

# Model **GLA-1/GLA-5/GLA-X** Analog Output Shock Sensor



Model List	Detection Sensitivity
<b>GLA-1</b>	0 to 1 G
<b>GLA-5</b>	0 to 5 G
<b>GLA-X</b>	0 to 10 G

## Application

- Vibration control for industrial machinery
- Monitoring of impact on the game console
- Security of structures
- Vibration monitoring for electronic devices
- Security of mechanical instruments

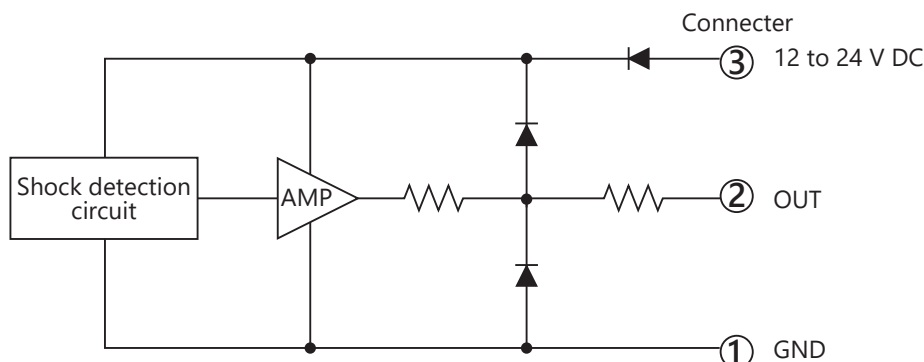
## Features

- Measurement of impact and output as linear analog values.
- Output a direct current of 0 V to 5 V proportional to the impact (g) generated by an impact frequency of 10 Hz to 1kHz.
- By taking the sensor output to an external comparator IC and adjusting the voltage level of the other input of the comparator IC, it is possible to use the sensor so that the shock sensitivity to be detected can be freely adjusted.

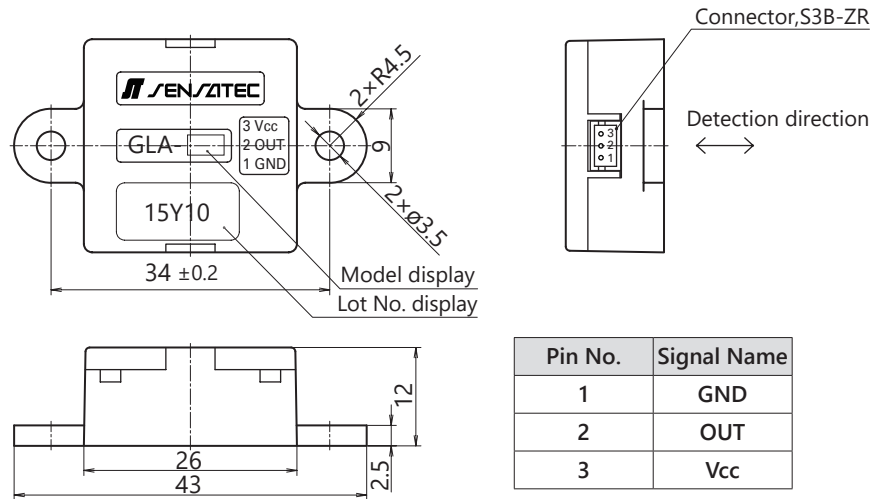
## Rating / Performance

Model	GLA-1	GLA-5	GLA-X
Detection Sensitivity	0 to 1 G (At 100 Hz)	0 to 5 G (At 100 Hz)	0 to 10 G (At 100 Hz)
Power Voltage	12 V to 24 V DC (Operating voltage range: 10.8 V to 26.4 V DC)		
Power Consumption	15 mA DC or less		
Output Voltage	0 to 5 V DC (Max output 6 V DC)		
Output Impedance	10 kΩ		
Power Supply Reset Time	Approx. 5 seconds		
Detection and Smoothing Delay	Approx. 0.6 seconds		
Frequency Characteristics	7 % FS or less within 20 Hz to 800 Hz		
Linearity	2 % FS or less		
Detection Frequency	10 Hz to 1 kHz		
Temperature Range	-10 to 60 °C (-15 to 65 °C during storage)(Without dew condensation or freezing)		
Humidity Range	85 % RH or less (85 % RH or less during storage)(Without dew condensation)		
Breakdown Voltage	500 V AC, 50/60 Hz for 1 min (Between live parts and the case)		
Insulation Resistance	20 MΩ or more, at 500 V DC megger (Between live parts and the case)		
Vibration Resistance	Durability : 10 to 55 Hz, Double amplitude: 1.5 mm in X-, Y-, and Z-direction, each 2 hours (Device not powered)		
Shock Resistance	Durability : 500 m/s <sup>2</sup> (Approx. 50 G) in X-, Y-, and Z-direction, each 3 times (Device not powered)		
Ingress Protection	IP50		
Case Material	ABS reinforced with glass-fiber		
Connector	Connector : S3B-ZR-SM2-TF (3-pin) (from J.S.T. Mfg. Co., Ltd.) [Connections] Housing: ZHR-3, Contact: SZH-002T-P0.5 (from J.S.T. Mfg. Co., Ltd.)		
Weight	Approx. 8 g		
Options (Sold Separately)	Connector harness: SZH-3-300		

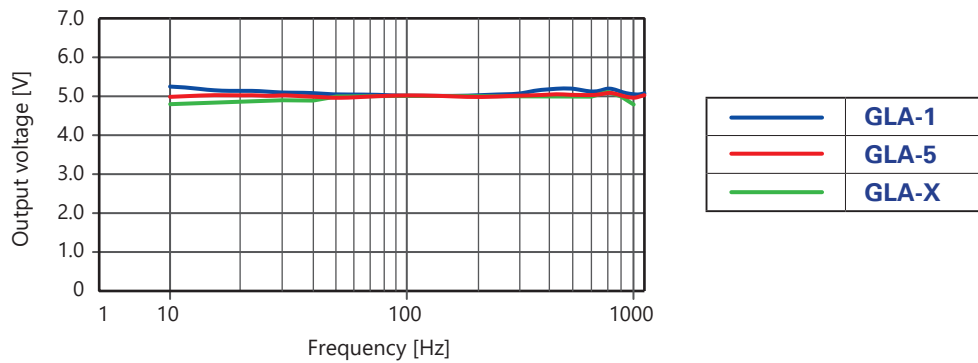
## Output Circuit



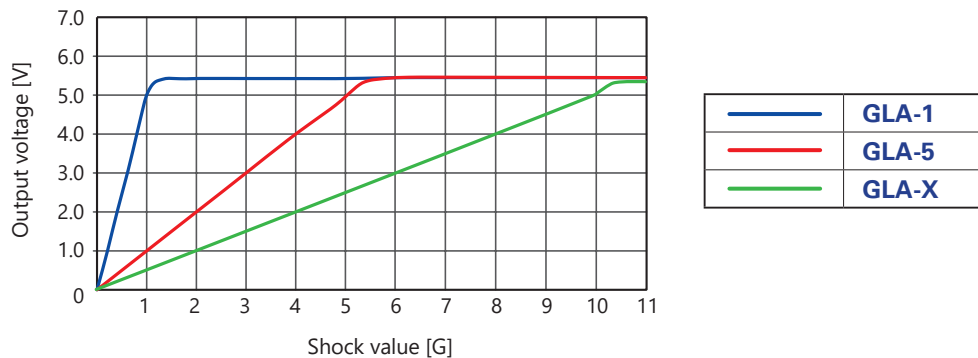
## Dimensions



## Reference Frequency Characteristics (Typical Example)



## Reference Linearity Characteristics (Typical Example)



## Precautions During Use

1. Always use plain washers to tighten the case and use a torque of 0.5 N·m or less.
2. If the sensor is subject to thermal shocks, its detection sensitivity will differ for the duration of the sudden temperature change. Check the environment before using the sensor.
3. Do not use the sensor when stress is applied to the harness attached to its connector, or where the harness itself is subject to shocks causing it to oscillate.  
Otherwise, the wires may break or the sensor may malfunction.  
Secure the harness lead out so that it does not oscillate and no stress is applied on it.
4. The product can resist during 2000 hours to vibrations of 10 Hz (0.3 g) to 55 Hz (9 g) with a peak-to-peak amplitude of 1.5 mm in the impact detection direction.  
However, check sufficiently the vibration resistance of the sensor if complex frequencies or large vibrations should be constantly applied to the sensor.
5. For other precautions, refer to "General Precautions" for shock sensors.