Press Release
eddylab GmbH

eddylab presents new SXL sensor series for safety-critical applications in the nuclear sector at WNE 2025 in Paris

Otterfing, August 19, 2025 – At the World Nuclear Exhibition (WNE) from November 4 to 6, 2025, in Paris, eddylab GmbH will present its new SXL sensor series for displacement and distance measurement for the first time. The series has been specifically developed for use in safety-critical applications and nuclear technology areas, with a focus on maximum reliability under extreme environmental conditions. The new series meets both the normative requirements for development according to RCC-E and IEEE standards and the qualification standards K1 and K3 for safe operation inside and outside containment—making it ideally suited for applications under high radiation, temperature, and pressure.

The new **SXL sensors** from eddylab operate on a contactless, inductive measurement principle. This principle is wear-free and guarantees maintenance-free, long-term operation. With graduated measuring ranges from 25 to 400 mm and an operating temperature of up to 370 °C, the series meets the highest standards for precision and robustness.

To comply with industry-specific safety and quality standards, eddylab considers all regulatory requirements according to international IEEE and RCC-E standards – essential for electrical systems in nuclear technology – during the development of the new sensor series.

Ready for use in nuclear plant containment: SXL sensor series meets K1 qualification level

For safe operation in nuclear facilities, all components used must meet strict qualification requirements – especially within containment, where extreme environmental conditions prevail. The so-called K1 qualification level describes the ability of components to function reliably even under accident scenarios such as temperature peaks, vibration, radiation, and pressure. The new SXL sensor series from eddylab consistently meets these requirements and has been specifically developed for use in safety-critical areas.

All K1 qualifiable components of the SXL system solution – from the sensor to connecting elements to feedthrough and connection technology – are hermetically sealed, inorganic in construction, and designed for long-term use under extreme conditions such as high temperature,

vibration, and radiation. The qualification requirements particularly include seismic effects, which relate to the functional safety of components and systems in the event of an earthquake: the entire sensor system has been tested for shock and vibration loads to ensure operational reliability under seismic influences and to prevent accident scenarios such as LOCA (Loss of Coolant Accident).

Thanks to the high-quality material selection, the SXL sensors are radiation-resistant and can withstand the typical radiation dose encountered during operation over the long term. This ensures maximum operational safety even under extreme conditions – and thus meets all requirements for use within containment according to K1 qualification.

Modular K1/K3 system solution with separate signal conditioner, 19" rack, and control cabinet

With the new SXL series, eddylab offers not only a K1- qualifiable sensor series but a fully coordinated complete system with two different qualification levels. In addition to the K1- qualifiable components, eddylab provides K3-qualifiable parts for use outside containment. K3 components must function reliably under normal operating conditions and selected accident scenarios, without being exposed to the extreme environmental conditions inside containment.

The SXL system solution includes the following specially developed, qualifiable components:

K1-qualifiable (Inside Containment):

- High-precision inductive SXL sensors for position measurement with patented, hermetically sealed high-temperature connector
- Hermetically sealed, high-temperature resistant, inorganic yet flexible connecting cables
- Sealed, inorganic junction boxes for connecting two cables, e.g., sensor connection cable with customer cable
- Hermetically sealed wall/container feedthroughs

K3-qualifiable (Outside Containment):

- SXL signal conditioner for sensor supply and signal processing, which can be installed flexibly up to 200 m from the sensor – e.g., outside containment in the control room
- Heavy-duty 19” rack with redundant power supply in AC or DC variant for up to 8 signal conditioners
- Wall-mounted cabinet, EMC-protected, for housing the 19” rack

International trade fair highlight in autumn: WNE in Paris, November 4-6, 2025

The presentation of the SXL system solution at WNE in Paris marks an important milestone for eddylab, as CEO Christian Schrick emphasizes:

"The World Nuclear Exhibition in Paris is a key industry event for us and provides the perfect opportunity to present our new product line directly to an international audience of experts, plant operators, and decision-makers. It allows us to showcase our technological expertise, gather requirements firsthand, and strategically expand our network in the nuclear technology sector."

Visit eddylab at WNE 2025 in Paris, Hall 6, Stand A052, and discover the new SXL sensor series as well as the comprehensive accessory portfolio for nuclear applications.

About eddylab GmbH

eddylab GmbH specializes in the development, design, and production of sensors for the measurement of geometric parameters, including complete system solutions.
The eddylab product portfolio includes eddy current and inductive sensors, laser sensors, draw-wire sensors, digital gauges, magnetic tapes, and scales as well as displays, signal converters and other accessories for a wide range of industrial applications. The company's strength lies in the development of application-specific sensor technology. In close cooperation with its customers, eddylab develops high-precision, high-performance sensors that are directly adapted technically and geometrically to customer requirements. eddylab demonstrates special expertise in adapting its sensors to particularly challenging areas of application with high temperatures or high pressure, such as those typically found in the energy sector.
To guarantee special industry-specific standards in terms of safety, reliability and quality, eddylab considers MIL-STD standards for military applications, DNV-GL regulations in the maritime sector and IEEE and RCC-E standards for the safety and reliability of electrical systems in the nuclear energy sector.

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