



PRODUCT CATEGORY:  
 DATA COLLECTION

## RSTAR Affinity Gateway

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

The RSTAR Affinity Gateway receives telemetry from RSTAR Affinity Data Loggers through LoRaWAN radio or legacy RSTAR Data Loggers. The data is forwarded to the RSTAR Affinity cloud server through wired internet, Wi-Fi, or LTE. 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.

### > FEATURES

Bi-directional connectivity between field devices and the RSTAR Affinity browser-based UI dashboard and mobile application.

Flexible connectivity including Ethernet, cellular, or Wi-Fi.

Compatible with RST DT Logger Series with Minimal adjustments for integration into Affinity environment

Seamless data continuity by automatically synchronizing backfilled data from Affinity Loggers during accidental outages

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

RSTAR Affinity is OpenAPI 3.0 compliant.

### > BENEFITS

✓ Integrated

✓ User-friendly

✓ Flexible

✓ Durable

✓ Secure

### 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  
 2-3 dBi (Frequency Dependent)

### RSTAR DATA LOGGER CONNECTIVITY

Region  
 LoRaWAN EU868  
 LoRaWAN EU433  
 LoRaWAN US915  
 LoRaWAN AS923-1/2/3/4  
 LoRaWAN AU915  
[Commonly used frequency plans by country](#)  
 Refer to RST for the best frequency for your region.

### RSTAR LEGACY 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	Dependent on measurement frequencies and instrument types

### INTERNET SPECIFICATIONS

Standard Configuration	LTE/WiFi/Ethernet/Satellite
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### 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
LoRa Antenna Options	868 MHz: 3dBi antenna 900 MHz: 5dBi antenna 433 MHz: 5.8dBi antenna 900 MHz: 8dBi antenna

### GENERAL SPECIFICATIONS

Temperature Operating Range	Ambient temperatures from -40°C to 60°C <i>See Junction Box options for power supply temperature range</i>
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### POWER SPECIFICATIONS

Power Supply*	Passive PoE Input: 12-48V 120V/240V; Requires AC Junction Box Solar Power: Requires Solar Junction Box
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# RSTAR Affinity Gateway

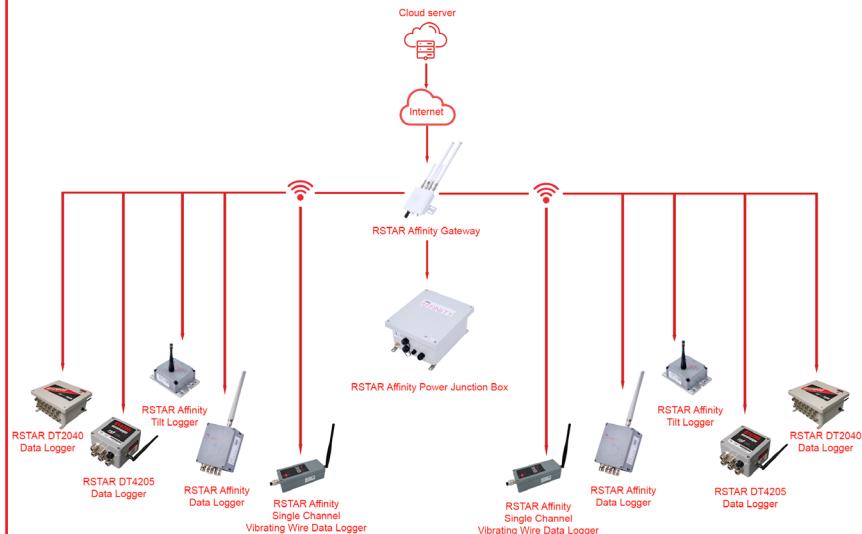


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Top & Bottom Ports Overview

## Typical RSTAR Affinity Connectivity



### ORDERING INFORMATION

ITEM	DESCRIPTION
Communication Options*	<ul style="list-style-type: none"> <li>Ethernet</li> <li>Cellular only</li> <li>Wi-Fi only</li> <li>Cellular &amp; Wi-Fi</li> </ul> <p>*Note: Satellite Modem Hardware (Data Plan to be procured by customer)</p>
Existing legacy RSTAR radio-enabled DT Loggers on site	<ul style="list-style-type: none"> <li>Please specify: Yes or No (900MHz North America / Australia/Brazil/Chile, 2.4GHz worldwide, 868MHz Europe)</li> </ul>
Radio Options	<ul style="list-style-type: none"> <li>LoRaWAN Wireless Frequency: Please specify: 900MHz (North America, Australia, Brazil, Chile), 923 MHz Asia, 868 Europe, 915 (NA/SA)</li> </ul>
Power Supply Options	<ul style="list-style-type: none"> <li>Solar + Battery</li> <li>AC + Battery (AC cable not included)</li> <li>AC only (no Battery, AC cable not included)</li> <li>AC to Passive PoE only (Indoor only)</li> </ul>
Solar Panel (for installations with pole mounting)	Pole Dimension U bolts available (inches): 1.5, 2.0, 2.5, 3.0

### JUNCTION BOX OPTION

Standard Temperature AC Power (Option 1)	Input: 120/240 V Output: 12VDC Passive PoE External 125AHr Batt. Temperature range: 110V-220V input: -20°C to 60°C 230-240V input: -30°C to 60°C
Extended Temperature AC Power (Option 2)	Input: 120/240VAC Output: 12VDC PoE External 125AHr Batt Temperature range: -40°C to 60°C
Solar Power	Input: 120W Solar Output: 12VDC Passive PoE External 125AHr Batt. Temperature range: -40°C to 60°C <p>NOTE: Optional double Battery/double Solar Panel for expected minimal daylight hours. Contact RST for guidance.</p>

### RSTAR AFFINITY JUNCTION BOX SPECIFICATIONS

#### PHYSICAL SPECIFICATIONS

Dimensions	12.3" x 10.26" x 6.13" (308 mm x 261 mm x 156 mm)
Housing Material	Fibreglass
Ingress Protection Marking	IP66 rated
Mounting Options	Wall mount
Body Color	Grey
Weight	3 kg

#### POWER SPECIFICATIONS

AC Power	110V AC-240V AC / 1-2A*
Solar Panel and Charger	Single or dual Panel*

Items marked with an asterisk (\*) are factory configuration.