

November 27, 2017

First in the industry! *1 Unbreakable in cutting oil and oil mist

Digital Gauge (contact-type displacement sensor) Release of SA Series Air Purge Specification

Citizen Finedevice Co., Ltd.

Citizen Finedevice Co., Ltd. (Head Office: Fujikawaguchiko-Machi, Minamitsuru-Gun, Yamanashi Prefecture. President: Ryuzo Kondo) has released a new digital gauge (contact-type displacement sensor) to measure dimensions in an automated inspection line during the manufacturing process. SA Series Air Purge Specification is the first digital gauge in the industry to prevent any foreign matter from entering, and it is operable even in an environment where the gauge is exposed to direct contact with cutting oil.

Digital Gauge (contact-type displacement sensor)			
SA Series Air Purge Specification			
■ Model No.	: 2 Models:	SA-S110AP (Graduation 0.1μm)	
		SA-S510AP (Graduation 0.5μm)	
■ Date of Release	: December 1		
■ Price	: SA-S110AP	108,000 yen + Tax	SA-S510AP 78,000 yen + Tax

The digital gauge (contact-type displacement sensor) detects the spindle's movement when a probe touches an object to be measured with an internal sensor and quantifies the variation. It is mainly used in automated lines within manufacturing processes that require high-precision measurement. Ever since the SA Series was released in 2015, the series, featuring a robust body, has enjoyed a good reputation for its precision and durability, which are approximately 20 times higher than those of conventional products. The series is capable of highly accurate counting using the absolute method and has eliminated the need for zero-point adjustment.



Cutting and polishing processing sites have recently faced the necessity to increase production efficiency by performing the electrical measurement of dimensions in processing machineries. However, as the cutting oil used during processing is highly permeable, the existing digital gauges with rubber bellows (expansive rubber pipe) specifications are incapable of preventing the permeation of cutting oil or foreign matter from entering the detector

when a rubber bellow breaks.

This new product adopts the air purging method, replacing rubber bellows, and supplies air to the detector body and increases the inner pressure to prevent foreign matter from entering, meaning that it is even operable in a harsh environment where it is exposed to contact with cutting oil and the like.

[Main features]

- Capable of measurement inside processing machinery where the gauge is exposed to cutting oil by reducing foreign matter that enters it with air purging.
- Capable of highly accurate counting and no need for zero-point adjustment.
- Robust body that ensures high durability.



[Applications]

Automated inspection line within manufacturing process (parts cutting, polishing, cutting, assembly, etc.)

[Target industries]

Automobile parts industry, bearing industry, electronic component industry

[Specifications]

Model	SA-S510AP	SA-S110AP
Measurement range	10 mm	
Resolution	0.5μm	0.1μm
Indication accuracy (P-P) ^{*2}	2μm	1μm
Measuring force ^{*3}	1.5N to 3N	
Supplied air pressure	0.05 to 0.1MPa	
Mass	Approx. 160 g	
Operating temperature/ humidity range	-10°C to 55°C 35% to 80%RH (with no condensation or icing)	
Storage temperature/ humidity range	-20°C to 60°C 35% to 80% RH	

Grounding method	Capacitor grounding
Cable	Sold separately as an option
Measurement terminal	Ceramic ball $\Phi 3.175$ mm

*1 The first digital gauge with air purge specification in the industry. As of November 27, 2017 according to the company's own research.

*2 When the ambient temperature is 20°C.

*3 The value varies depending on the supplied air pressure.

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