

Linear Measurement and Digital Integration: ELAP 2026 Innovations Expand the IO-Link Ecosystem

At **SPS Italia 2026 (Hall 5, Booth F026)**, ELAP will debut its new IO-Link absolute linear transducers. This launch extends a product range that began with IO-Link encoders, broadening the company's portfolio of components developed specifically for this protocol. Designed for seamless integration into machine systems, these solutions are also suitable for the food industry and will be showcased at the Cibus Tec exhibition.



Trasduttori Lineari serie PNS e PN25 ILK

In the evolution of industrial automation, **position data management** is becoming increasingly central—not just for precision, but for **integration within control systems**. ELAP's new absolute linear transducers (Series PNS and PN25 ILK) are designed for applications where position measurement must be precise, repeatable, and easily accessible within the control architecture.

Following the introduction of **IO-Link absolute encoders**, ELAP is now expanding its range with **absolute linear transducers**. This move consolidates a cohesive offering focused on data digitalization and the simplification of on-machine integration. This transition is more than a simple product addition; it represents the logical extension of an already established technological platform.

When Linear Measurement Becomes System Data

The new **IO-Link absolute linear transducers** were developed for applications where position measurement must be not only precise and repeatable but also easily accessible and manageable within the control architecture.

From a technical standpoint, these devices offer:

- **Linearity:** Up to $\pm 0.075\%$
- **Repeatability:** Less than 0.01 mm, making them ideal for applications where long-term measurement stability is a fundamental requirement.
- **Detailed Resolution:** Up to 4096 positions along the stroke allow for highly detailed displacement readings.
- **Versatile Stroke Lengths:** The ability to operate across strokes ranging from 50 to 950 mm significantly expands the field of application.

The integration of the **IO-Link protocol** (compliant with version 1.1) introduces **bidirectional communication**. This enables not only the transmission of process data but also full access to parameters, diagnostics, and notifications. Key features such as **data storage**, lockable parameters, and position alarm thresholds allow for precise device configuration and ensure operational consistency, even in the event of a replacement.

Why IO-Link is "More Than Just a Protocol"

The adoption of IO-Link addresses a critical point in industrial measurement: the "last meter" of connectivity between the sensor and the control system.

Unlike analog interfaces, IO-Link introduces point-to-point digital communication that enables the device not only to transmit position data, but also to exchange structured information with the system. Consequently, the sensor is no longer a passive element, but becomes an active component of the automation architecture.

"The real difference is seen when moving from signal management to data management," observes Luca Bruschi, ELAP Sales Manager. "With IO-Link, the device doesn't just provide a measurement; it provides useful information for configuration, diagnostics, and continuous monitoring".

The operational advantages are tangible:

- **Simplified Wiring:** Power and communication travel over the same unshielded cable, reducing installation time and complexity.
- **Ease of Integration:** Compatibility with major fieldbuses via IO-Link masters allows for integration into existing plants without redesigning the network architecture.
- **Automatic Parameter Management:** The master stores the device configuration. If a sensor is replaced, the master automatically restores the settings, reducing downtime and maintenance errors.

Added to this is the ability to access real-time diagnostic data and notifications, which allows for monitoring the component's status and anticipating potential anomalies.

'It is not just a matter of convenience,' explains Bruschi. 'It is a shift in approach: moving toward a more conscious system management where data is available, readable, and actionable'.

Technological continuity: from encoders to transducers

The introduction of IO-Link transducers is not an isolated development, but part of a path already established by ELAP with absolute encoders based on the same protocol. This technological continuity allows designers to work on a coherent platform, simplifying the integration of various measurement devices within the same communication architecture. The result is a more homogeneous system, where the management of position data—both rotary and linear—can be approached using uniform logic.

"The goal is not to introduce a single technology, but to build a coherent ecosystem of devices that speak the same language," Bruschi continues. "For machine designers, this means reducing integration complexity and having more direct and structured control over data."



Encoder assoluti MEM40B e MEM-Bus IO-Link

Designed for Performance and Durability

ELAP's transducers are built for high-duty cycles, with a declared service life of up to 100 million operations. The robust mechanical structure features an anodized aluminium housing and a stainless steel rod.

To ensure reliability in harsh industrial environments, the devices offer:

- Vibration Resistance: Up to 15 g
- Shock Resistance: Up to 50 g
- Protection Rating: IP65
- Operating Temperature: From -10° to +80°C

A Specialized Focus on the Food Industry

Following SPS Italia, these solutions will be featured at Cibus Tec, focusing on the specific needs of the food industry. In this sector, long-term reliability and signal stability are paramount for maintaining continuous operation. The ability to access diagnostic data via IO-Link is particularly valuable for traceability and monitoring conditions related to product quality and process control.

The Value of Application Consulting

ELAP emphasizes that technical support is as crucial as the product itself. "Measurement is only part of the challenge," says Bruschi. "The real issue is understanding where and how to integrate the device within the machine". ELAP supports manufacturers throughout the selection and integration process to maximize performance based on the specific application.



Visit ELAP at **SPS Italia 2026**

Fiere di Parma, May 26–28, 2026

Hall 5, Booth F026 (Consorzio PI Italia stand)



**Pad. 5
STAND F026**



Since 1968, ELAP has been a partner for companies in the industrial automation sector, offering electronic instrumentation for process control and measurement.

The wide range of innovative solutions and multiple services, from consulting in the selection of ideal components to the development of customised solutions, allow ELAP to provide efficient and reliable solutions, appreciated by the most important companies in every segment of the manufacturing industry.

For information and advice, the company's technicians can be reached on +39 02 45 19 56 01 or via email at commerciale@elap.it; detailed information on ELAP solutions is also available on elap.it website.

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