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

VEGA TSW-G



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.

TECHNICAL SPECIFICATIONS

Parameter Name	Parameter Value VEGA TSW-G
Performance	
Measurement Range	±60˚ (pitch)[1] ±180˚ (roll)
Resolution	0.01˚
Accuracy[2]	±0.5˚ (1σ) (static) ±1˚ (1σ) (dynamic)
Update rate[3]	1 Hz, 10 Hz, 20 Hz
Electrical	
Power Supply	+9 V to +32 VDC
Power consumption	180 mA @ 12 VDC
Interfaces	
Serial[4]	RS232, RS485
Protocols	ASCII, MODBUS RTU
Baud Rate	9600, 19200, 38400, 57600, 115200
Relay Output	2
Relay	
Roll switching limit[3]	±90˚
Pitch switching limit[3]	±60˚
Switching Voltage	220 VDC, 250 VAC
Switching Current	2 A
Environmental Compliant	
Shock Survival	20 g[#]
Environmental Sealing	IP67
Operating Temperature	-40 °C to +71 °C
Mechanical	
Size	117 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

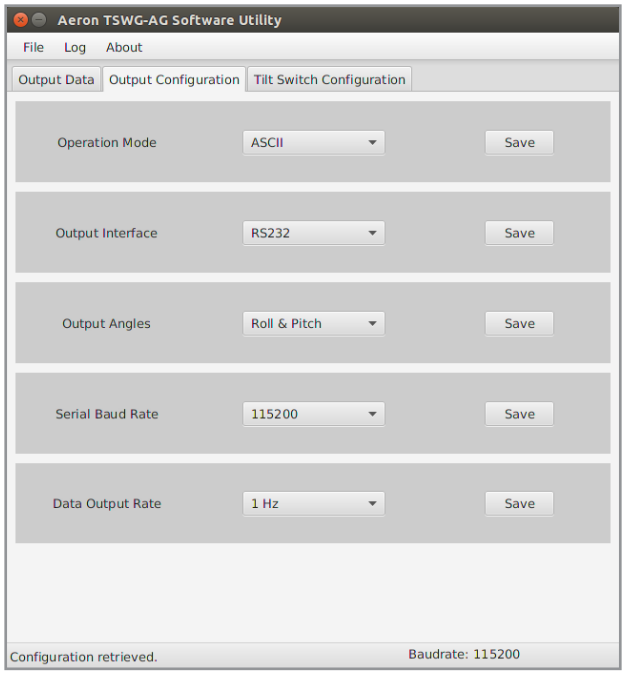
MADE IN INDIA

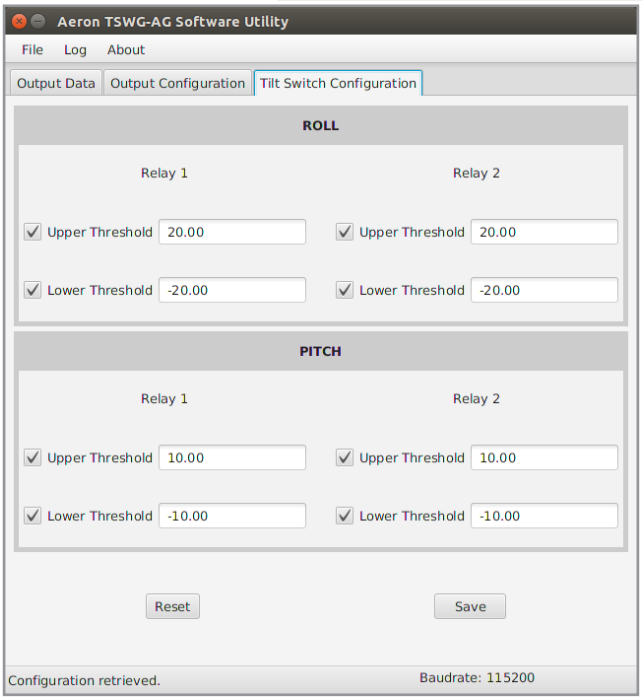
Datasheet Ver. 2.0.15, Aug 2023

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.



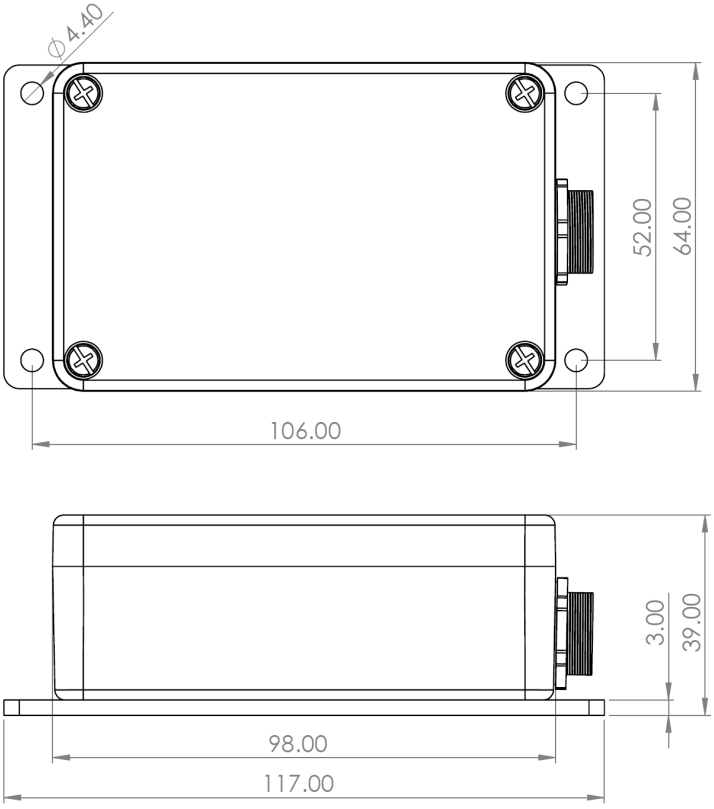


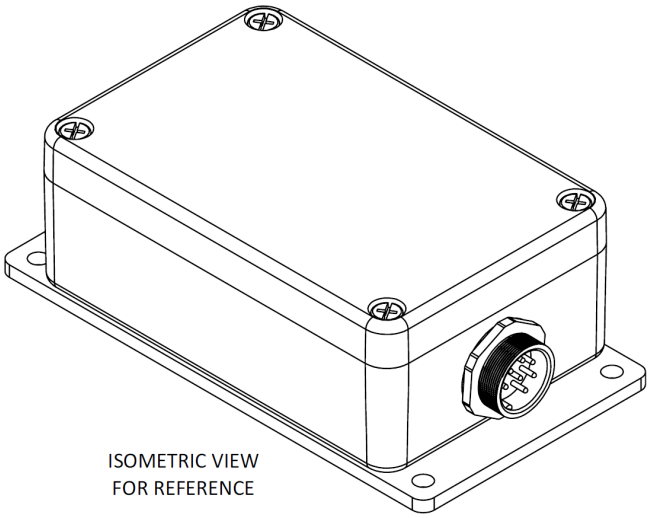


Note: *These images are for reference. Updates take place from time to time; hence there is a possibility of modification in the application. Various tabs are provided that allow angle configuration, output configuration and display the output.*

MECHANICAL DIMENSIONS

All dimensions in mm





ORDERING INFORMATION

VEGA - TSW - G (Product Code: 14004)