

## RSTAR Affinity Gateway

### Description

The RSTAR Affinity gateway receives telemetry from RSTAR Affinity data loggers through LoRa radio. The data is forwarded to the RSTAR Affinity cloud server through wired internet, Wi-Fi, LTE, or to an on-premise server through local ISM radio.

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

### RSTAR Affinity

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.

### RSTAR Affinity Gateway Physical Specifications

ITEM	SPECIFICATION
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

### General Specifications

ITEM	SPECIFICATION
Temperature Operating Range	Ambient temperatures from -40°C to 60°C

### Power Specifications

ITEM	SPECIFICATION
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Power Supply	12 V DC from power enclosure via PoE
AC Power	120/240 V
Power Options	High Capacity UPS, Solar Power

## Cellular Specifications

ITEM	SPECIFICATION
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

## Internet Specifications

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

## Field Connectivity

ITEM	SPECIFICATION
Region	LoRaWAN EU868 (Europe) LoRaWAN EU433 (Europe) LoRaWAN US915 (Americas) LoRaWAN AU915 (Australia,Brazil) LoRaWAN AS923-1/2/3/4 (Asia)

## RSTAR Radio Specifications

ITEM	SPECIFICATION
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

Dependant on measurement frequencies and  
instrument types

Specifications