

# rstar AFFINITY



## RSTAR AFFINITY GATEWAY

The RSTAR Affinity gateway receives telemetry from RSTAR Affinity data loggers and tilt sensors through LoRa radio or Smart Mesh protocol. The data is forwarded to the Terra Insights cloud server through wired internet, Wi-Fi, LTE, Sat Link, or to an on-premise server through local ISM radio.

For constrained or sight-line impeded deployments, the RSTAR Affinity gateway employs the Smart Mesh protocol in a mesh topology for inbound communications from RSTAR Affinity data loggers and tilt sensors.

The RSTAR Affinity gateway enables secure wireless communication between data loggers and the Terra Insights browser-based dashboard and mobile application so sensor data can be transmitted and analyzed.

Built by our team of seasoned instrumentation experts specifically for geotechnical monitoring projects, the RSTAR Affinity system comprises loggers, gateways, secure communications for data telemetry, and mobile and desktop applications. Forget the headaches of improvised monitoring solutions cobbled together from different third-party vendors.

RSTAR Affinity represents your complete industrial internet of things (IIoT) solution for reliable, real-time data flow from your work site to your desktop—all from a single source.



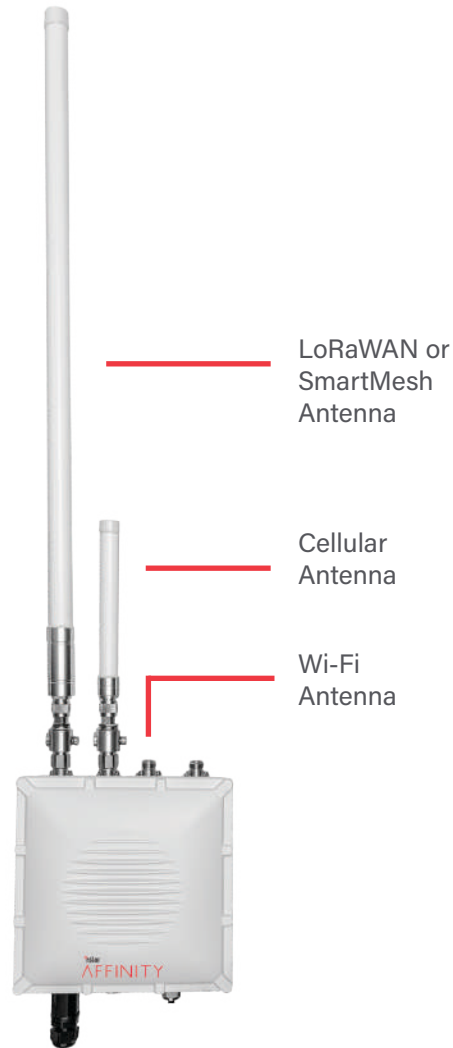
The RSTAR Affinity Gateway is easy to set up and connect to RSTAR Data Loggers for seamless communication in a wide range of geotechnical applications.

The RSTAR Affinity gateway provides bi-directional connectivity between field devices and the Terra Insights browser-based UI dashboard and mobile application.

Flexible connectivity including Ethernet, cellular, Wi-Fi, local radio LAN, and satellite.

A pole mount is included with the gateway enclosure. An optional wall mount is also available.

RST's Terra Insights is OpenAPI 3.0 compliant.



PHYSICAL SPECIFICATIONS	
Dimensions Excluding Antenna(s)	220 mm (L) x 220 mm (W) x 104 mm (H)
Dimensions Including Antenna(s)	1150 mm (L) x 220 mm (W) x 104 mm (H)
Housing Material	Die-cast aluminum
Ingress Protection Marking	IP67 rated
Mounting Options	Pole or wall mount
ISM Antenna Options	868 MHz: 3dBi antenna 900 MHz: 5.8dBi antenna 900 MHz: 8dBi antenna

CELLULAR SPECIFICATIONS	
Frequency Bands for LTE-FDD	B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B25, B26, B28
Frequency Bands for LTE-TDD	B38, B39, B40, B41
Frequency Bands for WCDMA	B1, B2, B4, B5, B6, B8, B19
Frequency Bands for GSM	B2, B3, B5, B8
Output Power	23~33dBm±2dB
Maximum Antenna Gain	3 dBi

FIELD CONNECTIVITY	
Region	LoRaWAN EU433 (Europe) LoRaWAN EU864 (Europe) LoRaWAN RU864 (Russia) LoRaWAN IN865 (India) LoRaWAN US915 (Americas) LoRaWAN AU915 (Australia,Brazil) LoRaWAN KR920 (Korea) LoRaWAN AS923-1/2/3/4 (Asia) SmartMesh 2.4GHz (Worldwide)

GENERAL SPECIFICATIONS	
Temperature Operating Range	Ambient temperatures from -40°C to 60°C

POWER SPECIFICATIONS	
Power Supply	12 VDC from power enclosure via PoE
AC Power	120/240 V
Power Options	High Capacity UPS, Solar Power

INTERNET SPECIFICATIONS	
Standard Configuration	LTE/WiFi/Ethernet  All gateways have ethernet available as a northbound connection.
Internet Options	Radio Local Area Network (RLAN), Geostationary Satellite, Fiberoptic LAN

RSTAR RADIO SPECIFICATIONS	
Operating Frequency (country dependent)	900 MHz, 868 MHz, 2.4 GHz spread spectrum band
Outdoor Range	Up to 14 km (at 900 MHz) in open country, depending on frequency and antenna
Maximum Nodes	255

