# RSTAR Affinity Tilt Logger

## Description

The RSTAR Affinity Tilt Logger is an advanced monitoring solution that accurately measures inclination in various applications. Seamlessly integrating with the Affinity Data Platform, it provides real-time data insights, analysis, and alerting. With its robust construction, this logger is designed to withstand demanding environments and ensure long-lasting performance. It is compatible with existing infrastructure monitoring systems, making it easy to incorporate into your current monitoring program.

Equipped with a long-lasting battery, it can operate for years autonomously. If necessary, the battery is field replaceable without losing measurement continuity.

With options for internal and external antennas, as well as horizontal and vertical mounting, it provides flexibility to suit your monitoring requirements. At 40mm (1.6in) height, it is also well suited for applications requiring a low-profile sensor.

The RSTAR Affinity Tilt Logger offers ample storage capacity for continuous data collection, ensuring no valuable information is lost. Its intuitive interface allows for easy setup and configuration, facilitating quick deployment and hassle-free operation.

The user-friendly mobile application allows for easy configuration, management, and real-time monitoring of the tilt logger, enhancing the overall experience.

## General Specifications

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|---|---|
| Sensor type | Triaxial MEMS accelerometer |
| Reporting period | 2.5ppm (<7s per month standalone) Synchroniz when connected to Gateway |
| Operating Temperature | -40Â°C to +60Â°C (-40Â°F to 175Â°F) |
| Vibration Resistance | 8g |
| Battery | Primary 3.6V LiSOCl2 Cell Field Replaceable |
| Battery Life | >5 years, (1 hr interval, LPWAN connected) |
| Interfaces | Bluetooth Low Energy USB-C Auxiliary internal |
| Drop Impact resistance | 1m to Concrete |
| Device configuration | Locally Configured by Field Utility App over Blu Updates to configuration via web Dashboard |

### Memory

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|---|---|
| Memory Structure | 8MB Industrial flash memory |
| Maximum Memory Records | 200,000 readings |
| Data acquisition modes | Standalone with Field Utility App data sync Das connected via LoRa LPWAN |

## Tilt Sensor

| | | |
|---|---|---|
| Sensor Type | Triaxial MEMS Accelerometer | |
| Range | Â±90Â° | |
| Resolution | 0.0001Â° | |
| Precision | Â±0.0005Â° | 2Ï? |
| Accuracy | Â±0.002Â° | 3Ï? |
| Tilt Temperature Offset Uncertainty | Â±0.002Â°/Â°C | (X, Y, axes) |
| Tilt Temperature Sensitivity Uncertainty | Â±0.01%/Â°C | |
| 24 hour stability | Â±0.003Â° | |
| Time required for a reading | 10 seconds | |
| Temperature Sensor Accuracy | 0.5Â°C | |
| Temperature sensor resolution | 0.1Â°C | |

## Physical SpecificationsÂ

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|---|---|
| Dimensions | 76x116x40 mm (Excluding Antenna Connector) |
| Ingress protection marking | IP68 (24h @ 2m H2O) |
| Mass (Including Battery) | 575g |
| Antenna | Internal or External RP-SMA antenna options |
| Enclosure Baseplate Material | Stainless Steel |
| Enclosure Radom Material | Glass Filled Polycarbonate |
| Mounting Options | Horizontal & Vertical Surfaces Directly Pole Mount Bracket Magnetic Mounting Feet |

## Radio Specifications

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|---|---|
| LoRaWAN Regions Supported | EU868, AS923, US915, AU915 |
| Range to GatewayÂ[1] | Up to 15km |
| LPWAN Communications | Bi-Directional, Dashboard Configurable |
| LPWAN Antenna Options | Internal, External RP-SMA |
| Bluetooth Range | 50m - BLE 5.0 Compliant Smartphone |

Â[1] Radio range depends on the environment so these distances are only indicative. Consult with us for your application.
SPECIFICATIONS