

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 |
| 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 +85 °C |
| Mechanical | |
| 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

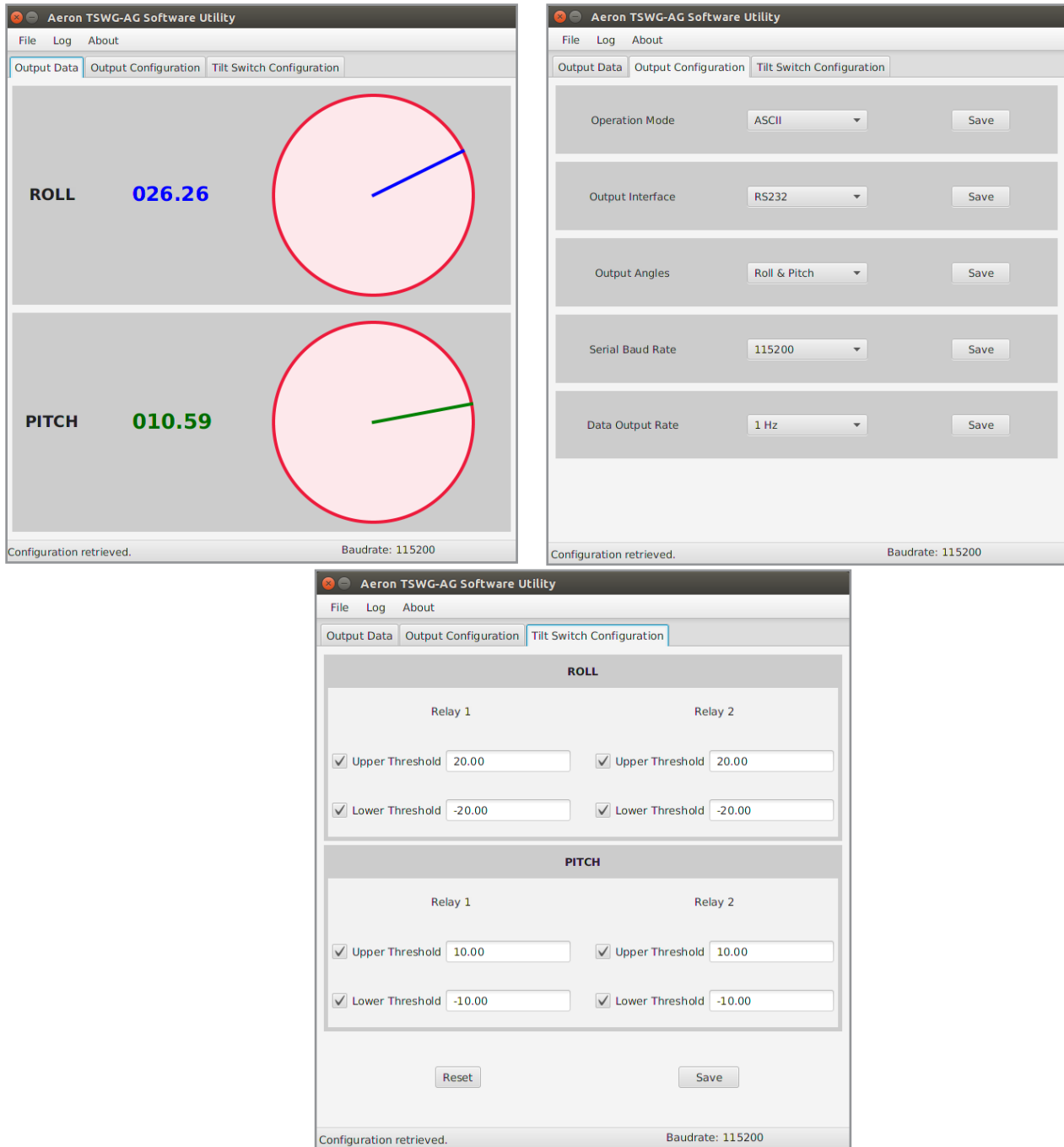
3 - Configurable

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

- Acceleration due to gravity

DESKTOP APPLICATION

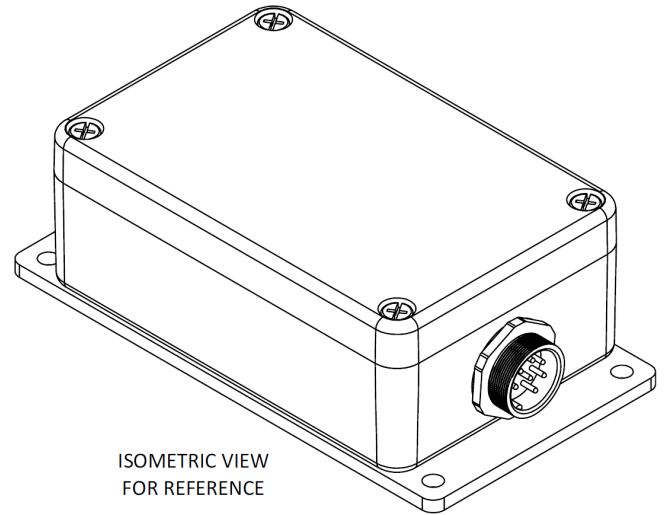
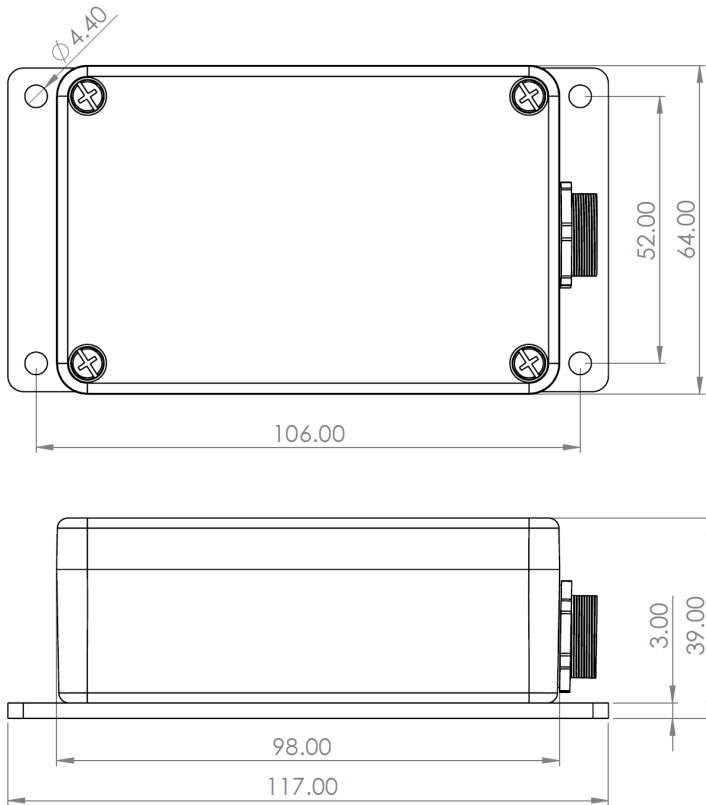
A user friendly Desktop Application is also available for the VEGA-TSW-G, so as to ease data observation and data retrieval. Below are the representative images of the application.



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)