Solinst®

STS Edge Telemetry Systems

Model 9100 Data Sheet

STS Edge Telemetry Systems
Model 9100

Solinst STS Edge Telemetry Systems are designed for use with Solinst high quality dataloggers. Using a GSM cellular modem, the STS Edge sends water level, temperature, conductivity and rainfall data from the field to a Home Station PC.

STS Edge Remote Stations can be powered by a sealed lead-acid 12V battery, and optionally, solar trickle charging or direct AC power. Up to four Solinst dataloggers can be connected to one STS Edge.

Two-way IP communication from your desktop allows added features such as alarm notification, remote diagnostic reporting, and remote updates, which makes it easy to maintain your system, while simplifying data collection.

STS Edge Telemetry Systems are ideal for large networks. Hundreds of remote stations can report to a single Home Station computer. There is also the option to bridge with an RRL (Remote Radio Link) network. (See Model 9200 Data Sheet.)

STS Edge Applications

- Remote or difficult-to-access locations
- Hazardous or critically important sites
- Long-term groundwater monitoring applications
- Drought and water taking management
- Watershed management
- Landfill and mine water supervision
- Flood and stormwater management

Operation of STS Edge Telemetry Systems

Initial setup for each STS Edge is done using Solinst Telemetry PC Software at the Home Station. A sample rate is set at which the STS Edge records a real-time reading from each attached datalogger. A report rate sets the frequency that the data is sent from the STS Edge to the Home Station.

Dataloggers can be programmed to record independently of the STS Edge and store the data in their own internal memory, providing reliable backup, if circumstances require it.

The STS Field Utility Software is used to initialize the STS Edge via a USB connection. The Field Utility is also used to perform diagnostic checks on a connected STS Edge, as well as control the modem and its settings. It is convenient to install on a laptop for use in the field.

Reported data is placed in a dynamically updated database on the Home Station computer.

Solinst Telemetry Software can be used for a quick check of the latest readings. You can also set up and view barometrically compensated water level data. Data can be exported for use in your preferred database or modelling package.

To ensure no data loss, the STS Edge stores data in its memory until it has been successfully uploaded by the Home Station computer.

Changes to the reporting schedule or STS Edge firmware updates can be done remotely using Solinst Telemetry Software, which will update the STS Edge and dataloggers at the next scheduled report.

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High Quality Groundwater and Surface Water Monitoring Instrumentation

Solinst®

STS Edge System Features

- Intuitive software for easy programming and setup
- IP communication for reliable data transfer
- Database to import to your own website or list
- Allows barometric compensation of remote water level data
- Remote schedule and firmware updates from the Home Station
- Battery level and status updates with each report
- GPS module in remote STS Edge allows location mapping in Solinst Telemetry Software
- Option to bridge an RRL radio network
- High or low level alarm notifications

STS Edge Specifications

Modem:	Digi TransPort® WR21 GSM Cellular Modem for 2.5G/3G/4G cellular network, including LTE, HSPA, HSPA+ and 1xRTT
Communication:	Static IP at Home Station PC and Dynamic IP at remote STS Edge, e-mail alarm notifications
Antennas:	3G/4G/LTE (699-960/1710-2690 MHz), 3 dBi, SMA connection
Data File Type:	.mdb (database), .xle, .lev or .csv (exported)
Sampling Interval:	10 seconds - 99 hours
Reporting Interval:	5 minutes - 1 week
Schedule Programming:	Initial setup and remote updates done through Solinst Telemetry Software at Home Station
Power Supply:	12V, 12-30 AHr deep-cycle, rechargeable sealed lead-acid battery
Optional Power Input:	10V - 16V DC, 15W
Battery Life Example: (4 dataloggers)	1 year: based on hourly sampling and daily reporting
Memory Capacity: (Between Reports)	16 MB
Operating Temperature:	-30ºC to 50ºC
Optional Enclosure:	NEMA 4X (IP66: dust and water proof, can not be submerged)
Compatible Dataloggers:	Levelogger Edge, Barologger Edge, Levelogger Junior Edge, LTC Levelogger Edge, Rainlogger Edge, LevelVent and AquaVent, as well as Levelogger Gold, Barologger Gold, Levelogger Junior, LTC Levelogger Junior and Rainlogger
Number of Connected dataloggers:	4
Barometric Compensation:	Using a connected Barologger, automatically performed in Solinst Telemetry Software or by user in external database

STS Edge Remote Station

RRL (Remote Radio Link) Integration

You can expand your telemetry system by connecting a Solinst RRL network to a STS Edge Remote Station. A closed-loop network of RRL radios reports data to the STS Edge; all data is then sent to the Home Station via the STS Edge GSM modem. Up to four dataloggers can be connected to each RRL. (See Model 9200 Data Sheet.)

Home Station

STS Edge Remote Station   RRL Radio Network

STS Edge Alarms and Diagnostics

An e-mail alarm notification will be sent automatically to the Home Station if a low battery condition is detected. The Home Station then sends out email alerts, as set up in the software. High, low and percent change alarms can also be set for each datalogger (e.g. water level, temperature, rainfall, or conductivity).

Along with water level, temperature, barometric, conductivity, and rainfall data, the Home Station is updated with battery level and status of the STS Edge and dataloggers with each data report.

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