SITE SENTINEL® L1

Ultra low-power data logger with integrated ultrasonic level sensor

- FLOOD WARNING LEVEL MONITORING
- INTERNAL 3G OR 4GX CAT-M1/NB-IoT MODEM
- LONG BATTERY LIFE
- REMOTE DEVICE MANAGEMENT
- TIDAL MONITORING

L1

The L1 is a specific variant of the Site Sentinel® data logger and RTU family, providing highly-reliable, direct-to-host non-contact level monitoring in a single package, aimed at water utilities, city councils, agriculture, tidal, flood warning and irrigation sectors.

The Site Sentinel® L1 is designed for direct mounting above a water souce such as a dam, channel, creek, basin, tank or manhole. The Site Sentinel® L1 will then measure the water level with +/- 1mm accuracy and is non-contact, ideal in situations where deployment of other level sensing techniques is not possible. Swift deployment is made possible thanks to the built-in front panel mounted ultrasonic level sensor, a true single box design that requires no external hardware.

Data is stored internally on non-volatile flash memory with upstream communications provided using an internal cellular modem.
The cellular option provides support for tri-band 3G or 4GX option, permitting use on CAT-M1 and NB-IoT Networks.
Host compatibility is ensured with integrated support for DNP3.0 slave and FTP data protocols.
Complete control is handed to the user to allow custom data reporting and wake-from-sleep regimes to be configured to balance battery life against data logging and data reporting requirements.

Battery life of 5 years plus, depending on device configuration and reporting regime.

Remote configuration and device management is supported via leading industry SCADA applications, permitting device tuning and up-grades without requiring site visits. Remote device firmware download capability is provided via FTP file transfer*

The device is housed in a low-profile, robust ABS-plastic enclosure that is UV stabilised and rated at IP68, allowing for direct outdoor installation, capable of withstanding brief submersion.

Each device is supplied with its first battery, stainless steel quick release mounting bracket and installation kit.

*Remote firmware download requires suitable DNP3 Host server

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TECHNICAL SPECIFICATIONS

General

Supply Voltage	3.5 – 8.5V DC, High-capacity, internal Lithium battery pack (field replaceable)
Current Draw	50 μA sleep, 8 mA active, 200 mA Cell module communications, 2 A (peak) Cell network detect
Real Time Clock	Internal – Year, month, date, hour, minute, second, Automatic DNP3 time synchronisation from DNP3 master, Automatic cellular network time sync when using FTP data export mode
Temperature	–20°C to +65°C Celsius
Humidity	0 to 90% relative humidity, non-condensing
Programming	Windows based Configurator M+ configuration software, Remote device management via DNP3, Remote firmware download via FTP, local programming port (inside unit)
Mounting	90 mm (h) x 125 mm (d, nominal) / 155 mm (d, maximum), supplied with stainless steel mounting bracket and installation kit that includes O-rings, O-ring grease and Antenna.
Environmental	IP68 (suitable for brief submersion)

IO Interfaces

Analogue Input	1x Integrated ultrasonic level sensor, +/- 1mm resolution, 1.00% Accuracy, Compensated temperature range is -40°C to +65°C
	Measurement range of 300mm to 4999mm. Targets closer than 300mm will report as 300mm.
	4x user-configurable alarm limits on Ultrasonic level Input, allows recording of alarm limit breaches as events or immediate unsolicit of data to host upon breach of alarm limit, or both
System Input	Internal measurement of Cell Network RSSI, RTU temperature, RTU battery voltage and session status code, Magnetic swipe function to initiate data transmission to upstream host.
Data Logging and Event Buffer	User Configurable Data Logging regimes from once per day down to 1 second time stamped resolution interval.
	Up to 2,000 time stamped events, event buffer discards newest data when full, user configurable to automatically upload event logs when buffer full, or on timed schedule, or both

Telemetry

3G Cellular ("-3G" option)	Supports 3G B1 (2100), B5 (850), B8 (900), Class 3 output power (+24dBm)
4G Cellular ("-4G" option)	Supports 4G/LTE CAT-M1/NB-IoT, B3 (1800), B28 (700), Class 3 output power (+23dBm)
Antenna	Internal antenna (2dBi Gain) / External SMA female connector, user selectable
SIM Card	1.8 and 3V UICC (Standard size SIM card)
Data Protocols	DNP3.0 Slave (unsolicited mode), FTP data export
Host Support	True TCP support to DNP host (supports three Master IP addresses), FTP supports one FTP server.
Security	CHAP or PAP authentication, SIM credentials, configurable username, password and APN, built in IP firewall, 512-Bit AES Encrypted firmware download

Approvals

Build	RoHs
Standards	RCM (AUST/NZ), EMC compliance, other export standards on request
Production	Proudly Designed and Made in Australia

Factory Accessories

Accessories	A comprehensive range of factory manufactured or sourced accessories to ensure reliable and swift solution deployment (see website)
	Replacement Battery and Seal Kit
	High Gain Antennas
	Swing-Up Mounting Bracket

37SOUTH PTY LTD
92 Rowena Street
East Bendigo VIC 3550

1300 855 142
info@37s.com.au

www.37s.com.au

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