



## SITE SENTINEL® X1

### Ultra low-power RTU and Data Logger

#### PRODUCT HIGHLIGHTS

Available in watertight and water resistant versions, ultra-low power consumption provides a compact and robust data logger and RTU solution, with integrated communications hardware and DNP3 protocol support. The X1 is the waterproof variant of the Site Sentinel® data logger and RTU family, providing highly reliable, direct-to-host data monitoring in a single package, aimed at the utility and environmental sector.

The Site Sentinel® X1's flexible device configuration enables the measurement of a variety of analog and digital signals. This data is stored internally on non-volatile Flash memory with upstream communications provided using an internal 3G-compliant cellular modem. Host compatibility is ensured with integrated DNP3.0 protocol support. 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 reporting requirements. Remote configuration and device management is supported via leading industry SCADA applications.



The device is housed in a low-profile, robust ABS-plastic enclosure, UV stabilised and rated at IP68, allowing for direct outdoor installation. Internal antenna variants are capable of with standing a depth of four metres for four continuous days. An in-built solar regulator is standard across the full X1 product range.

The X1 suits a wide range of Utility and environmental applications, such as data logging of remote sites, zone pressure monitoring in water grids and sewer manhole monitoring.

- Water reservoir monitoring
- Sewer-manhole monitoring
- Drainage outfall monitoring
- Stream flow & level monitoring
- Remote Fuel tank level monitoring
- Water grid-zone pressure monitoring
- Pollution, smoke and dust monitoring
- Stock route water tank level monitoring
- Traffic logging & congestion monitoring

# TECHNICAL SPECIFICATIONS

## GENERAL

Supply Voltage	3.5 – 8.5 V DC High-capacity, internal Lithium battery pack (field replaceable)
Current Draw	33 µA sleep, 4 mA active, 200 mA 3G communications, 2 A (peak) 3G network detect (measured at 3.6 V DC)
Real Time Clock	Internal – Year, month, date, hour, minute, second Automatic DNP3 time synchronisation from host
Temperature	–20 to +65° Celsius
Humidity	0 to 90% relative humidity, non-condensing
Programming	External Site Sentinel® programming cable (Part number XCAB013) Site Sentinel® Toolbox configuration software (Windows XP / 7)
Dimensions	90 mm (h) x 125 mm (d, nominal) / 155 mm (d, maximum)

## IO INTERFACES

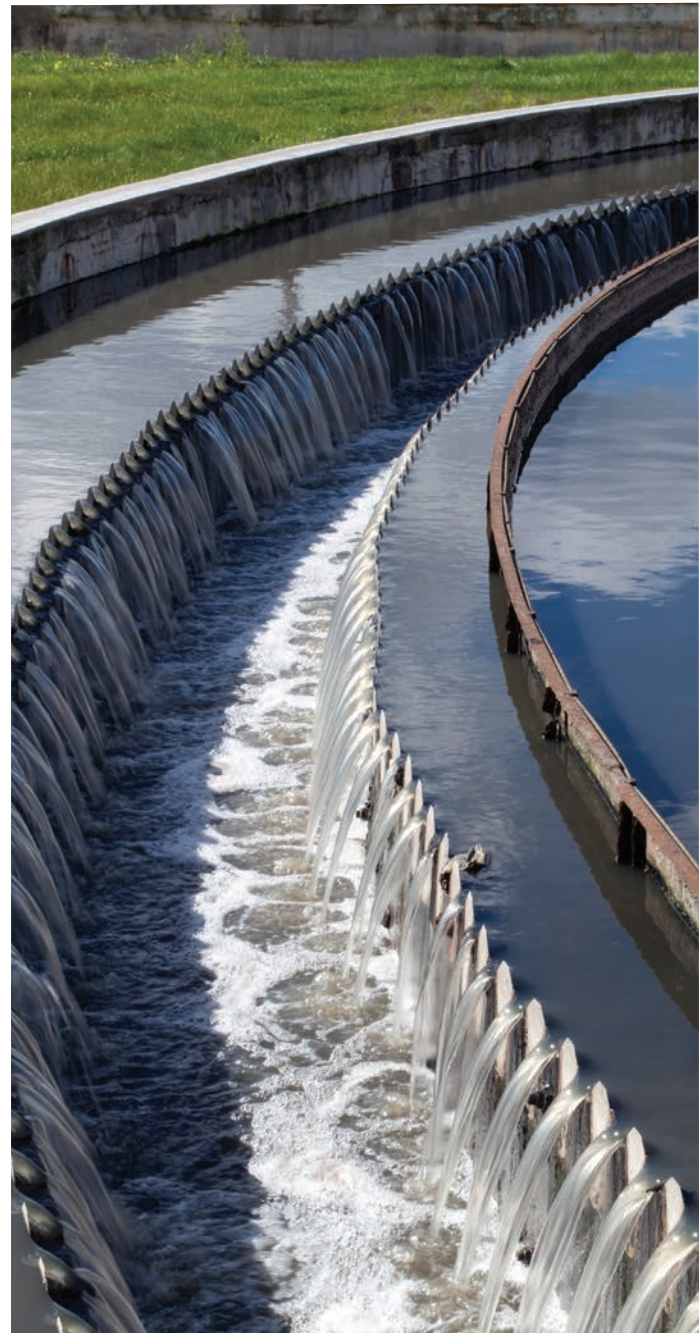
Digital Input	2x (X1-001) / 4x (X1-002) low-current dry-contact binary inputs Each input supports pulse counting, 32 bit resolution
Analogue Input	2x (X1-001) / 4x (X1-002) 0–20 mA or 0–5 V DC (user selectable, per channel), 15 bit resolution
System Input	Internal measurement of 3G Network RSSI, RTU temperature and RTU battery voltage
Switched DC Out	Supplies up to 80 mA to power external sensors (24 V / 5 V or Battery Volts, user selectable)
Serial Comms	MODBUS Master RS232 / RS485 (user selectable) – X1-002 only

## TELEMETRY

3G Cellular	Supports 3.5G / HSDPA / UMTS (4G LTE support available Q1 2014) SMS capability for remote monitoring and diagnosis Tri-band 850 / 1900 / 2100 MHz Class 3 power output (+24 dBm)
Antenna	Internal antenna / External SMA female connector (order option)
SIM Card	1.8 and 3V UICC (Standard size SIM card)
Approvals	Telstra NextG / Vodafone 3G / Optus 3G
Data Protocol	DNP3.0 unsolicited / polled support (Refer to DNP3 Device Profile)
Host Support	True TCP support to DNP host (supports primary / secondary servers)

## PRODUCT OPTIONS

Internal Antenna	Provides fully-waterproof operation
External Antenna	Provides water-resistant operation, external connectivity for high-gain antennas



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