



37SOUTH

# SITE SENTINEL® X1

Ultra low-power, Utility grade Sigfox IoT data logger



SEWER-MANHOLE  
MONITORING



WATER GRID-ZONE  
PRESSURE MONITORING



STREAM FLOW & LEVEL  
MONITORING



FLOOD WARNING



RAIN GAUGING  
STATIONS



INTERNAL SIGFOX RADIO



LONG BATTERY LIFE

## X1-SF

The X1-SF is the flagship Sigfox IoT 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-SF's flexible device configuration enables the measurement of a variety of analog and digital signals. Upstream communications are provided using an internal Sigfox IoT radio module, permitting use in the Sigfox RCZ4 network region.

Compatibility with virtually any cloud hosted data platform is ensured with data provided in non-proprietary format. Analog sensors can be powered from one of three power supply voltages. Complete control is handed to the user to allow custom data event reporting and wake-from-sleep regimes to be configured to balance battery life against data reporting requirements.

Local firmware download capability is provided to future-proof investment and allow future functionality upgrades.

The device is housed in a low-profile, robust ABS-plastic enclosure, UV stabilised and rated at IP68, allowing for direct outdoor installation, capable of withstanding submersion to a depth of four metres for four continuous days. An in-built solar regulator/battery charger is standard on this product, providing a "single-box" plug and play device.

# TECHNICAL SPECIFICATIONS

## General

Supply Voltage	3.5 – 8.5V DC, High-capacity, internal Lithium battery pack (field replaceable), built in solar regulator
Current Draw	50 $\mu$ A sleep, 5 mA active, 200 mA (Typ.) TX, 40 mA RX
Real Time Clock	Internal – Year, month, date, hour, minute, second
Temperature	-20°C to +65°C Celsius
Humidity	0 to 90% relative humidity, non-condensing
Programming	Windows based Configurator M+ configuration software, local programming port
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	NATA certified to IP68 (4 metres depth/4 days duration)

## IO Interfaces

Digital Input	2x low-current dry-contact binary inputs (non-isolated). One input supports pulse counting, up to 3Khz, Totaliser with 32-bit rollover
Analogue Input	Two inputs, 0–20 mA, 0–2.048V DC or 0–5V DC (user selectable, per channel), 15 bit resolution (non-isolated, see table), 2x user-configurable alarm limits per channel
System Input	Internal measurement of Radio RSSI, RTU temperature, RTU battery voltage
Switched DC Out	Supplies up to 80 mA to power external sensors (24V, 5V or Battery Volts, user selectable)

## Telemetry

Sigfox Radio	Sigfox compliant radio module, +22dBm TX power, RCZ4 region support covers Australia, New Zealand, Asia
Antenna	Internal antenna (2dBi Gain) / External SMA female connector, user selectable
Data Protocols	Sigfox data export (non-proprietary)
Security	512-Bit AES Encrypted firmware download, Sigfox Native Security Standards for end-to-end OTA Data transmission

## Approvals

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

## Factory Accessories

Accessories	A comprehensive range of factory manufactured or sourced accessories to ensure reliable and swift solution deployment (see website)
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