Keyence EX-V01

Controller for EX-305V Sensor Head



\$850.00

In Stock

Oty Available: 4

Used and in Excellent Condition

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- In stock / Ready-to-ship

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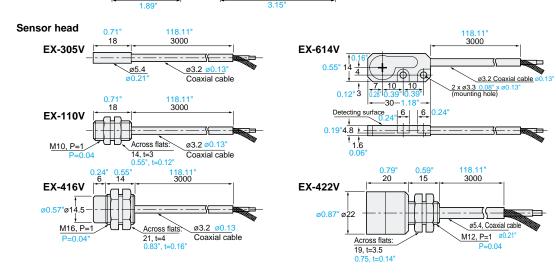
Artisan Technology Group

(217) 352-9330 | sales@artisantg.com | artisantg.com

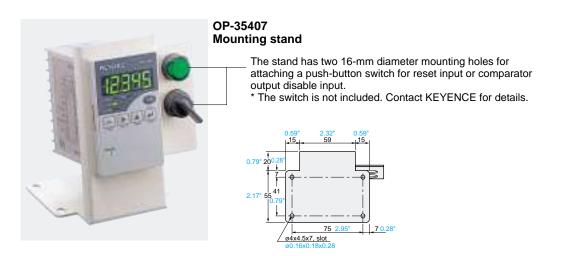
Artisan Scientific Corporation dba Artisan Technology Group is not an affiliate, representative, or authorized distributor for any manufacturer listed herein.

Dimensions

EX-V01/EX-V02/EX-V05/EX-V10/EX-V64 Panel cutout Unit: mm Inch



Options



Visit our website for other Keyence products at www.keyence.com

KEYENCE

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Minneapolis Office Phone:612-449-5163 Fax:612-449-5169 **Columbus Office** Phone:614-799-3400 Fax:614-799-3401

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High-speed, High-Accuracy **Digital Displacement Inductive Sensor EX-V Series**



High-speed Sub-micron Displacement Sensor with 40,000 Samples/sec.

High Accuracy Inductive Gauging Technology



High-Performance & Simple Setup

High-speed, high-accuracy detection allows for 24-hour monitoring of facilities and products. preventing defective products from being produced.

The high-speed, 40,000 samples/second sampling, does not overlook any instantaneous changes. Even high-speed production lines or moving objects can be measured accurately

The EX-V Series significantly improves the reliability of facility monitoring system by adding more accurate measurement to the rugged design, which is virtually unaffected by harsh environments.

Bottom-dead-center measurement

High-accuracy and high-speed sampling enables the detection of minute changes in end of stroke.

Vibration measurement

The high-speed sampling of 40.000 times/second allows for reliable detection of abnormal vibrations in facilities.

Gap measurement

The rugged, compact sensor head allows for accurate measurement of the position or gap between devices

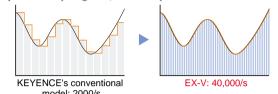
High-speed, High-Accuracy Digital Displacement Sensor **EX-V Series**

The EX-V series combines high-speed sampling with a newly developed linearity correction circuit which results in

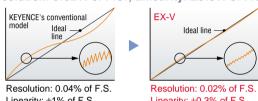
Best-in-its class accuracy and high-speed sampling

dramatic performance improvement over conventional eddy current systems.

High-speed sampling: 40,000 samples/second



High resolution: 0.02% of F.S.; Linearity: $\pm 0.3\%$ of F.S.



Instantaneous changes can be detected reliably.

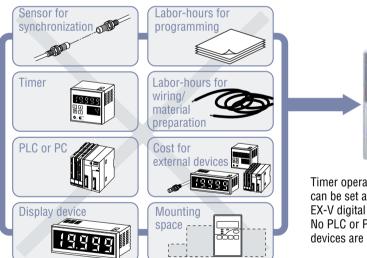
The high-speed digital processing circuit allows for accurate detection of real peak (bottom) values that cannot be detected at conventional sampling speeds.

FLL circuit for high accuracy

The FLL (Flat Level Linearize) circuit applies the optimal linearization correction for each individual sensor head. You can achieve the measurement with best-in-its class accuracy with simple setting.

Significant reductions in cost/labor-hours at the touch of a button

The optimal program for the application is automatically set by just selecting the measurement mode. There is no need for complicated settings of a trigger input, timer setting or arithmetic operation using external devices.



Timer operation or average value calculation can be set at the push of a button on the EX-V digital controller.

No PLC or PC is necessary. No external devices are needed for synchronization.

Small and highly resistant sensor head

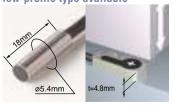
Considering the use in factories, the sensor head is designed to be resistant against harsh environments, to save space and to allow for easy maintenance.

Resistant against harsh environments: IP-67 rated



All models are rated as IP-67, offering resistance against both water and oil. They offer reliable operation even in harsh environments.

Space saving: Compact or low-profile type available



You can select the optimal sensor head according to the application and available mounting space.

Easy maintenance

Compatible sensor head The FLL circuit allows for compatibility among sensor heads of the same model. Alarm output

The alarm output indicates accidental breakage or disconnection of the sensor head.

Easy maintenance and useful functions ensure reliable operation in factories.

High-Performance & Simple Setup

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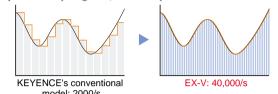
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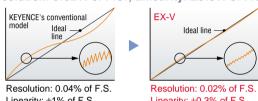
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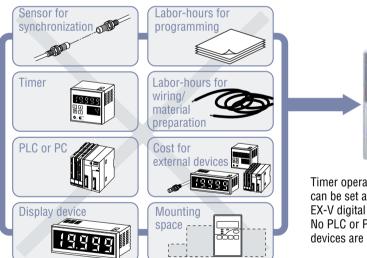
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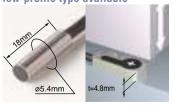
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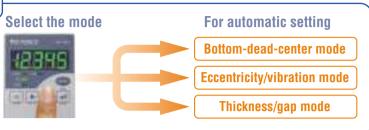
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Just select the optimal setting for your application.

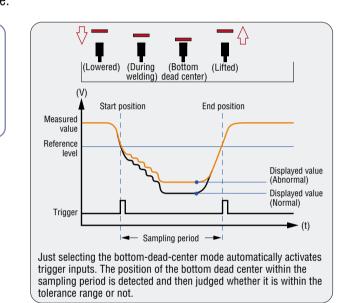
Basic modes for quick operation

Bottom-dead-center mode

Optimal settings for common applications are preprogrammed. Simply selecting the appropriate mode completes the setting. There is no need for time-consuming initial setting or adjustment.



Automatically detects the bottom dead center of stroke.



Eccentricity/vibration mode

Detecting bottom dead

center of an ultrasonic welder

dead center of the horn of the an

The EX-V series measures the bottom

ultrasonic welder to detect defective welding.

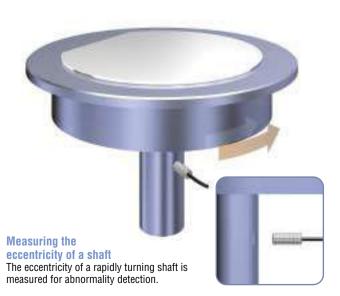
Amplitude hold

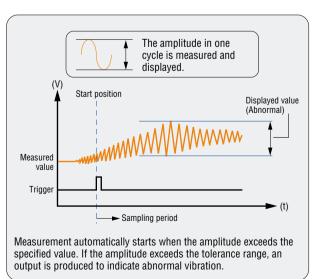
Automatic trigg

Cyclical difference measurement

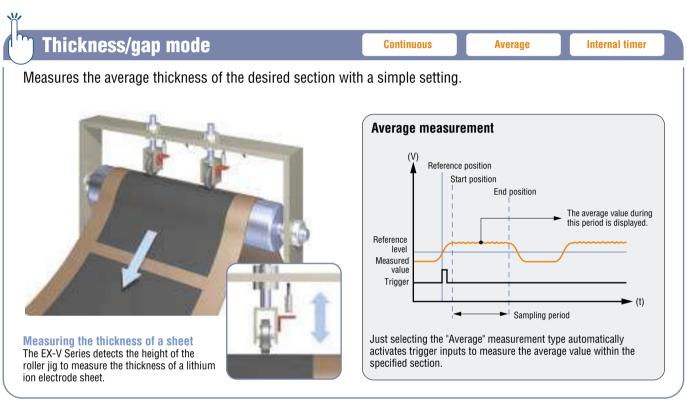
Previous value

Accurately measures amplitude without being affected by changes over time.





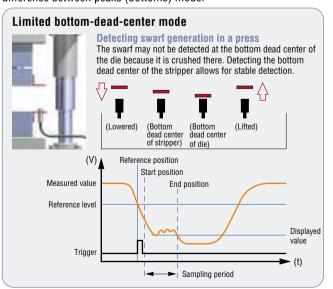




Select the program best suited for your application.

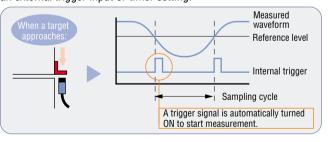
Various measurement modes

You can select the measurement mode best suited for your application, such as the limited bottom-dead-center mode or difference between peaks (bottoms) mode.



Automatic trigger

When a target approaches the sensor, a trigger signal is automatically turned ON to start measurement. There is no need for an external trigger input or timer setting.



Timer function

The flicker function using the internal timer allows for measurement of the average value or vibration within a specified period. Moreover, the timer enables adjustment of the start or end point of measurement from the instant the automatic trigger is turned ON.

Previous value comparison

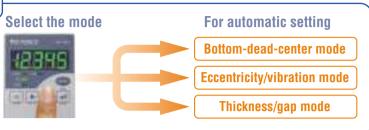
The latest measured value can be compared with the average value of the previous measurements. This allows for the detection of only abrupt changes without being affected by changes over time.

Just select the optimal setting for your application.

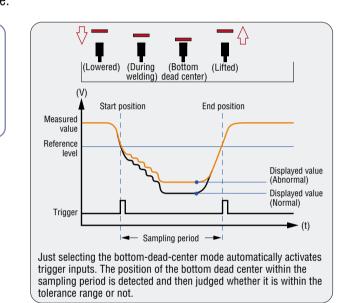
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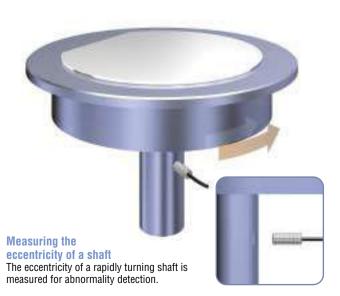
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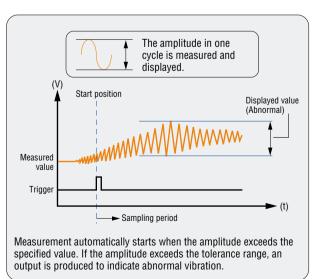
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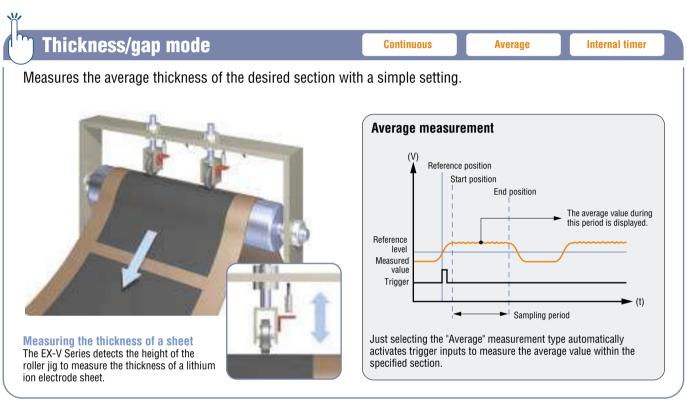
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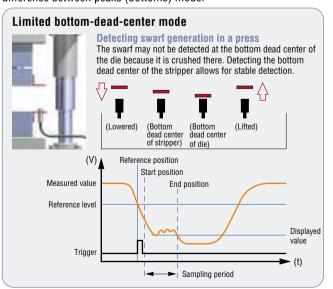




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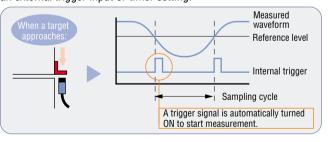
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Various Functions for Every Need

Measurement period output

The measurement period for bottom-dead-center or eccentricity detection can be specified by strobe outputs. By connecting the EX-V Series to an oscilloscope or other device, you can adjust the device while monitoring a waveform.

Tolerance limit memory function

Up to four upper/lower tolerance limit settings can be stored in memory. You can switch these settings also by external signals. This makes changeover quick and easy.

Comparator output disable input

The comparator output can be stopped with external signals. While continuing comparator operation, you can stop the output until the device operation stabilizes.

Applications by Facility/Product





Detecting improper crimping Improper crimping can be detected by checking the bottom dead center of the machine.



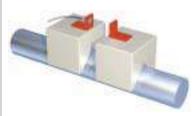
Checking the origin of the X-Y stage The resolution of 0.4 µm enables accurate measurement of the position of the origin.

Metal/automobile



Measuring the eccentricity of ATC

Eccentricity due to trapped swarf can be detected.



Measuring the elongation of a tie bar The elongation of the tie bar of a die-cast machine can be measured by using a magnet jig.

Plastic/paper



Measuring the distortion of a die for an injection molding machine

The amount of distortion can be measured by comparing the measured values before and



Detecting the surface runout of a slitter blade

The eccentricity mode automatically detects the surface runout exceeding the reference value.



Measuring the surface runout of a disk The eccentricity mode detects the surface runout of a disk.



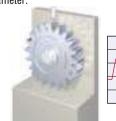
Measuring subtle vibration of a precision motor

Detecting abnormal vibration prevents defective products from being sent to the next process.



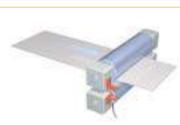
Differentiation of the outer diameter of a bearing

The bottom-dead-center mode detects the point where the bearing comes the closest to the sensor head to differentiate the outer



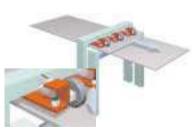
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difference between peaks measurement type detects the eccentricity in gear teeth tops.



Measuring the gap between rollers

The gap between the molding rollers can be accurately measured



Detecting double-fed paper bags Detecting the movement of a jig allows for differentiation between one and two paper

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■ Selection Chart

Controller



EX-V Series

Sensor head

Shape	Measuring range	Resolution	Model
ø5.4 x 18mm	■ 1 mm	0.4 μm	EX-305V
M10 x 18mm	2 mm	0.4 μm	EX-110V
M16 x 20mm	5 mm	1 μm	EX-416V
ø22 x 35mm	10 mm	2 μm	EX-422V
14 x 30 x 4.8mm	4 mm	1 μm	EX-614V

■ Specifications

		Cylindrical	Threaded	Cylindrical	. threaded	Thin profile	
Model		ø5.4 x 18 mm	M10 x 18 mm	M16 x 20 mm	ø22 x 35 mm	14x30x4.8 mm	
_	Sensor head	EX-305V	EX-110V	EX-416V	EX-422V	EX-614V	
Shape	Controller	EX-V01	EX-V02	EX-V05	EX-V10	EX-V64	
Measuring range		0 to 1 mm 0.04"		0 to 5 mm 0.20"	0 to 10 mm 0.39"	0 to 4 mm 0.16"	
Display range		-19999 to 19999					
Linearity		±0.3% of F.S.					
Resolution		0.4 μm	0.4 μm	1 μm	2 μm	1 μm	
Sampling rate		40000 samples max./sec. ¹					
Display rate		20/sec.					
Display character		7-segment 2-color LED					
Range-o	ver alarm	±FFFF is displayed.					
	Timing input						
Control input	Reset input						
	Auto-zero input						
	Comparator output	NPN open-collector or non-voltage contact					
	disable input						
	Synchronous input						
	External setting input						
	Tolerance setting	Upper/lower 2-level setting x 4 sets (selectable)					
Control	Signal	NPN open-collector (HIGH, GO and LOW): 100 mA max. (40 V max.)					
output	Response time	0.075 ms (at maximum speed)					
	Off-delay time	60 ms					
Strobe output		NPN open-collector: 100 mA max. (40 V max.), Residual voltage: 1 V max. (N.O.)					
Alarm o	<u> </u>	NPN open-collector: 100 mA max. (40 V max.), Residual voltage: 1 V max. (N.C.)					
Analog	Output voltage	±5 V					
voltage output	Impedance	100 Ω					
	Response time	0.075 ms (at maximum speed)					
•	ture fluctuation			0.07% of F.S./°C ²			
Power si	uppry consumption		24 VDG±11	0%, Ripple (P-P):	10% max.		
		240 mA max.					
Ambient Sensor head temperature Controller		-10 to +60°C (14 to 140 °F), No freezing 0 to +50°C (32 to 122 °F), No freezing					
	ture Controller humidity	35 to 85%, No condensation					
Vibration		10 to 55 Hz, 1.5 mm double amplitude in X, Y and Z directions, 2 hours respectively					
Weight	Sensor head	Approx. 45 g	Approx. 55 g	Approx. 75 g	Approx. 200 g	Approx. 60 g	
	(including 3-m cable)	1.1 9			1,1	1 1 1 1 9	
Controller		Approx. 235 g					
Major functionsAuto-zero function, Offset function, Measurement modes (15 ty Tolerance limit value memory function (4 patterns)			b types),				

- 1. When the digital filter function is used, the sampling rate is 20000 sampling/sec.
- 2. When the distance between the sensor head and the target is within 50% of the measuring range.

 3. The above data was obtained using an iron target (S45C, SS41, t = 1 mm 0.04*). When measuring aluminum, copper, or stainless steel targets, refer to the linear characteristics for these materials.

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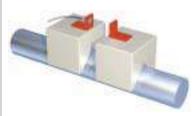
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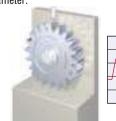
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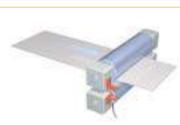
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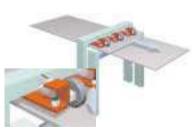
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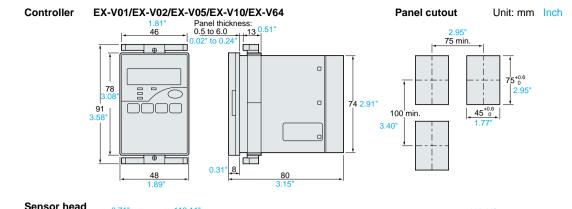
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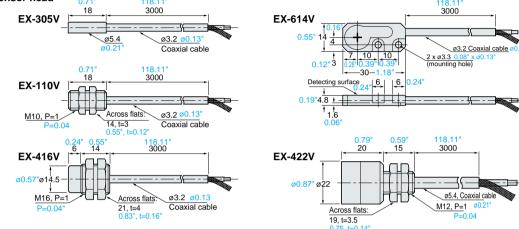
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Analog	Output voltage	±5 V					
voltage output	Impedance	100 Ω					
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Power si	uppry consumption		24 VDG±11	0%, Ripple (P-P):	10% max.		
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Vibration		10 to 55 Hz, 1.5 mm double amplitude in X, Y and Z directions, 2 hours respectively					
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- 1. When the digital filter function is used, the sampling rate is 20000 sampling/sec.
- 2. When the distance between the sensor head and the target is within 50% of the measuring range.

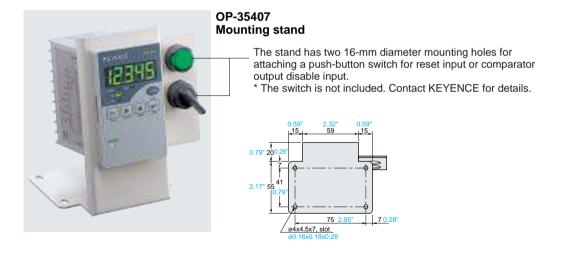
 3. The above data was obtained using an iron target (S45C, SS41, t = 1 mm 0.04*). When measuring aluminum, copper, or stainless steel targets, refer to the linear characteristics for these materials.

Dimensions





Options



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