

Press Release

ChemShield from E+E Elektronik: protection against chemical contamination

With ChemShield, E+E Elektronik is expanding its protection concepts for selected humidity and moisture in oil sensors. The specially developed barrier coating reduces the impact of chemical contamination and supports long-term stable measurements under demanding process conditions.

(Engerwitzdorf, September 2026) **Dust, humidity, corrosive media and chemical contamination can impair the measurement performance of industrial sensors. Depending on the application, these stresses affect different sensor areas and can cause measurement drift or increase maintenance requirements. E+E Elektronik addresses these challenges with application-specific protection concepts for sensor elements, connections and other sensitive areas. With ChemShield, E+E Elektronik is now adding a protective barrier specifically developed for chemically demanding applications.**

The protection concepts from E+E Elektronik act where environmental conditions can affect sensor performance. Each technology fulfils a different function.

SensShield is a protective coating for the sensor element as well as its connections and solder joints. It reduces the impact of dust, dirt, oily contamination, salts, humidity and corrosive exposure. At the same time, the coating helps prevent stray impedances caused by deposits on the sensor surface or connection leads.

LeadsShield protects particularly sensitive sensor connections and solder joints through targeted encapsulation. Only the sensor element itself comes into contact with the medium being measured. This protects critical connection areas from corrosion and contamination without unnecessarily affecting the sensor's response characteristics.

ChemShield adds a barrier against chemical contamination to these protection concepts. The coating is applied to defined areas such as the sensor element and solder joints. It reduces the impact of harmful chemical substances and supports long-term stable measurement performance in chemically demanding environments.

ChemShield for chemically demanding processes

Chemical exposure places particularly high demands on the sensor element in humidity measurement. Process media can change, oils age or oxidise, and residues from production and cleaning processes can affect sensitive sensor areas. This can lead to measurement drift and reduced long-term stability.

ChemShield forms an additional barrier against these influences. This extends the application range of selected E+E Elektronik humidity and moisture in oil sensors to environments with increased chemical exposure.

Long-term stable moisture measurement in oil

One key area of application is moisture measurement in oil. Ageing, oxidation and contamination can change the chemical properties of an oil and place additional stress on the sensor element. ChemShield reduces the impact of these changes and supports long-term stable moisture measurement.

The technology is used, among other products, in the EE360 and EE364 moisture in oil sensors. Depending on the application and product configuration, this also makes them suitable for demanding lubricating, hydraulic and insulating oils as well as selected natural ester oils. ChemShield also provides additional protection against chemical exposure in contaminated turbine, compressor and hydraulic oils.

Enhanced protection for industrial humidity applications

In industrial humidity measurement, chemical contaminants can also affect sensor performance. Typical applications include test and climate chambers, fume cupboards, pharmaceutical environments with intensive cleaning, biofilters, fertiliser environments, and specialised drying and fermentation processes.

For selected applications, E+E Elektronik combines ChemShield with SensShield. In the EE310 humidity and temperature sensor, this combination supports long-term stable measurement performance even under increased chemical exposure. The specific configuration is matched to the respective process conditions.

Protection matched to the measurement task

E+E Elektronik does not take a one-size-fits-all approach to sensor protection. What matters is which components are exposed to which stresses in the respective application. SensShield, LeadsShield and ChemShield can therefore be used selectively and combined as required.

This allows the level of protection, measurement performance, response characteristics and serviceability to be matched to the specific application. The goal is reliable, long-term stable measurements even under demanding industrial conditions.

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Images



Image 1: ChemShield – protection against chemical contamination



Image 2: Example of how an unprotected sensor can look after use in a chemically contaminated environment

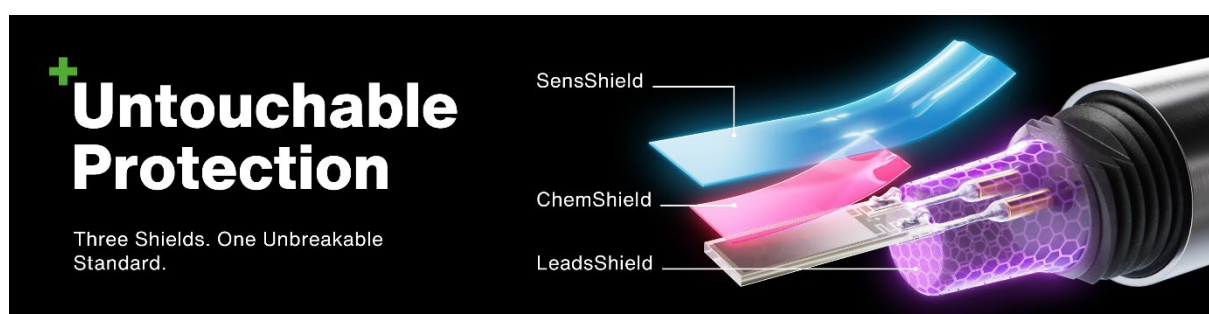


Image 3: E+E Shield Technologies.

Photos: E+E Elektronik Ges.m.b.H., reprinting free of charge / AI modified

Company profile

E+E Elektronik is an Austrian sensor specialist in the fields of humidity, dew point, moisture in oil, CO₂, air velocity, flow, pressure and temperature. Handheld measuring devices, humidity calibration systems and calibration services complete the comprehensive product portfolio. The aim of E+E is to support its partners in the area of energy savings and process optimization. The main applications for E+E products are in industrial measurement technology as well as HVAC and building automation.

A certified quality management system in accordance with ISO 9001 and ensures the highest quality standards. E+E Elektronik is represented by its own subsidiaries in China, Germany, France, India, Italy, Korea, USA and sales partners in more than 60 countries worldwide. The accredited E+E calibration laboratory is commissioned by the Austrian Federal Office of Metrology and Surveying (BEV) to provide the national standards for humidity, dew point, air flow velocity and gas concentration CO₂.

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