

# thermokon®

HOME OF SENSOR TECHNOLOGY



# VIEW

PRODUCTS | SOLUTIONS | INNOVATIONS





**Headquarter in Mittenaar-Offenbach:**

5.300 m² offices, conference and training rooms



**Production site in Bischoffen:**

11.300 m² total area, 6.000 m² production, 3.700 m² warehouse space, 1.600 m² office and social rooms

## MADE IN GERMANY – HOME IN THE WORLD

For nearly four decades, we have been deeply connected to our region. This commitment is reflected in the establishment of our new production and logistics site, located just two kilometres from our company headquarters in Mittenaar-Offenbach, at the heart of central Germany.

At our two locations and across our subsidiaries, more than 280 highly motivated and qualified employees work every day to support you and your needs.

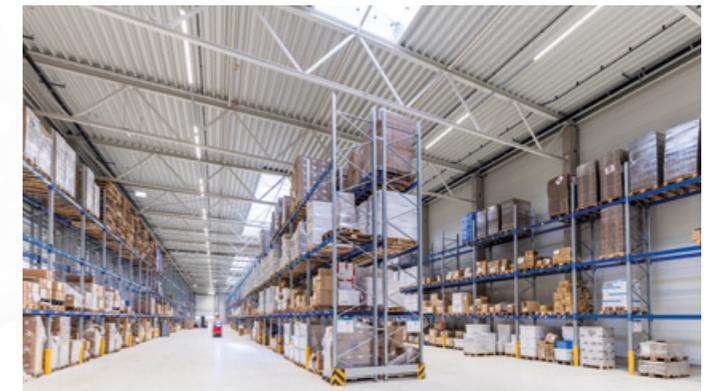
**REPRESENTED IN MORE THAN 80 COUNTRIES**

We export our sensor technology and systems worldwide, ensuring a strong local presence.

Our subsidiaries are located in Finland, France, Italy, the Netherlands, Austria, Sweden, Switzerland, Spain and Poland. Due to a complementary cooperation with distributors in many parts of the world our product portfolio is available in more than 80 countries.

## PRODUCTION AND LOGISTICS IN BISCHOFFEN

- **Top Product Quality:**  
Achieved through the use of state-of-the-art components and the implementation of automated processes
- **Comprehensive Quality Assurance:**  
In-house test equipment development ensures reliable quality control
- **Increased Storage Capacities:**  
Large stock of finished goods for rapid delivery capability
- **High Flexibility and Independence:**  
Featuring three SMD assembly lines with camera-based AOI quality inspection, injection moulding machines, laser systems, a UV coating system for sensor protection, and more
- **Prime Location:**  
Located in the center of Germany with a direct connection to the highway for fast deliveries





## LEADER FOR GOOD REASONS

Since 1987, Thermokon is recognized worldwide for leveraging standards in intelligent buildings with engineering, innovation and quality "Made in Germany". Thanks to the development and production of sophisticated sensors and sensor systems we are creating an additional benefit for our customers all over the world.

We focus on efficiency, sustainability and openness to new fields of technology as well as a close cooperation and thorough dialogue with our clients.

As a leader for innovation with a broad scope of applications we are continuously developing our portfolio further and offer decisive benefits with regards to product-related values, customised solutions and engineering. Our complete range of products is designed to energy-efficient buildings.



## YOUR BENEFITS

Being the "Home of Sensor Technology" for building automation as well as heating, ventilation, air conditioning and refrigeration technology, Thermokon possesses the expertise to combine high quality with cost-efficiency.

Through innovative solutions, we create added value for our customers. Our expertise ensures your success.

- **Clear focus on the highest customer value**
- **Solution-oriented thinking and action**
- **Ensuring highest quality standard**

### APPLICATION KNOW-HOW

We know and understand your applications. Thus we also understand your challenges and can interact with you on the same level.



### PROCESS KNOW-HOW

We anticipate your processes and make them more lean and efficient, enabling you to save time and money.



### TECHNOLOGY KNOW-HOW

We have the required technical know-how to provide you with customised and efficient sensor solutions as well as services.



# SMART SENSOR SOLUTIONS



## SMART SENSOR SOLUTIONS FOR IoT

IoT solutions based on LoRaWAN® play a key role in the development of **Smart Cities**. For example, cities and municipalities in particular build a sustainable and process-optimised infrastructure for building security, air quality monitoring and street lighting control. Other areas of application include e.g. **Smart Buildings, Smart Agriculture, Smart Industry, Smart Logistics** and **Smart Infrastructure**. The flexibility of cloud and on-premise solutions make LoRaWAN® a real game changer in the IoT.

- **Long Range:**  
Provides long radio transmission ranges and a thorough signal over kilometres
- **High Security Standards:**  
Ensures secure data transmission with 128-bit AES encryption
- **No Licensing Fees:**  
Enables cost-free usage across Europe without licensing requirements
- **Flexibility:**  
Options for battery-powered or hard-wired power supply
- **Low Maintenance:**  
Battery-powered sensors are highly energy-efficient, offering years of operation with minimal maintenance



**NOVOS 3 INC LoRaWAN**  
Room Operating Unit with Incremental Encoder



**MCS LoRaWAN**  
Multi Compact Sensor



**WK02+ ext. LoRaWAN**  
Condensation Sensor



More Information

# EasySens<sup>®</sup>

The Self-Powered, Intelligent Wireless System



## SELF-POWERED, INTELLIGENT WIRELESS SYSTEM



Energy harvesting enables the generation of energy by utilising ambient light, temperature differences or motion (e.g., via button push). Interoperable, cost-effective, and energy-efficient solutions for building automation are easily achieved with our EnOcean<sup>®</sup> wireless system.

- **Cost Savings due to Energy Harvesting:**  
Producing energy from the sensor environment
- **Flexibility with Sensor Location:**  
Quick and easy mounting and commissioning
- **Retrofit:**  
Integration into existing buildings without the need of new wires – ideal for retrofit projects
- **Reduction of Fire Load:**  
Saving cables reduces fire load
- **Proper Sensor Data:**  
Mounting sensors on perfect spots due to energy harvesting
- **Compatibility:**  
Fulfills international standard (IEC 14543-3-10) and guarantees compatibility with other manufacturers
- **airConfig:**  
Convenient parameterisation of devices using special remote commissioning commands
- **airScan:**  
Field strength measuring system for evaluation and ideal placement of transmitters and receivers



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# thanos **EVO**

## THOUGHT THROUGH TO THE LAST DETAIL: A HIGH-PERFORMING LANDMARK IN ROOM CONTROLS

Thanks to innovative features, room control with thanos EVO is simple, intuitive and suitable for all requirements. In addition to temperature and humidity, the two air quality parameters CO2 and VOC are also measured; furthermore external sensor values can be displayed through the BUS communication. The visualisation of short text messages and the use of 2D-room graphics, which, for example, make switching the light ON/OFF more convenient for different users, also support the intuitive operation of typical functions.

- **Intuitive and Comfortable User Interface:**  
Control room climate, lighting and shading  
Individual scenes can be defined and called
- **2D Room Graphics:**  
To control lights and blinds
- **Energy Efficiency:**  
ECO mode for an energy-saving room control
- **Integrated Sensors:**  
CO2, VOC, Temperature, relative Humidity
- **Interoperability:**  
Compatible with multiple BUS systems



More  
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# ROOM SENSORS ROOM OPERATING UNITS

# novos®

## THE INNOVATIVE FAMILY OF ROOM SENSORS AND ROOM OPERATING UNITS

Thanks to an exclusive design, wide range of functionality, easy parameterisation and efficient mounting, the new room operating units NOVOS by Thermokon offer a variety of benefits. The uniform premium design with various configuration options, the flattened shape of the enclosure to the wall and a slightly eroded surface emphasize that NOVOS fulfills highest project demands.

     0..10 V | 4..20 mA | *passiv*



NOVOS 5 LCD NOVOS 3 EPD



NOVOS 5 x LCD NOVOS 3 x EPD



NOVOS 7



NOVOS Touch



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# JOY



Multifunctional  
Room Controller

## MULTI-FACETED WITH DISTINCT DESIGN

High-quality fan coil and room controllers designed for individual room control. The sleek glass surface with touch-sensitive buttons and display combines design, intuitive operation and functionality in an exceptional way. Up to three integrated sensors for measuring temperature, humidity and CO2 levels complete the performance spectrum.

The internal controller of the JOY calculates control signals for fans and heating/cooling applications, which can be directly actuated via analog or digital outputs (depending on the model). The integration of external sensors (e.g. window contacts, change-over sensors or condensation monitors) allows for application-specific controls tailored to user needs.

- **Elegant Flat Design:**  
Flat, high-quality housing with real glass surface in black or white
- **Flexibility:**  
Digital and analogue outputs and possibility for change-over applications
- **EasySens®:**  
Available with EnOcean® interface for wireless communication
- **Energy Efficiency:**  
ECO mode for an energy-saving room control



More  
Information

## GALAXY OF POSSIBILITIES – MEASURE, CONNECT, EXPAND

What do space exploration and efficient room control have in common? Both require precise measurements and reliable, stable communication. The hubs and satellites of the new **thevios®** ceiling sensor system deliver exactly that: precise measurement of the essential room parameters combined with maximum flexibility for integration into building management systems.

- **Connected Intelligence:**  
The thevios hub and its satellites form a smart sensor network that requires only a single central interface to the building management system (BMS)
- **High Scalability:**  
From simple sensors and multi-sensors to the creation of intelligent sensor networks
- **Enhanced Room Comfort:**  
Accurate monitoring of room climate and occupancy, including temperature, relative humidity, CO2, VOC, brightness and motion detection
- **Compatibility:**  
Seamless integration into building automation systems via an IP interface
- **Quick Installation:**  
Enabled through an innovative enclosure design

- **Design:**  
Timeless, subtile look
- **Ceiling Installation:**  
Surface- and flush-mounted versions
- **Measurement Indication:**  
Status indication via traffic light function



# OUTDOOR APPLICATION

## Application examples:

Buildings

Industrial halls

Greenhouses



# OUTDOOR APPLICATION

With our outdoor sensors, you always get the optimal solution for your application. Depending on type, the integrated sensors measure temperature, humidity, enthalpy, dew point, CO2 and VOC concentration, brightness or atmospheric air pressure and make our products incomparably flexible.



**AGS54+**  
Outdoor Sensor Temperature



**AGS55+**  
Outdoor Sensor Temperature



**FTA54+**  
Outdoor Sensor Humidity



**WSA+**  
Outdoor Sensor Humidity



**LA+**  
Outdoor Sensor Air Quality



**Li65+**  
Outdoor Sensor Light / Air Pressure

## DUCT APPLICATION

### Application examples:

Heating/Cooling systems

Ventilation systems

Air conditioning systems



## DUCT APPLICATION

Our duct and immersion sensors reliably measure and monitor temperature, humidity and air quality in ducts or pipes of heating, ventilation and air conditioning systems.



**AKF10+**  
Duct Sensor Temperature



**FTK+**  
Duct Sensor Humidity



**LK+**  
Duct Sensor Air Quality



**MWF+**  
Duct Averaging Sensor



**SFK02+**  
Immersion Sensor



**KFK01**  
Duct Sensor

# CABLE SENSORS CONTACT SENSORS

**Application examples:**

Heating/Cooling systems

Heat pumps



# CABLE SENSORS CONTACT SENSORS

Durable materials and state-of-the-art pressing and rolling processes guarantee the quality and durability of our cable and contact sensors. This makes them the first choice in building, heating, ventilation and air conditioning technology.



**TF14**  
Cable Sensor



**TF25**  
Cable Sensor



**OF14**  
Cable Sensor



**PR25**  
Contact Sensor



**AF25**  
Contact Sensor



**VFG54+**  
Contact Sensor

# FROST PROTECTION / CONDENSATION / LEAKAGE

**Application examples:**

Data centres

Cold storages

Air conditioning systems



# FROST PROTECTION / CONDENSATION / LEAKAGE

Our condensation sensors, leakage detectors and frost protection thermostats protect sensitive electronics from leakage damages, which often result in expensive system failures or even dropouts.



**LS02+**  
Leakage Detector



**LS02+ ext.**  
Leakage Detector with external  
sensor element



**LS02+ flex**  
Leakage Detector with  
sensor rod



**WK01+**  
Condensation Sensor



**WK02+**  
Condensation Sensor with  
external sensor element



**TFR**  
Frost Protection Thermostat

# PRESSURE SENSORS FLOW SENSORS

## Application examples:

Heating systems

Ventilation systems



# PRESSURE SENSORS FLOW SENSORS

Pressure and air flow sensors for cooling and air conditioning must resist extreme conditions. Therefore our products are customized to withstand even the harshest environments.



**DPA+**  
Differential Pressure and  
Volume Flow Transducer



**DPGe**  
Electronic Differential  
Pressure Gauge



**DPG**  
Differential Pressure Gauge



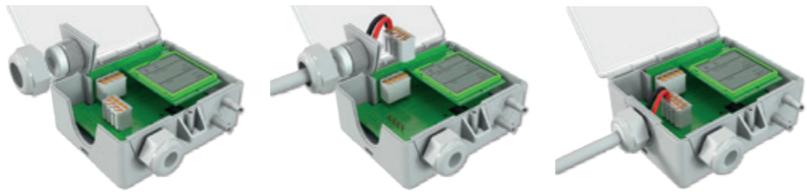
**PS**  
Differential Pressure Switch



**DLF02**  
Pressure Transducer



**DPL02**  
Differential Pressure Transducer



## EASY TO USE: THE **USE**-FAMILY

- High-resolution **RGB-display**
- Application-specific, **exchangeable inserts** and **cable entries**
- Visualisation of device status and measured values using **traffic light function (TLF)**
- Threshold switch relays
- **Live-Zero-Signal** (e.g. 1..10 V)
- Output signals: **Passive, active (0..10 V/4..20 mA)** or **BUS**
- Configuration via **App**
- Easy **installation** via mounting clip/base, flange or thermowell
- Removable cable entry and plug-in terminal for **simple pre-assembly**

## SENSOR PROTECTION: UV COATING WITH INNOVATIVE PRESSING AND ROLLER BURNISHING PROCESS

The special UV coating process provides for an unmatched resistant coating of the sensor elements. Our UV coating process enables precise results due to a high repeatability.

This enables extremely efficient production processes and guarantees consistently **high quality**. Thanks to the high thermal conductivity of the coating, quick response times are guaranteed. This protection is ideal for applications that have the **highest demands towards reliability and precision**.

Ensuring the accuracy and reliability of our sensors is our highest priority. The proven **SI-Protection** for protection against corrosion damage, vibrations and measurement inaccuracies will be supported in future by the innovative **16-point segment pressing (IP65)** or the optionally available **roller burnishing (protection class IP67)**.

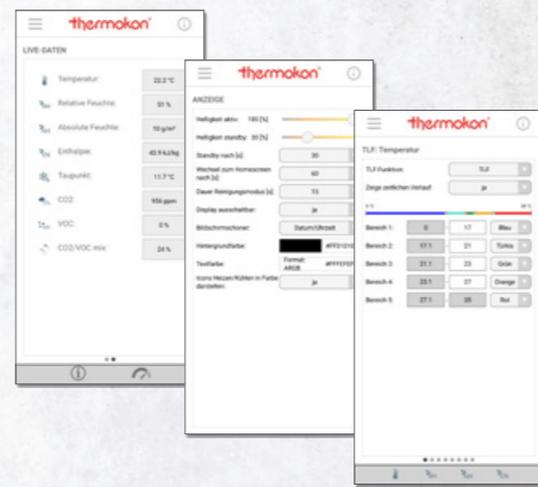
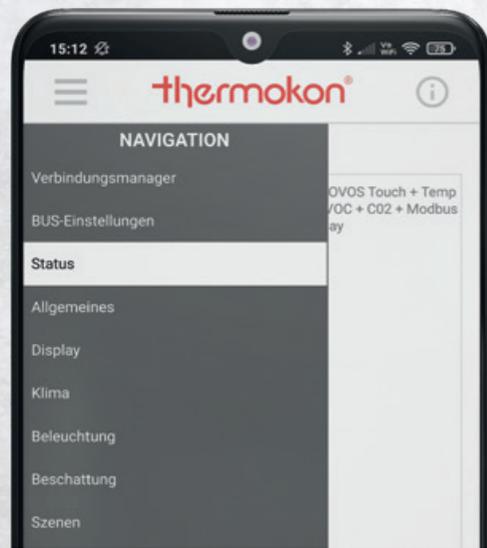


16-point pressed (IP65)



Roller burnished (protection class IP67)





Bluetooth®



## THERMOKON® APPS FOR INDIVIDUAL CONFIGURATION

All "USEapp", "NOVOSapp" and "LRWapp" based products are supplied with a fully functional standard configuration for direct mounting/installation. Via the app it is feasible to extend the range of use and to adapt the configuration individually to application requirements.



- Communication via Bluetooth® Low-Energy-Module (BLE)
- For use on mobile terminals (Android und iOS)
- Individual configuration of output signals
- Setting of different measuring ranges
- Additional adjustment of offset values
- Parameterisation of Live-Zero-Signal (1..10 V etc.)
- Setting options for display indications
- Customised parameterisation of traffic-light function (TLF)
- Setting of relay performance and thresholds
- Modbus address offset (extension)
- Possibility of firmware updates on-the-go (OTG)
- Adjustment of maintenance intervals



USEapp



NOVOSapp



LRWapp



# REFERENCES



**Hotel Bellevue**  
Dresden, Germany



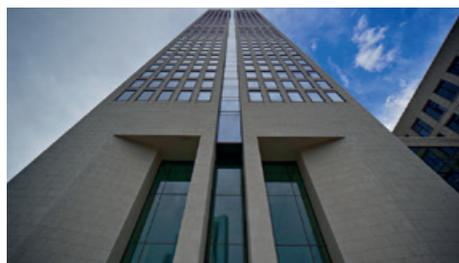
**Princess Elisabeth Station**  
Belgian Polar Research Station, Queen Maud Land, Antarctic



**Grüner Bunker St. Pauli**  
Hamburg, Germany



**MS Noordam**  
Holland-America Line



**Opera Tower**  
Frankfurt, Germany



**Stade Roland Garros**  
Paris, France



**Shell Global Headquarters**  
The Hague, Netherlands



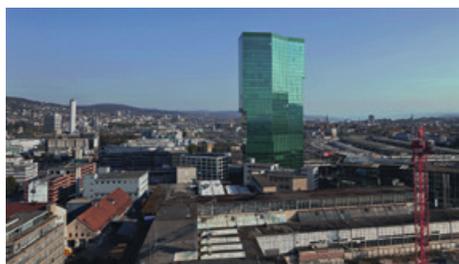
**Castle Nymphenburg**  
Munich, Germany



**Hamad International Airport**  
Doha, Qatar



**Generali Insurance Headquarters**  
Trieste, Italy



**Prime Tower**  
Zurich, Switzerland



**NEXTEC Campus „Zeche Gustav“**  
Karlstein, Germany



**Foundation Louis Vuitton**  
Paris, France



**State Opera**  
Vienna, Austria



**Fairmont Hotel Vier Jahreszeiten**  
Hamburg, Germany



**University Oslo**  
Oslo, Norway

# REFERENCES

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**European Central Bank**  
Frankfurt, Germany



**Sheikh Abdullah Al Salem Cultural Center**  
Kuwait City, Kuwait



**Konica Minolta**  
Milan, Italy



**Andaz Belvedere Hyatt**  
Vienna, Austria



**Promotional Bank Schleswig-Holstein**  
Kiel, Germany



**Tomson Riviera Apartment Towers**  
Shanghai, China



**Semper Opera**  
Dresden, Germany



**Star Arctic Hotel**  
Saariselkä, Finland

## COMMITTED TO SUSTAINABILITY

The environmentally conscious and sustainable management of energy and resources is firmly embedded in Thermokon's Code of Conduct. We are aware of our responsibility and align our actions to improve our carbon footprint.

Our products play a key role in contributing to compliance with the Energy Performance Buildings Directive (EPBD). They promote energy efficiency in new buildings and enable effective retrofitting.

Our commitment to sustainability and the environment has been validated by independent organisations such as TÜV Hessen and EcoVadis. Our environmental management system in accordance with DIN EN ISO 14001 ensures that our high standards are regularly reviewed and consistently adhered to.



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