



37SOUTH

# SITE SENTINEL® M1

Ultra low-power, Cellular Alarm level Monitoring Data Logger



SEWER-MANHOLE  
LEVEL MONITORING



DRAINAGE-MANHOLE  
ALARM MONITORING



WATER TANK LEVEL  
MONITORING



INTERNAL 3G OR 4GX  
CAT-M1/NB-IoT MODEM

# M1

The M1 is the waterproof, utility and environmentally-focused variant of the Site Sentinel® data logger and RTU family, providing integrated float switch and highly-reliable direct-to-host data monitoring in a single package, designed to operate in the field for up to ten years on a single set of batteries (based on one report per day).

The Site Sentinel® M1 enables high or low alarm level monitoring of sewer and drainage manholes or tanks.

This data is stored internally on non-volatile flash memory with upstream communications provided using an internal 3G or 4GX cellular modem. The cellular options provide 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 and FTP 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 reporting requirements. Remote configuration and device management is supported via leading industry SCADA applications such as ClearSCADA®, remote firmware download capability is provided by FTP file transfer.

The device is housed in a low-profile; robust ABS-plastic enclosure, UV stabilised and rated at IP68 allows for direct installation into manholes and is capable of withstanding a depth of four metres for four continuous days. Inter

The M1 suits a wide range of utility and environmental alarm level monitoring, such as sewer and drainage manhole high level alarm monitoring and water tank high/low level alarm monitoring.

# TECHNICAL SPECIFICATIONS

## General

Supply Voltage	3.5 – 8.5 V DC, High-capacity, internal Lithium battery pack (field replaceable)
Current Draw	50 $\mu$ A sleep, 5 mA active, 200 mA cell communications, 2 A (peak) cell network detect
Real Time Clock	Internal – Year, month, date, hour, minute, second, Automatic DNP3 time synchronisation from master, Automatic cellular network time sync or NTP time sync when using FTP data export
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/diagnostics 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	IP68 (4 metres depth/4 days duration)

## IO Interfaces

Digital Input	Internal ‘magnetic swipe’ function to request on-demand data updates by field personnel, 1x integrated float switch with weight, sealed to IP68, 5 metre cable length
System Input	Internal measurement of Cell Network RSSI, RTU temperature, RTU battery voltage and session status code

## Telemetry

3G Cellular (standard)	Supports 3.5G / HSDPA / UMTS, Tri-band 850 / 1900 / 2100 MHz, Class 3 power output (+24 dBm)
4G Cellular (“-4G” Option)	Supports 4G/LTE CAT-M1/NB-IoT, B28 (700), B3 (1800), Class 3 output power (+23dBm)
Antenna	Internal antenna (2dBi Gain)
SIM Card	1.8 and 3V UICC (Standard size SIM card)
Data Protocol	DNP3.0 slave unsolicited mode, FTP data export
Host Support	True TCP support to DNP host (supports three Master IP addresses)
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 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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