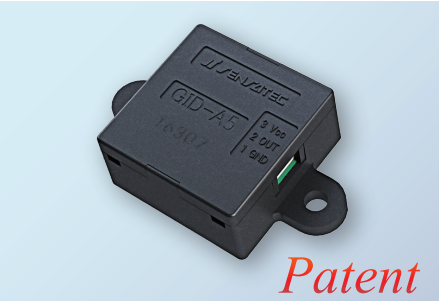
Model GID Shock (Acceleration) Sensor, Power Voltage 5 V DC

SENSATEC CO.,LTD.
http://www.sensatec.co.jp



□List of all models

Detection sensitivity down	Normally Open	Normally Closed
1 G	GID-A5	GID-A15
3 G	GID-B5	GID-B15
5 G	GID-C5	GID-C15
7 G	GID-D5	GID-D15
10 G	GID-E5	GID-E15
20 G	GID-F205	GID-F2015

Application

- Vibration monitoring of electrical appliances
- Vibration monitoring of gaming devices
- Security of equipment/machines
- Building security

Features

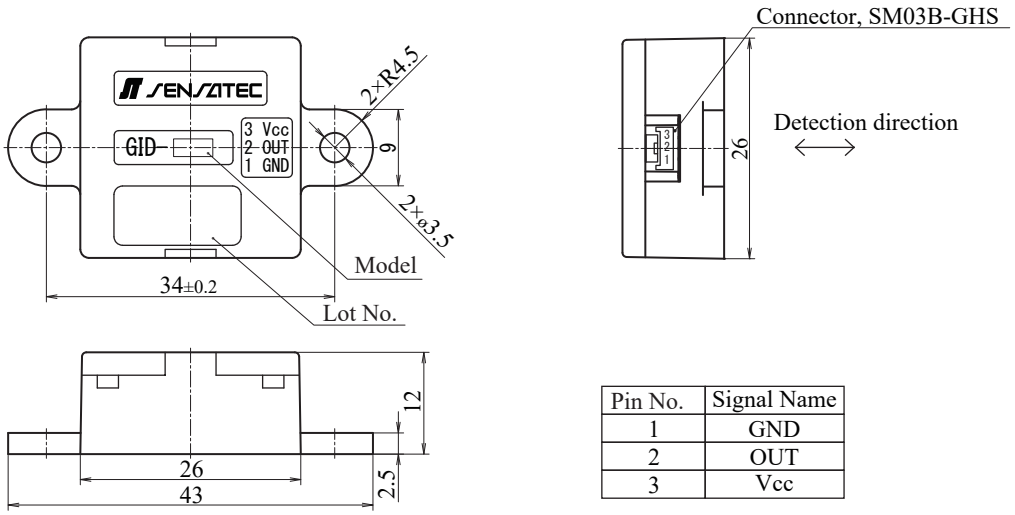
- The sensor can detect the impact and acceleration of 1 kHz or less almost flat.
- A locking connector securely prevents disconnection of connectors caused by wire runs or vibration.
  A clear click touch when fitted together ensures complete insertion.
- There are two output types: normally open, and normally closed, which can detect leadwire disconnection.
- Momentary shocks of 200 ms or more can be detected.
- A different detection sensitivity other than that for the standard model is also available. Feel free to contact us.

Rating / Performance

Model	GID-A5 GID-A15	GID-B5 GID-B15	GID-C5 GID-C15	GID-D5 GID-D15	GID-E5 GID-E15	GID-F205 GID-F2015
Detection Sensitivity	1 G ± 20 % (At 500 Hz)	3 G ± 20 % (At 500 Hz)	5 G ± 20 % (At 500 Hz)	7 G ± 20 % (At 500 Hz)	10 G ± 20% (At 500 Hz)	20 G ± 20 % (At 500 Hz)
Power Voltage	5 V ± 5 % DC (Absolute maximum rating: 30 V DC *1)					
Power Consumption	6 mA DC or less					
Output	GID-*5:N-channel MOSFET Open drain Normally open GID-*15:NPN bipolar transistor, Open collector, Normally closed 30 V DC, 50 mA DC or less, (Output is available 700 ms from power ON)					
Output- Residual Voltage	1 V DC or less (Load current 50 mA DC)					
Operation Status	Momentary shock input: ON/OFF for at least 200 ms (When input time is 3 ms or more) ON/OFF for 200 ms or less (When input time is less than 3 ms) At continuous shock input: Continuous ON/OFF					
Detection Frequency	10 Hz to 1 kHz					
Response Time	4 ms or less					
Circuit Protection	Output surge absorption diode					
Temperature Range	-10 ºC to 60 ºC (At storage: -15 ºC to 65 ºC) (Without dew condensation or freezing)					
Humidity Range	85% RH or less (At storage: 85 % RH or less) (Without dew condensation)					
Breakdown Voltage	500 V AC, 50/60 Hz for 1 min (Between live parts and mountings)					
Insulation Resistance	20 MΩ or more, At 500 V DC megger (and mountings) Between live parts					
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/s² (Approx. 50 G) in X-, Y-, and Z-direction, each 3 times (Device not powered)					
Ingress Protection	IP50					
Case Material	Glass reinforced ABS resin					
Connector	Connector: SM03B-GHS(3-pin) (from J.S.T. Mfg. Co., Ltd.) [Connections] Housing: GHR-03V-S, Contact: SSHL-002T-P0.2 (from J.S.T. Mfg. Co., Ltd.)					
Weight	Approx. 7 g					
Options (Separately Supplied)	Connector harness: CNH-GHR03S28-300					

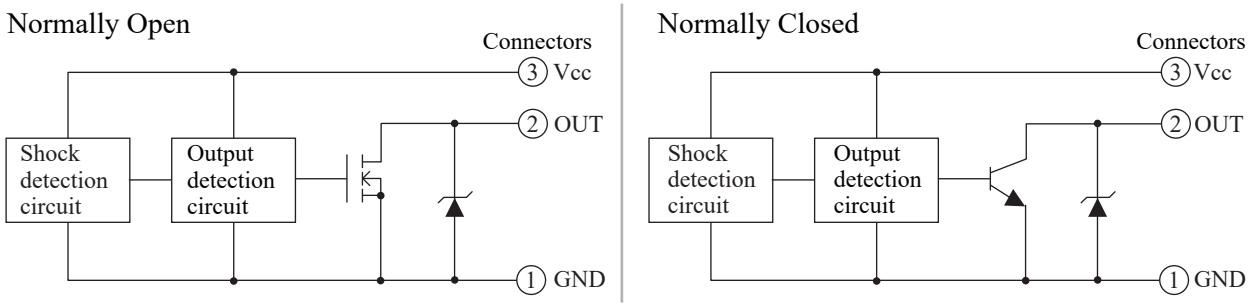
*1: It is a limit value with which the product is free from breakage. It does not guarantee the above-mentioned rating/performance.

Dimensions

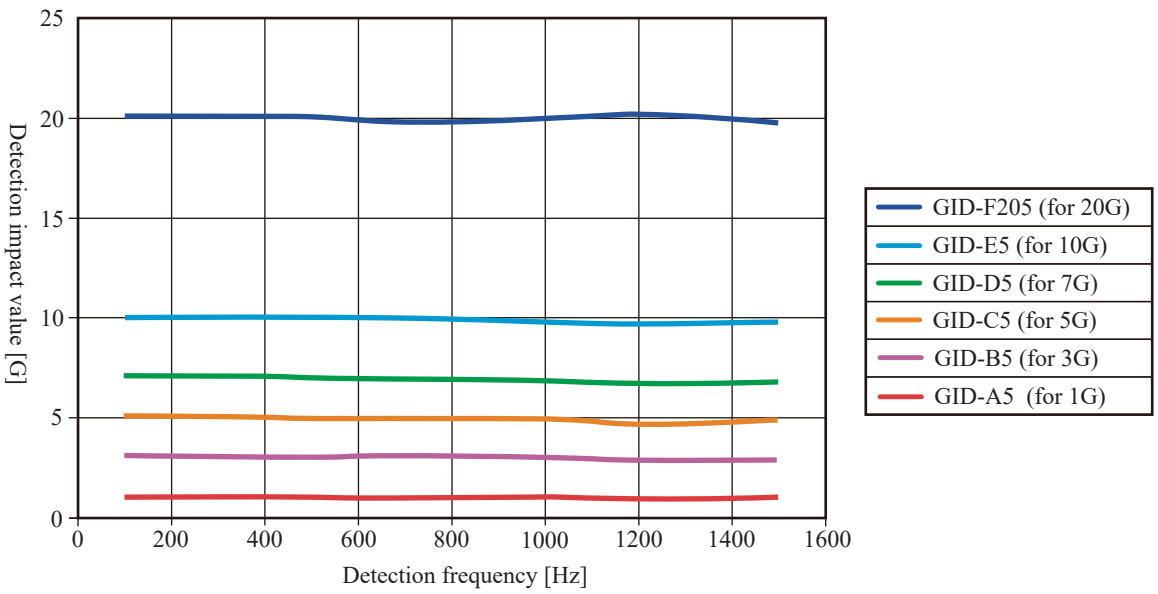


Pin No.	Signal Name
1	GND
2	OUT
3	Vcc

Output Circuit



Reference Frequency Characteristics (Typical)



Precautions During Use

1. Always use plain washers to tighten the case and use a torque of 0.5 N.m or less.
2. The normally closed output type takes 300 ms maximum from power ON to output turning-ON.
3. Thermal shock applied to the sensor during an abrupt temperature change can change the detection sensitivity. Ensure proper handling of the sensor.
4. Avoid subjecting the sensor wire harness to mechanical stress while connecting to the connector or allowing vibration to transferred from impact, otherwise disconnection or malfunction may result. Support the harness lead-out so that it is not subjected to excessive stress or vibration.
5. Because there is no reverse connection protection diode built-in, pay careful attention to the polarity of the power supply.
6. For other precautions during use, refer to the General Precautions for shock sensor.

*For other detailed specifications, refer to the specification sheet of the corresponding model.