NEW Levelogger Edge

Model 3001

Staying true to our commitment to continually improve our products, we are proud to introduce the Levelogger Edge. Its enhanced features definitely give it an "edge" over previous Levelogger versions.

Increased Stability and Reliability

The Levelogger Edge has improved stability and reliability with the introduction of the new Hastelloy® pressure sensor and Titanium based PVD coating. Both elements add increased corrosion resistance in harsh environments, as well as making readings more stable in extreme pressure and temperature conditions. The Levelogger Edge features a wider temperature compensated pressure range (0 to 50°C, -10 to 50°C for Barologger Edge), and improved thermal response time. The Hastelloy sensor can withstand 2 times over-pressure without permanent damage.

Improved Software

The new Levelogger PC Software is more streamlined, making it easier to program dataloggers, and view and compensate data. The software has more useful programming options, including compressed and repeat sampling, and a future stop option. Data compensation has been simplified, and allows multiple data files to be barometrically compensated at once. Communication speed between the Levelogger Edge and the PC has increased with the new Optical Reader, making downloading data faster.

Applications

- Aquifer characterization: pumping tests, slug tests, etc.
- Watershed, drainage basin and recharge monitoring
- Stream gauging, lake and reservoir management
- Harbour and tidal fluctuation measurement
- Wetlands and stormwater run-off monitoring
- Water supply and tank level measurement
- Mine water and landfill leachate management
- Long-term water level monitoring in wells, surface water bodies and seawater environments

Enhanced Features

- Corrosion resistant Titanium based PVD coating
- New robust Hastelloy pressure sensor
- Improved temperature compensation and thermal response time
- Faster communication and downloading speeds with new high speed Optical Reader
- Memory for up to 120,000 readings
- Streamlined software with more sampling options
- Multiple data file barometric compensation

The Levelogger Edge is a self contained, automatic water level and temperature recording device. It combines a Hastelloy pressure sensor, temperature thermistor, 10-year lithium battery, and a datalogger with FRAM memory for 40,000 sets of data points, or up to 120,000 using the new compressed linear sampling option. All components are sealed within a 7/8" x 6.25" (22 mm x 159 mm) stainless steel housing with corrosion resistant Titanium based PVD coating.

The Levelogger Edge maintains the high resolution of previous Leveloggers, and an accuracy of 0.05% FS. The new, more precise Barologger Edge provides the easiest and most accurate method of barometric compensation.

Battery life is 10 years based on a 1-minute sampling rate. The Levelogger Edge also inherits the Faraday cage design, which protects against power surges or electrical spikes caused by lightning. Its durable maintenance-free design, high accuracy and stability, make the Levelogger Edge the most reliable instrument for long-term, continuous water level recording.

Levelogger Setup

Programming Leveloggers is extremely intuitive. Simply connect to a PC using an Optical Reader or PC Interface Cable. All in one screen fill in your project information and sampling regime. Templates of settings can be saved for easy re-use.

The Levelogger time may be synchronized to the computer clock, or Leveloader clock. There are options for immediate start or a future start and stop times. The percentage battery life remaining and the amount of free memory are indicated on the settings screen.

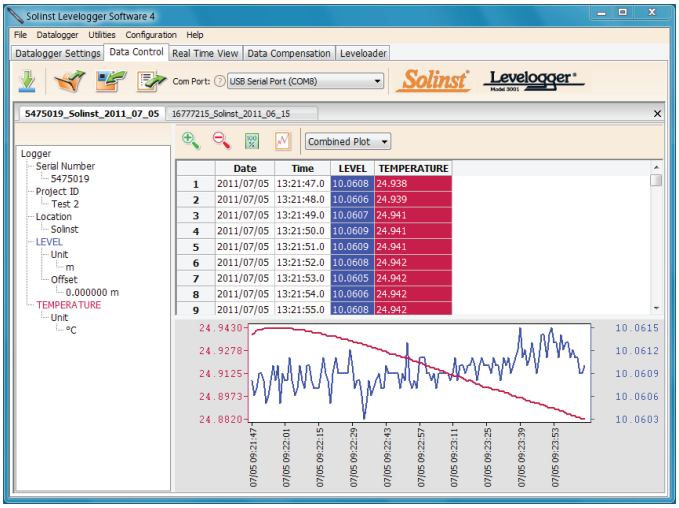
Convenient Sampling Options

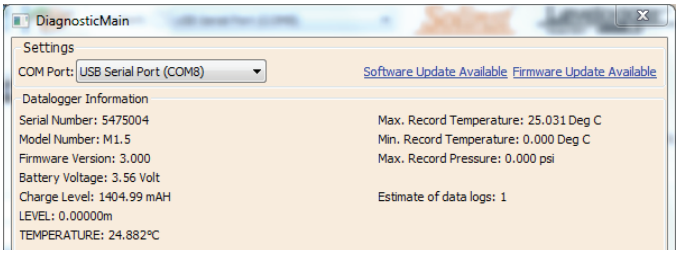
Leveloggers can be programmed with linear, event-based, or a user-selectable sampling schedule. Linear sampling can be set from 1/8 second to 99 hours.

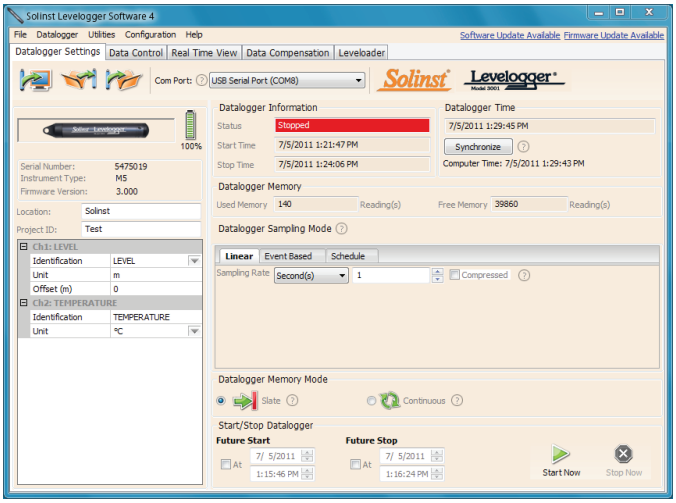
Event-based sampling can be set to record when the level changes by a selected threshold. Readings are checked at the selected time interval, but only recorded in memory if the condition has been met. A default reading is taken every 24 hours if no “event” occurs.

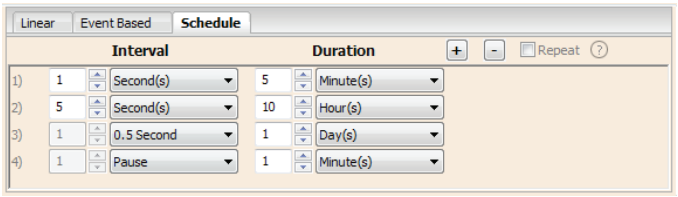
The Schedule option allows up to 30 schedule items, each with its own sampling rate and duration. For convenience, there is an option to automatically repeat the schedule.

The Levelogger Edge can be programmed with compressed linear sampling, which increases the Levelogger memory from 40,000 to up to 120,000 readings.









Levelogger Edge Settings Software Windows

Data Download, Viewing and Export

Data is downloaded to a PC with the click of a screen icon or with the push of a button on the Leveloader. There are multiple options for downloading data, including ‘Append Data’ and ‘All Data’. The software also allows immediate viewing of the data in graph or table format using the ‘Real Time View’ tab.

The level data is automatically compensated for temperature and altitude and the temperature data is also downloaded. Barometric compensation of Levelogger data is performed using the Data Compensation Wizard, which can also be used to input manual adjustments, elevation offsets and adjust for Barometric efficiency and density.

The software allows easy export of the data into a spreadsheet or database for further processing.

Helpful Utilities

The ‘Self-Test Diagnostic Utility’ can be used in case of an unexpected problem. It checks the functioning of the program, calibration, backup and logging memories, the pressure transducer, temperature sensor and battery voltage, as well as enabling a complete Memory Dump, if required. A firmware upgrade will be available from time to time, to allow upgrading of the Levelogger Edge, as new features are added.

Standard Cable Deployment

Leveloggers may be suspended on a stainless steel wireline or Kevlar® cord. This is a very inexpensive method of deployment, and if in a well, allows the Levelogger to be easily locked out of sight and inaccessible. Solinst offers stainless steel wireline assemblies and Kevlar cord assemblies in a variety of lengths.

NEW Solinst 3001 Well Cap Assembly

The new 2" Locking Well Caps are designed for both standard and Direct Read Cable deployment options.

The well cap has a convenient eyelet for suspending Leveloggers using wireline or Kevlar cord. The Well Cap insert has two openings to accommodate Direct Read Cables for both a Levelogger and Barologger. Adaptors are available to fit 4" wells.

The cap is vented to allow for the equalization of barometric pressure in the well. It slips over the casing, and the cap can be secured using a lock with a 3/8" (9.5 mm) shackle diameter.

Levelogger 2" Locking Well Cap Installations (see Well Caps data sheet for more details)

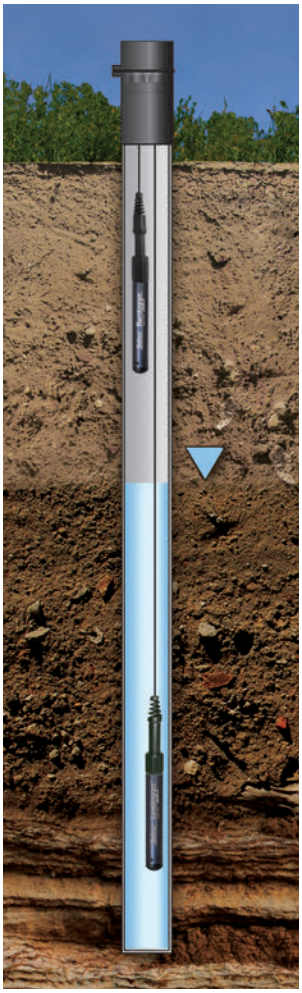
Direct Read Cables

When it is desired to get real-time data and communicate with Leveloggers without removal from the water, they can be deployed using Direct Read Cables. This allows viewing of the data, downloading and/or programming in the field using a portable computer or Leveloader.

Leveloggers can also be connected to an SDI-12 datalogger using the Solinst SDI-12 Interface Cable attached to a Direct Read Cable.

Cable Specifications

Direct Read Cables are available for attachment to any Levelogger in lengths up to 1500 ft. The 1/10" dia. (2.54 mm) coaxial cable has an outer polyethylene jacket for strength and durability. The stranded stainless steel braided conductor gives non-stretch accuracy.



Barologger and Levelogger Installed in Well Using Direct Read Cables

Accurate Barometric Compensation

The Levelogger Edge measures absolute pressure (water pressure + atmospheric pressure) expressed in feet, meters, centimeters, psi, kPa, or mBar.

The most accurate method of obtaining changes in water level is to compensate for atmospheric pressure fluctuations using a Barologger Edge, avoiding time lag in the compensation.

The Barologger is set above high water level in one location on site. One Barologger can be used to compensate all Leveloggers in a 20 mile (30 km) radius and/or with every 1000 ft. (300 m) change in elevation.

The Levelogger Software Data Compensation Wizard automatically produces compensated data files using the synchronized data files from the Barologger and Leveloggers on site.

The Barologger Edge uses pressure algorithms based on air rather than water pressure, giving superior accuracy. The recorded barometric information can also be very useful to help determine barometric lag and/or barometric efficiency of the monitored aquifer.

The Barologger Edge records atmospheric pressure in psi, kPa, or mBar. When compensating submerged Levelogger Edge, Gold or Junior data, Levelogger Software Version 4 can recognize the type of Levelogger and compensate using the same units found in the submerged data file (Levelogger Gold and Junior measure in feet, meters, or centimeters). This makes the Barologger Edge backwards compatible.

Synchronize & Streamline Your Barometric Compensation Efforts, Across Your Entire Site

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Levelogger Edge Specifications

Level Sensor:	Piezoresistive Silicon with Hastelloy Sensor
Accuracy:	± 0.05% FS (Barologger Edge: ± 0.05 kPa)
Stability of Readings:	Superior, low noise
Units of Measure:	m, cm, ft., psi, kPa, mBar, ºC. ºF (Barologger Edge: psi, kPa, mBar, ºC, ºF)
Resolution:	24 Bit Resolution
Normalization:	Automatic Temperature Compensation
Temp. Comp. Range:	0º to 50ºC (Barologger Edge: -10 to +50ºC)
Temperature Sensor:	Platinum Resistance Temperature Detector
Temp. Sensor Accuracy:	± 0.05ºC
Temp. Sensor Resolution:	0.003°C
Battery Life:	10 Years - based on 1 reading/minute
Clock Accuracy:	± 1 minute/year (-20ºC to 80ºC)
Operating Temperature:	-20ºC to 80ºC
Maximum # Readings:	40,000 readings FRAM memory, or up to 120,000 using linear data compression
Memory:	Slate and Continuous
Communication:	Optical Infrared Interface. Conversion to RS-232, USB, SDI-12. Serial at 19,200 bps, 38,400 bps with USB
Size:	7/8" x 6.25" (22 mm x 159 mm)
Weight:	4.6 oz. (129 grams)
Corrosion Resistance:	Titanium based PVD coating
Other Wetted Materials:	Delrin®, Viton®, 316L stainless steel, Hastelloy, Titanium based PVD coating
Sampling Modes:	Linear, Event & User-Selectable with Repeat Mode, Future Start, Future Stop, Real-Time View
Measurement Rates:	1/8 sec to 99 hrs
Barometric Compensation:	Software Wizard and one Barologger in local area (approx. 20 miles/30 km radius)

Models	Full Scale (FS)	Accuracy (typical)
Barologger	Air only	± 0.05 kPa
F7, M2	6.6 ft., 2 m	± 0.003 ft., 0.1 cm
F15, M5	16.4 ft., 5 m	± 0.010 ft., 0.3 cm
F30, M10	32.8 ft., 10 m	± 0.016 ft., 0.5 cm
F65, M20	65.6 ft., 20 m	± 0.032 ft., 1 cm
F100, M30	98.4 ft., 30 m	± 0.064 ft., 1.5 cm
F300, M100	328.1 ft., 100 m	± 0.164 ft., 5 cm

Levelogger Junior Edge: See Levelogger Junior Edge Data Sheet.
Conductivity: See Model 3001 LTC Levelogger Junior Data Sheet

Leveloader

The Leveloader is a data transfer unit designed for use with all versions of the Solinst Levelogger, Barologger and Rainlogger. It is used to download and store multiple data files.

The 8 Mb FLASH memory stores up to 1,390,000 LT readings, 930,000 LTC readings, or 34 full Levelogger downloads. It can also be used to display data in real-time, and has optional password protection.

Simply use the connector cables for attachment to a Levelogger, or to a direct read cable, to allow downloading or reprogramming of the Levelogger settings in the field. It comes with cables for USB and RS-232 connection to a PC for data transfer (see Model 3001 Leveloader data sheet).

STS Telemetry

The STS Telemetry System provides an economical and efficient method to wirelessly send Levelogger data from the field to your desktop. Built for Leveloggers, the system combines high quality dataloggers, intuitive software and a variety of wireless communication options to create a remote monitoring solution.

CDMA and GSM digital cellular, satellite, landline and radio options give the flexibility to suit any project. Systems are suitable for both small to large networks. STS Systems are designed to save costs by enabling the self-management of data, as well as remote collection of the data. Alarm notification, remote firmware upgrades and diagnostic reporting make system maintenance simple (see Model 9100/9200 data sheet).

RRL Telemetry

The inexpensive RRL Remote Radio Link is ideal for short range applications up to 20 miles or 30 km; distances can be increased by using some radios as relay stations. Ideal for creating closed-loop monitoring networks using Leveloggers (see Model 9100/9200 data sheet).

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