


Inductive Gauging Sensors

EX-200 Series

 Refer to P.821 for a list of products complying with EU Directives.



Accurate analog output of minute displacement

The EX-200 Series measures target displacement with a resolution of 0.04% F.S. (0.4 μm 0.00002" with the EX-305 sensor head). The dual analog outputs (voltage/current) enable connection to external equipment.

Linearity of $\pm 1\%$ of F.S.

Using the built-in linearizer circuit, the EX-200 Series accurately outputs absolute displacement values.

High response speed

The EX-200 Series offers a response frequency of up to 18 kHz (with the EX-305), allowing measurement of rapidly vibrating targets.





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Lineup

Type	Model		Appearance	Measuring range	Resolution	Mounting size
	Sensor head	Controller				
Cylindrical	EX-305	EX-201	 $\phi 5.4 \times 18 \text{ mm}$ $\phi 0.21" \times 0.71"$	0 to 1 mm 0.04*	0.4 μm 0.00002*	$\phi 5.4 \text{ mm } \phi 0.21"$
Threaded	EX-110	EX-202	 M10 x 18 mm 0.71"	0 to 2 mm 0.08*	0.8 μm 0.00003*	M10
Cylindrical/ Threaded	EX-416	EX-205	 $\phi 14.5 \times 20 \text{ mm}$ $\phi 0.57" \times 0.79"$	0 to 5 mm 0.20*	2 μm 0.00008*	M16
	EX-422	EX-210	 $\phi 22 \times 35 \text{ mm}$ $\phi 0.87" \times 1.38"$	0 to 10 mm 0.39*	4 μm 0.00016*	M12

Specifications

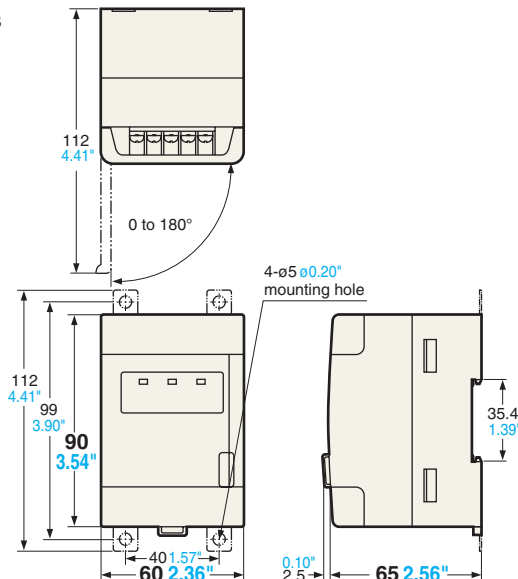
Type	Cylindrical		Threaded	Cylindrical/Threaded		
	$\phi 5.4 \phi 0.21"$		M10	$\phi 14.5 \phi 0.57"/M16$	$\phi 22 \phi 0.87"/M12$	
Model	Sensor head		EX-305	EX-110	EX-416	EX-422
	Controller		EX-201	EX-202	EX-205	EX-210
Measuring range	0 to 1 mm 0.04*		0 to 2 mm 0.08*	0 to 5 mm 0.20*		0 to 10 mm 0.39*
Analog output	Output voltage		0 to 5 V (Output impedance 100 Ω)			
	Output current		4 to 20 mA (Applicable load: 0 to 350 Ω)			
	Resolution		0.04% of F.S. (Response frequency: LOW)			
	Linearity		$\pm 1\%$ of F.S.			
	Response frequency		HIGH	18 kHz (-3 dB)	15 kHz (-3 dB)	13 kHz (-3 dB)
	LOW		1.3 kHz (-3 dB)			
Disconnection alarm output ²	NPN: 100 mA (40 V) max., Residual voltage: 1 V max. (N.C.)					
Functions	Auto-zero function/Response frequency selecting function					
Temperature fluctuation	Sensor head ¹		0.03% of F.S./°C			
	Controller ¹		0.04% of F.S./°C			
Power supply voltage	12 to 24 VDC $\pm 10\%$					
Current consumption	240 mA max.					
Ambient temperature	Sensor head		-10 to +60°C (14 to 140°F), No freezing			
	Controller		0 to 50°C (32 to 122°F)			
Relative humidity	35 to 85%, No condensation					
Enclosure rating	Sensor head: IP67					
Weight	Sensor head		Approx. 45 g	Approx. 55 g	Approx. 75 g	Approx. 200 g
	Controller		Approx. 285 g			

The above data was obtained using a steel target (S45C, SS41, t=1 mm 0.04").
When measuring aluminum, copper, or stainless steel targets, refer to the linear characteristics for these materials.
1. When the distance between the sensor head and the target is within 50% of the measuring range.
2. NPN output can easily be converted to PNP output by connecting the optional **OP-5148** PNP output converter.

Dimensions

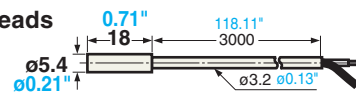
Unit: mm inch

Controllers
**EX-201/202/
205/210**

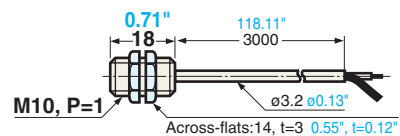


Sensor heads

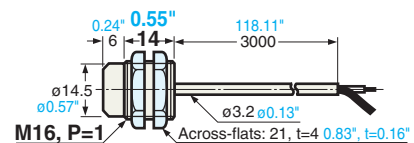
EX-305



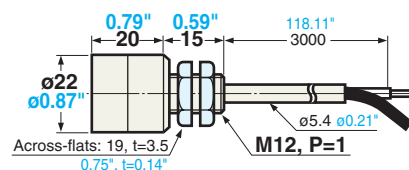
EX-110



EX-416



EX-422



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