	PRODUCT CATEGORY:
	DATA COLLECTION

RSTAR Affinity Tilt Logger

The RSTAR Affinity Tilt Logger is an advanced monitoring solution that accurately measures inclination in various applications. Seamlessly integrating with the Affinity Digital Suite, 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. Its low profile is suitable for a wide variety of applications.

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.



> FEATURES

Low Power Wide Area Network communications using LoRa technology.	Robust, compact design with IP68 weatherproofing.
User-friendly configuration app for Android or iPhone.	Web dashboard for network, device, and data management.
Precise and calibrated inclination measurement.	Seamless integration with Affinity Digital Suite.
Internal and external antenna options.	Two sensor options: high vibrations railways and standard version.

> BENEFITS

✓ Integrated	✓ User-friendly
✓ Flexible	✓ Durable
✓ Secure	


TILT SENSOR

Sensor Type	Triaxial MEMS Accelerometer	
Range	±90°	
Resolution	0.0001°	
Precision	±0.0005°	2σ
Accuracy	±0.002°	3σ
Tilt Temperature Offset Uncertainty	±0.002°/°C	(X, Y, axes)
Tilt Temperature Sensitivity Uncertainty	±0.01%/°C	
24 hour stability	±0.003°	
Minimum Reading Interval	12 seconds	
Temperature Sensor Accuracy	0.5°C	
Temperature sensor resolution	0.1°C	

GENERAL SPECIFICATIONS

Sensor type	Triaxial MEMS accelerometer
Reporting period	1 minute to 24 hours
Realtime Clock	2.5ppm (<7s per month standalone) Synchronized daily when connected to Gateway
Operating Temperature	-40°C to +60°C (-40°F to 140°F)
Vibration Resistance	8g
Battery	Primary 3.6V LiSOCl ₂ Cell Field Replaceable
Battery Life	>5 years, (1 hr interval, LPWAN connected)
Interfaces	Bluetooth Low Energy USB-C Auxiliary internal port
Drop Impact resistance	1m to Concrete
Device configuration	Locally Configured by Field Utility App over Bluetooth Updates to configuration via web Dashboard
Memory	
Memory Structure	8MB Industrial flash memory
Maximum Memory Records	200,000 readings
Data acquisition modes	Standalone with Field Utility App data sync Dashboard connected via LoRa LPWAN

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PHYSICAL SPECIFICATIONS	
Dimensions	76x116x40 mm (Excluding Antenna Connector)
Ingress Protection	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	
LoRaWAN Regions Supported	EU868, AS923, US915, AU915
Range to Gateway 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

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