

## **Sensors integrated in the connectors**

*ATAM presents a new SMART version of Form A connectors which integrates tested micro-sensors to measure and transmit important physical quantities, enabling engineers to monitor the health of the solenoid valve connected to the connector-coil assembly.*

Hannover, April 17, 2023. ATAM, a reference company in the field of encapsulated coils and industrial connections for process valves and solenoid valves in pneumatic and hydraulic applications, presents an innovative system made up of micro-sensors – 4 sensors and 1 antenna – incorporated inside its Form A connectors at Hannover Messe 2023 (Pad.6 Stand D75/1).

ATAM Form A connectors, which represent a consolidated market standard and one of the most widespread types, have dimensions that are able to house sensors (latest generation microcontrollers used in consumer electronics) capable of measuring and transmitting physical factors such as, by way of example, temperature, humidity, vibrations and electrical voltage, in real-time.

By integrating sensors on-board the connector, it is possible to monitor the physical quantities that influence the behaviour of the solenoid valve in real-time and in the same environment in which it operates. To date, the measurements of some of the physical quantities involved - which strongly influence the functioning of the entire machine - are detected indirectly and via remote controllers (not on board the valve), not allowing monitoring of what happens in correspondence with the solenoid valve itself.

Particularly harsh fields of application and extreme environmental conditions can, in fact, lead to values of temperature, humidity, vibrations and electrical voltage well beyond the foreseen conditions, thus damaging not only the solenoid valve but also the entire system; instantaneous monitoring, therefore, allows you to intervene in time, avoiding potential damage.

In the version presented at Hannover Messe, the ATAM Form A connectors with integrated sensors also incorporate LEDs which, through different colours and flashing functions with variable frequency, give operators immediate visual feedback on any values recorded outside

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the range's optimal operations. Also for the larger connectors of the Form A range, ATAM is open to any form of customization in terms of visual management and serial communication.

In the configuration presented in the preview, using a technical APP, the data measured by the sensors are continuously transmitted to a mobile device for constant monitoring of the machinery. This type of proximity communication (used in mobile payments) is a transceiver technology that provides two-way wireless contact connectivity. This ATAM platform also gives the possibility of inserting an interface card capable of communicating with the serial protocol used by the manufacturer of the machines that will mount its sensors on the connector board.

With the development of Form A connectors with integrated sensors, ATAM demonstrates its ability, as the first company in its reference market, to be able to punctually and in real-time monitor key parameters related to machine operation and to be able to transmit this data continuously to operators, for timely diagnostics, thus promoting predictive maintenance. This information also proves to be useful for use by the machine control system.

ATAM Form A connectors with on-board sensors find applications in various fields, including the world of off-highway machines, stationary industrial machinery and, more generally, in all those fields where the costs relating to machine breakdowns and repair prove to be particularly large and in all those applications that require high accuracy in regulation.

ATAM has been able to develop innovative connectors with on-board sensors as it is among the only companies to produce both connector and coil and knows their functional interaction in depth and the existing correlation between the relative physical quantities.

The technical synergy in developing and producing coils and industrial connectors and the availability of a latest generation test laboratory allow ATAM to simulate the combined use of the two products in all conditions and in the various application contexts in which the valves are used. The specialization and experience of its technicians relating to application contexts allow us to offer customers optimal solutions, whether they are standard or totally customized.




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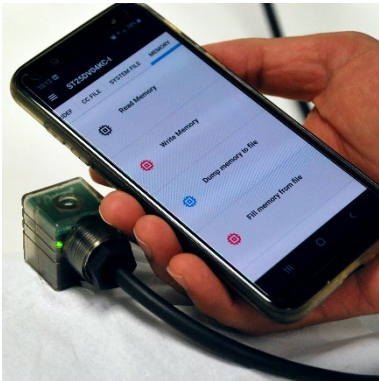
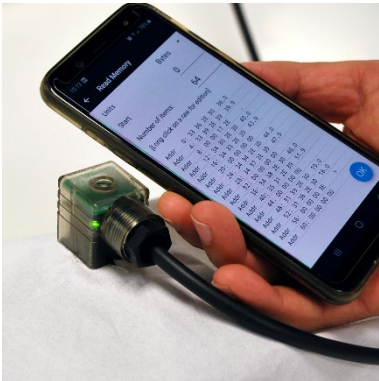
**IMAGES**

	<p>ATAM – Form A connector with integrated sensors 01</p>
	<p>ATAM – Form A connector with integrated sensors 02</p>
	<p>ATAM – Form A connector with integrated sensors 03</p>

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	<p>ATAM – Form A connectors with integrated sensors</p>
	<p>ATAM – Technical APP for monitoring physical quantities 01</p>
	<p>ATAM - Technical APP for monitoring physical quantities 02</p>

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ATAM – In-house Machine tool department



ATAM – Molding of technical components



ATAM – Functional testing on 100% of the products

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The ATAM logo with the tagline 'Living Technology' underneath. The 'A' icon is blue, and the text 'atam' is in a bold, lowercase sans-serif font, with 'Living Technology' in a smaller, lighter font below it.	ATAM_logo
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