

SPECIFICATIONS

SYSTEM + NODE

L900 SYSTEM

GENERAL SPECIFICATIONS

| DESCRIPTION | DESCRIPTION |
|---|--|
| Operating Frequency (country dependent) | 900 MHz, 868 MHz, 2.4 GHz - Spread Spectrum band |
| Access Frequency | 24 hours |
| Outdoor Range | Up to 14 km (at 900 MHz) in open country, depending on frequency and antenna |
| Maximum Nodes | 255 |
| Communication | See diagram on inside |

L900 NODE

SPECIFICATIONS

| DESCRIPTION | DESCRIPTION |
|------------------------------|---|
| Memory | 4 MB |
| Time Format | Month / day / year Hour / minute / second |
| Power Source | 1 lithium standard cell battery |
| Additional Quiescent Current | 15 µA |
| Battery Life | Years |
| Temperature Range | -40°C to 60°C (-40° to 140°F) |

Enclosure dimensions will vary according to chosen data logger.

ORDERING INFO

L900 COMPATIBLE DATA LOGGERS

| DATA LOGGER | DESCRIPTION |
|-------------|--|
| DT2011B*† | Single Channel Vibrating Wire Data Logger |
| DT2040* | 20/40 Channel Vibrating Wire/Thermistor Data Logger |
| DT2055B*† | 5/10 Channel Vibrating Wire/Thermistor Data Logger |
| DT2306* | Potentiometer Data Logger |
| DT2350* | 2 Channel Load Cell Data Logger |
| DT2485*† | Digital Bus (DT-BUS) Data Logger |
| DT4205*† | 5/10 Channel 4-20mA Transmitter Data Logger Thermistor Data Logger |
| DTL201B*† | Uniaxial Tilt Data Logger |
| DTL202B*† | Biaxial Tilt Data Logger |
| ELGL1430* | flexDAQ Data Logger CR300 (RSTAR Hub) |
| ELGL1206* | flexDAQ Data Logger CR6 (RSTAR Hub) |

L900 RSTAR RADIO & ANTENNA KIT

Please specify frequency based on location.

| FREQUENCY | LOCATION |
|-----------|--|
| 900 MHz | North America |
| 2.4 GHz | Worldwide |
| 868 MHz | EU Countries/Europe |
| 900 MHz | Australia |
| 900 MHz | Brazil †  |
| 900 MHz | Chile |
| 900 MHz | Singapore |

GeoViewer* Software (optional, see at right)

* See brochure at www.rstinstruments.com



An RSTAR Hub in a vandal-resistant enclosure with solar panel and antenna.

GeoViewer

REAL-TIME MONITORING



A sensor configuration with RSTAR is easily incorporated into RST's GeoViewer Software for multi-sensor management.



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WIRELESS DATA COLLECTION

for Geotechnical, Structural and Environmental Monitoring Instrumentation



DT SERIES
DATA LOGGERS

- Minimum per channel cost.
- Extra long battery life.
- Long distance data transmission.



A wireless data collection system to quickly get you connected to your data.





Fully Automated **L900 SYSTEM** WIRELESS DATA COLLECTION

for Geotechnical, Structural and Environmental Monitoring Instrumentation

QUICK FACTS

- Excellent Hub - Node range (up to 14 km in open country).
- Ultra-low quiescent power. RSTAR Nodes powered by a single lithium cell which provides years of battery life.
- Simple star routing -no mesh overhead.
- Up to 255 L900 Nodes per flexDAQ.
- Simple network setup: add node serial number to RSTAR Hub, deploy.
- Based on proven flexDAQ experience and technology.
- Multiple telemetry options (cell modem, LAN, radio, satellite, etc. - see diagram).
- Data can be accessed at multiple locations via internet browser.
- Data is protected at all stages by encrypted, error-corrected transmission and storage.
- Fully compatible with RST GeoViewer Software.

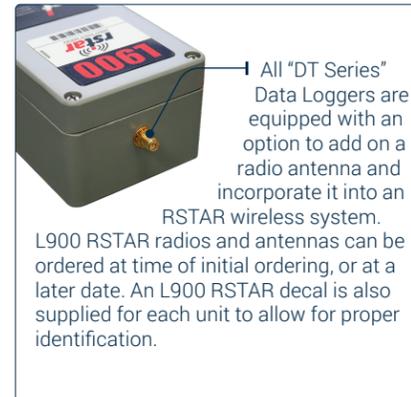
The RSTAR Array Radio Series uses wireless technology to provide automated data acquisition. A complete RSTAR L900 System uses Nodes at the sensor level, deployed in a star topology from a continuously active Hub, which consists of an L900 RTU interfaced to a flexDAQ Datalogger.

FEATURES

- 900 MHz, 868 MHz and 2.4 GHz spread spectrum band (country dependent) with extensive open-country range through use of simple dipole or directional antenna.
- Nodes comprised of sensors and compatible "DT Series" Data Loggers which can accommodate: vibrating wire sensors, potentiometers, MEMS tilt sensors, strain gauge (full bridge) sensors, digitally bussed (DT-BUS) sensors, 4-20 mA sensors, and thermistors.
- The nodes wake from low power and collect data from their attached sensors. This data, which includes the node serial number, data and diagnostics, is then sent wirelessly as a packet to the L900 RTU.
- The L900 RTU stores the data in a temporary register set which is overwritten as new data is received; there is an intermediate data logging function in the RSTAR L900 Node. The datalogger within the flexDAQ has ultimate responsibility for logging data.
- Power requirements for a single RSTAR L900 node is one lithium standard cell.
- The flexDAQ Datalogger can be powered by a solar panel, batteries or AC power.



A flexDAQ enclosure shown with an open lid to reveal an installed RSTAR L900 RTU (on DIN rail), datalogger, radio and power supply.



All "DT Series" Data Loggers are equipped with an option to add on a radio antenna and incorporate it into an RSTAR wireless system. L900 RSTAR radios and antennas can be ordered at time of initial ordering, or at a later date. An L900 RSTAR decal is also supplied for each unit to allow for proper identification.



DT2011B Single Channel Vibrating Wire Data Logger attached to an RST Vibrating Wire

DT SERIES DATA LOGGERS

DT SERIES DATA LOGGERS



The "DT Series" Data Loggers from RST accommodate the RSTAR Data Collection System and use a single lithium standard cell which provides years of battery life (model dependent). The DT Series provides reliable, unattended monitoring of various sensor types: vibrating wire sensors, potentiometers, MEMS tilt sensors, strain gauge (full bridge) sensors, digitally bussed (DT-BUS) sensors, 4-20 mA sensors, and thermistors. More details can be found at

