

Tilt switches

Low cost, TW Series

- Wide Voltage Range: 4V to 60V
- High performance, 1-Axis accelerometer switches.
- Low cost.
- Build around proven iMEMS technology.

Applications

- Alarm activation
- Automotive
- Mercury switch replacement



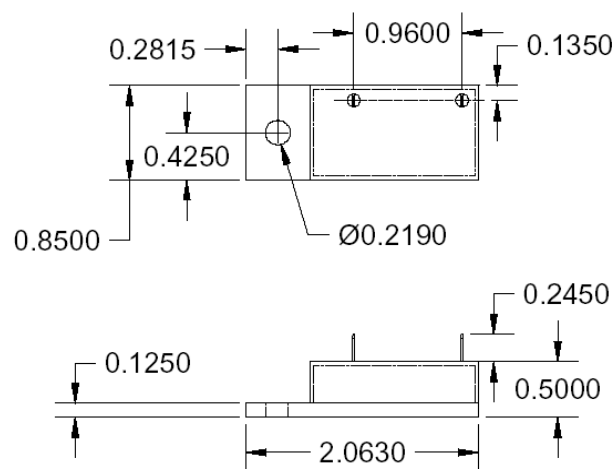
TW Series

The TW Series of low cost tilt switches offer an easy way to activate alarms or relays upon measurement of a specific angle. With a wide range of input voltage, TW Series targets automotive applications and it is the perfect mercury switch replacement part. Build around iMEMS technology, the TW Series of tilt switches offer performance comparable to traditional tilt sensor but at a lower cost.

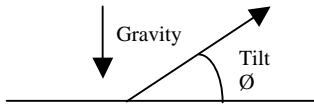
The TW Series offers 1 open collect output that is angle activated. Depending on the part number, output is activated, when a specific angle is reach.

High input voltage range is available to be compatible with most 42V and higher application.

Mechanical



Principle of operation



Tilt switches measures inclination angle relative to gravity. When a side of the sensor is tilted for more than the specified threshold, the corresponding output is activated. Angle in degree is calculated as follows:

$$\varnothing = \text{SIN}^{-1} (\text{Vout} / 1.841)$$

Specifications	All models
Performance	
Measurement range (g)	± 1.5
Sensitivity (mV/g)	800 ± 60
Transversal Sensitivity (% FSO)	± 5
Non-Linearity (% FSO)	± 1
Bandwidth (Hz)	DC - 900
Environment	
Operating Temp Range (°C)	-20 to 85°C
Electrical	
Supply Voltage (Volts)	+ 4 to 60
Maximum Continuous Current (A)	1
Maximum Reverse Voltage (V)	- 60
Average Supply Current (mA)	0.400
Minimum Voltage when Output Close (V)	1.3
Response Time 0° to 45° (ms)	500
Output Close Threshold (degree)	See ordering information
Output Open Threshold (degree)	(Output Close Threshold) – 5°
Physical	
Size (in)	2.063 x 0.850 x 0.500
(mm)	52.4 x 21.6 x 12.7

Connectors

Pin	GS111TW ^{aa}
1	Power+
2	Power- or ground

Ordering Information

GS111TW^{aa}

^{aa} = Trip angle selection

10 = 10°

15 = 15°

20 = 20°

25 = 25°

30 = 30°

35 = 35°

40 = 40°

45 = 45°