectum Grid product series.

“Virtus Pro” stands for the hardware products: Virtus 5/ VPC 5000/ VCC 500/ VDD 500 as well as expansion modules for customer-specific adaptation of the functions of a refrigeration system.



Control Cabinets for Commercial and Industrial Refrigeration

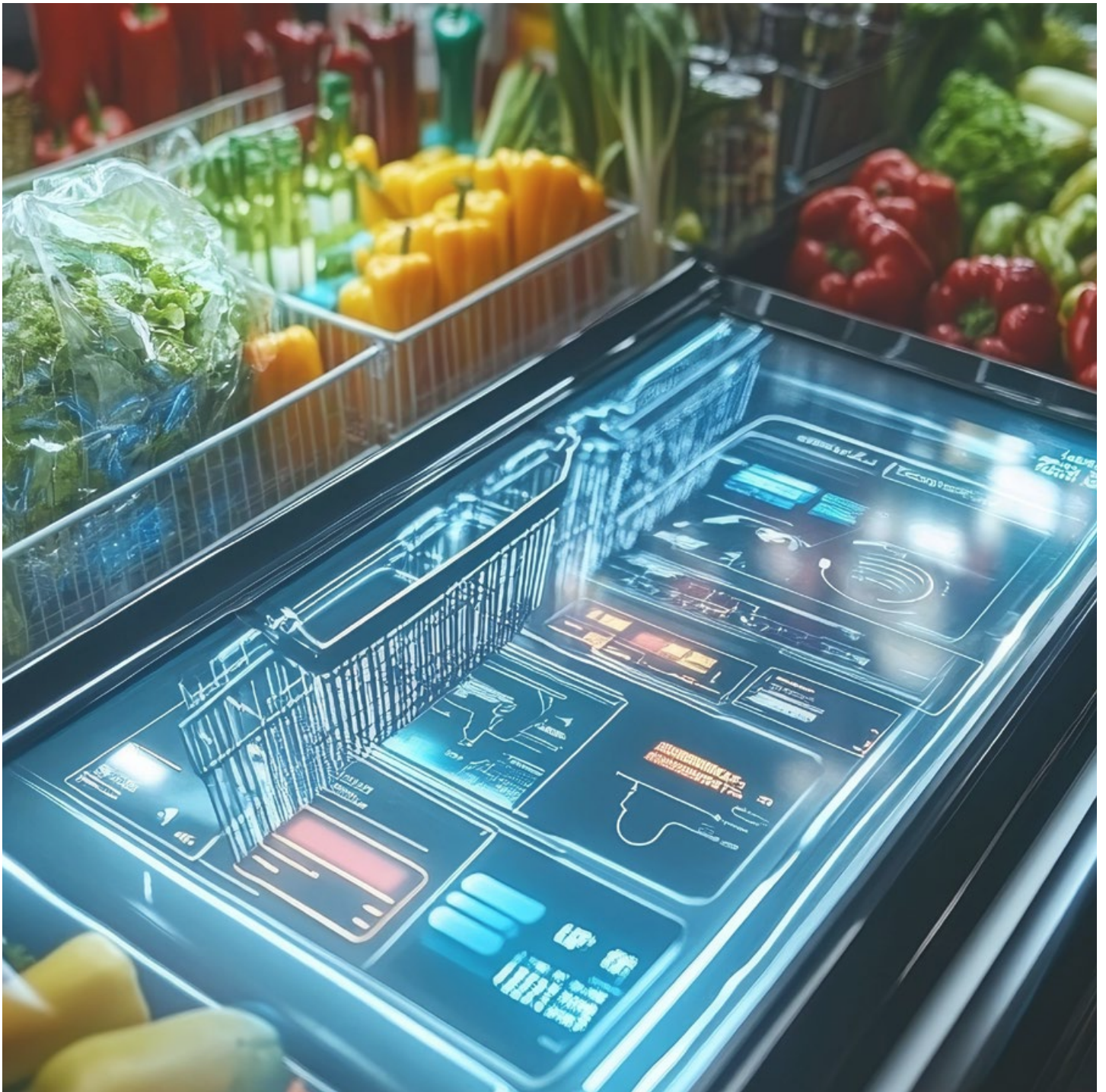
Manufacturers and installation companies of refrigeration systems have relied on Eckelmann’s professional switch cabinet construction for decades.

The switch cabinets for refrigeration systems with Eckelmann Virtus Line or E*LDS technology are used for supermarket refrigeration systems, cold storage facilities, and many other types and locations of refrigeration systems.

Each switch cabinet is manufactured according to customer requirements and equipped with composite controls, cooling point controllers, and a system control center.

With Virtus Line and E*LDS, Eckelmann offers a highly flexible and robust control system for refrigeration systems plus turnkey MSR complete solutions for commercial and industrial refrigeration, including, of course, demanding CO₂ transcritical refrigeration systems. All parameters can be “uploaded” locally or remotely. Eckelmann employees draw on a wealth of parameter sets (e.g., for all common refrigeration units) and their experience.





Unique selling points of Eckelmann Refrigeration Technology

- Made in Germany
- One stop shop
- Future-proof technology
- Easy maintenance
- High level of user expertise
- Highly qualified engineers
- High production standard
- Reliable delivery & fast response time

Eckelmann refrigeration technology combines performance, flexibility, and durability – for efficient, reliable, and future-proof refrigeration systems.



Eckelmann Academy – Knowledge that takes you further

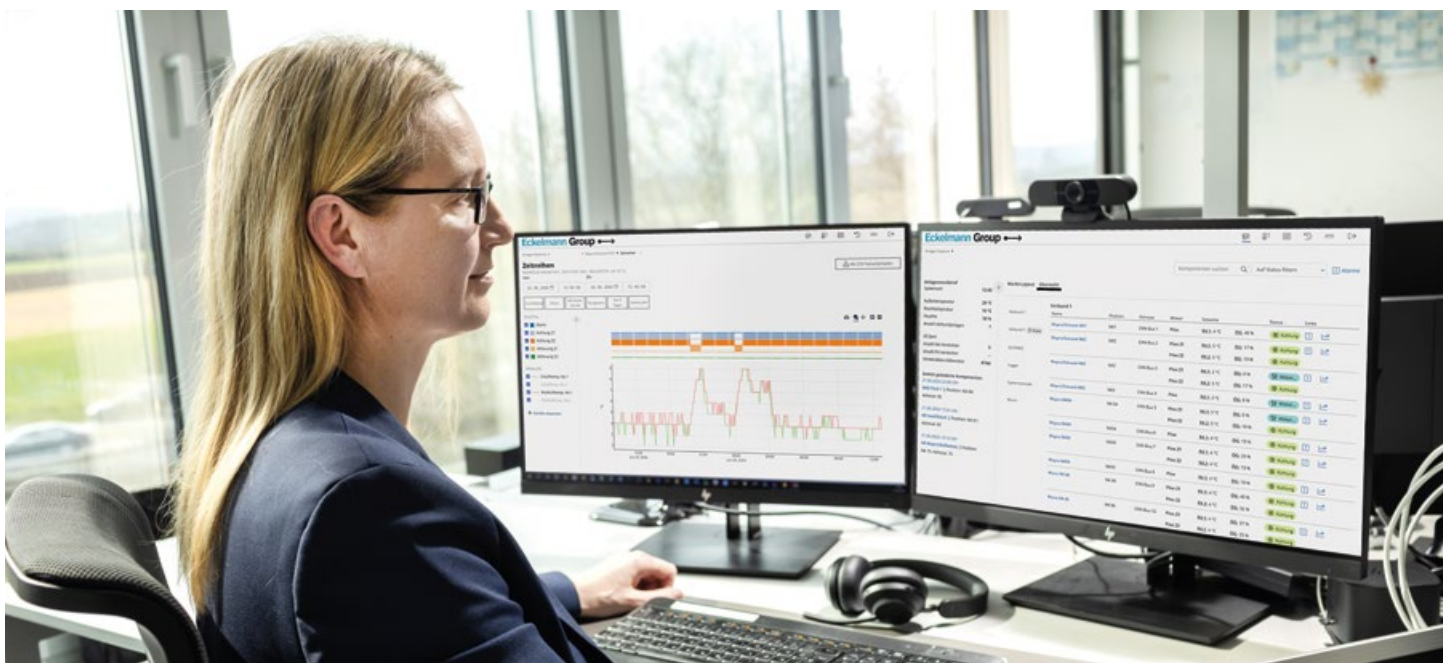
Lifelong learning is a matter of course at Eckelmann – because only highly qualified teams can shape the future. Our training courses for external participants prepare you for automation, digitalization, and the successful use of our products and software in refrigeration technology. Benefit from a knowledge advantage and certified qualifications that measurably increase your expertise.

The seminars take place on an equal footing – digitally or in person – and combine theoretical principles with practical exercises. For customized training, we also offer in-house training courses in German and English. This allows you to tailor the learning content optimally to your requirements.

Our training courses not only promote specialist knowledge, but also efficiency, safety, and teamwork in daily operations. With the Eckelmann Academy, you are investing in your employees – and in the future of your company.



<https://www.eckelmann.de/en/service-and-support/trainings>





In dialogue with customers and partners

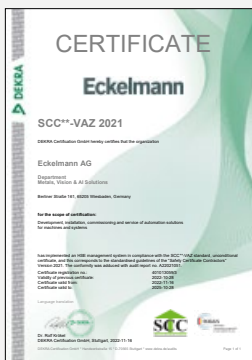
Eckelmann offers comprehensive, integrated solutions for refrigeration technology, building automation, and facility management – tailored to the requirements of modern, energy-efficient operations. Our E*LDS and Virtus LINE product series enable precise control, intuitive operation, intelligent networking, and continuous monitoring of refrigeration systems, cold rooms, refrigerated display cases, and building automation.

These systems optimize processes, minimize downtime, and sustainably reduce operating costs. At the same time, they offer maximum flexibility, future-proofing, and cutting-edge technology, making it easy to adapt to new requirements or regulatory specifications.

Eckelmann's solutions combine efficiency, transparency, and reliability – from commissioning and daily operation to maintenance and service. This is how we lay the foundation for energy-efficient, safe, and sustainable refrigeration and building technology.

Virtus Tectum Grid – Certifications

The Eckelmann Group is, of course, ISO 9001 certified.
In addition, we demonstrate our quality management and certifications with, for example:



Further information on the website



About us

Since 1977, innovation, flexibility, and customer focus have been among our strengths. We develop tailor-made solutions for industry, especially where standard solutions are not enough. In doing so, we combine years of in-depth industry experience with the latest knowledge of innovative digital technologies.

Our vision is to create a world without waste of energy, raw materials, and labor. We want to work with you today to pave the way for tomorrow.



Sites & partnerships – national & international
480 + employees



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