

## TILT SWITCH with GYROSCOPE

### FEATURES

- Single or Dual Axis
- Configurable Data Rates up to 20 Hz
- Resolution of 0.01°
- Fast Response Time
- Stability over Time and Temperature range
- Compact
- Environmentally Robust
- Low Power

### APPLICATIONS

- Angle and Tilt Sensing
- Solar Tracking
- Robotics
- Dumper Inclination Measurement
- Motion Sensing
- Platform Stabilization and Leveling
- ATM machines , Man-Lift Safety
- Safe Load Indicators, Crane Boom Angle Indicators

### DESCRIPTION

The VEGA, VEGA-TSW-G model is a dual-axis, compact and robust industrial grade tilt switch with gyroscope, that is insensitive to vibration and can sustain harsh environments as factories, automotive or construction sites. VEGA-TSW-G focuses primarily on industrial and automotive domain applications.

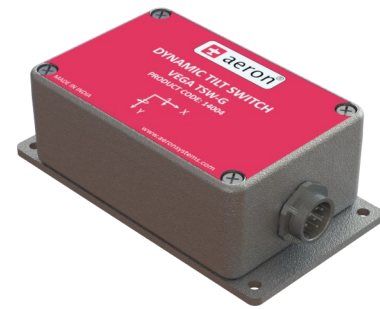
VEGA-TSW-G employ MEMS accelerometers for gravity level sensing and tri-axial gyroscope for angle measurement in vibrating or dynamic conditions.

VEGA-TSW-G has a high speed 32-bit processor architecture that runs advanced statistical filtering algorithm for estimating X (Roll) and Y (Pitch) angles in dynamic conditions. VEGA-TSW-G has integrated relays for switching output and can be made to operate when the user configured threshold angle is exceeded.

VEGA-TSW-G has a fast update rate of up to 20 Hz. It is a solid state, high reliability sensor ideal for OEM applications. The VEGA-TSW-G is factory calibrated over the entire temperature range.

VEGA-TSW-G (Product Code: 14004) supports both static as well as dynamic applications such as heavy equipment, dumper trucks, cranes, scissor lifts and for systems with severe vibrating environments.

VEGA TSW-G



**TECHNICAL SPECIFICATIONS**

Parameter Name	Parameter Value
	VEGA
	TSW-G
<b>Performance</b>	
Measurement Range	±60° (pitch) <sup>1</sup> ±180° (roll)
Resolution	0.01°
Accuracy <sup>2</sup>	±0.5° (1σ) (static) ±1° (1σ) (dynamic)
Update rate <sup>3</sup>	1 Hz, 10 Hz, 20 Hz
<b>Electrical</b>	
Power Supply	+9 V to +32 VDC
Power consumption	180 mA @ 12 VDC
<b>Interfaces</b>	
Serial <sup>4</sup>	RS232, RS485
Protocols	ASCII, MODBUS RTU
Baud Rate	9600, 19200, 38400, 57600, 115200
Relay Output	2
<b>Relay</b>	
Roll switching limit <sup>3</sup>	±90°
Pitch switching limit <sup>3</sup>	±60°
Switching Voltage	220 VDC, 250 VAC
Switching Current	2 A
<b>Environmental Compliant</b>	
Shock Survival	20 g <sup>#</sup>
Environmental Sealing	IP67
Operating Temperature	-40 °C to +85 °C
<b>Mechanical</b>	
Size	98 mm (L) X 64 mm (W) x 39 mm (H)
Weight	500 gms
Casing Material	Aluminum

1 - Full accuracy range

2 - Calibrated @ 25° C, Temperature Characteristics: ± 0.05° / °C

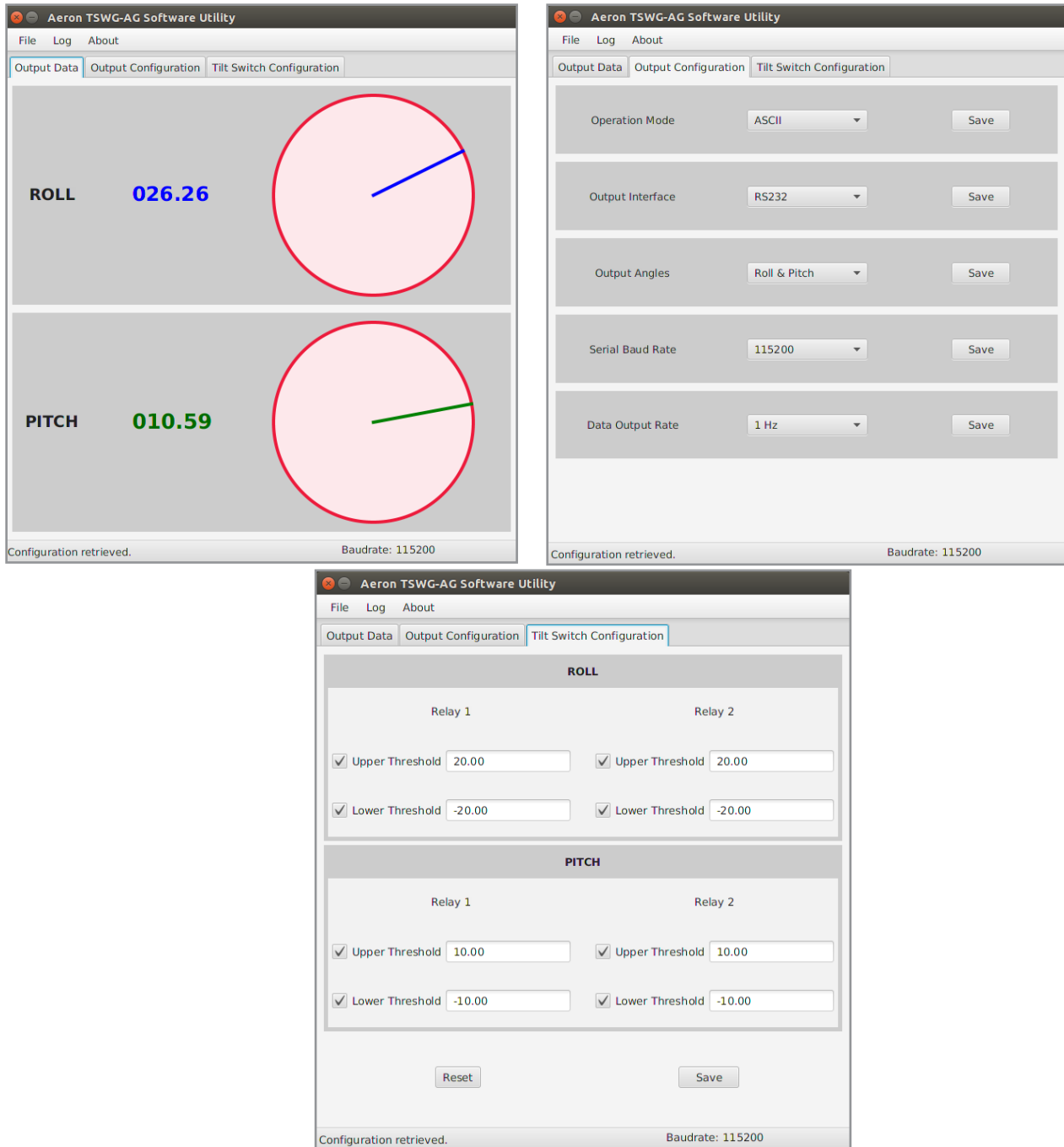
3 - Configurable

4 - Either of RS232 or RS485 port is active at a time

# - Acceleration due to gravity

## DESKTOP APPLICATION

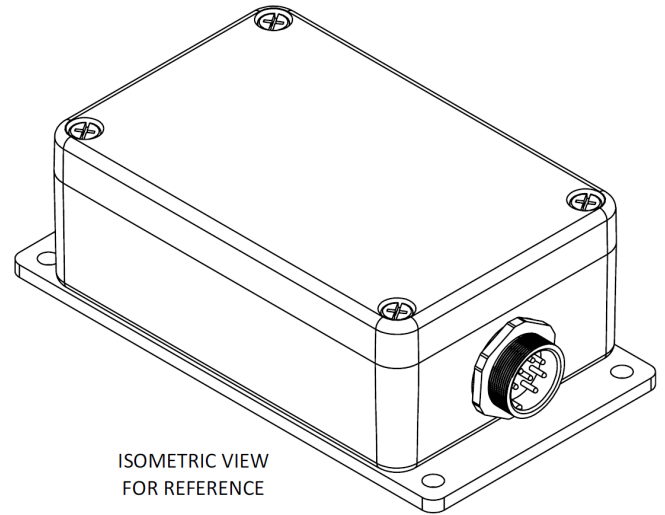
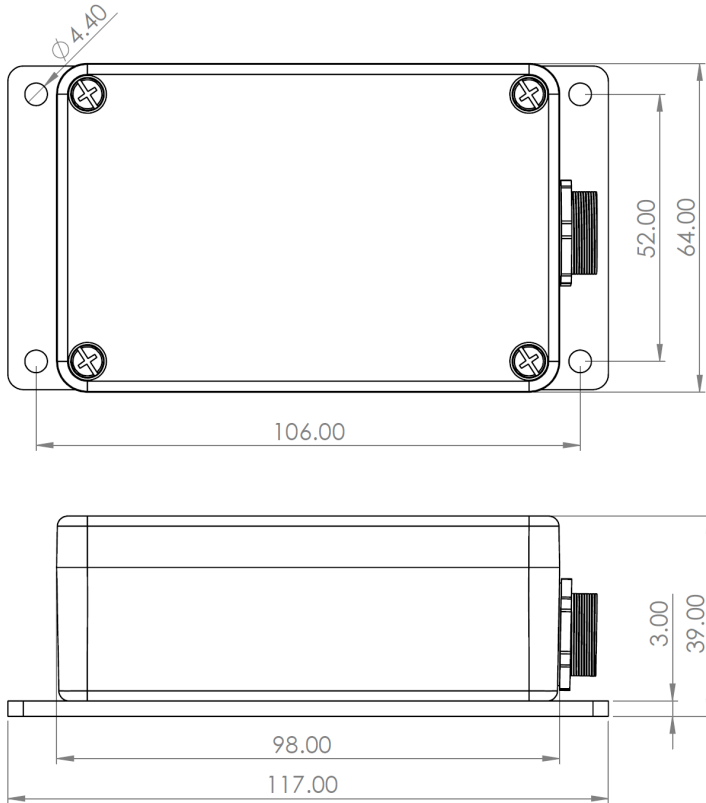
A user friendly Desktop Application is also available for the VEGA-TSW-G, so as to ease data observation and data retrieval. Below are the representative images of the application.



**Note:** These images are for reference. Updates take place from time to time; hence there is a possibility of modification in the application. Various tabs are provided that allow angle configuration, output configuration and display the output.

## MECHANICAL DIMENSIONS

All dimensions in mm



## ORDERING INFORMATION

VEGA - TSW - G (Product Code: 14004)