Teleterm Silent Sentry

Alarm Monitor to send SMS Text Messages

Model Number
C2330B

DATASHEET

- Receive Text Message Alerts on your mobile
- Monitor Binary or Analogue Inputs
- Monitor any data over Modbus serial
- Acknowledge Alarms remotely or have them escalate to other mobiles
- Send up to 64 different messages.
- Send to up to 10 Recipients
- "On-Demand" messages allow remote monitoring and control.

Features

- Integrated communications interface
- 12 Direct Inputs (Analogue or Digital)
- Integrated Modbus Port (Master or Slave)
- 9 - 30V dc powered.
- Send up to 64 different messages
- Send to up to 10 SMS recipients
- Send a daily status message
- Integral Real-Time Clock with Battery Backup
- Configurable for a wide range of applications.
- Wide operating temperature range
- Compact size for tight spaces
- Convenient DIN Rail mounting

Overview

The TELETERM 'Silent Sentry' is a remote SMS Alarm Monitor capable of monitoring a wide range of input types and sending SMS Alarm and status messages upon detection of an alarm condition.

Inputs

The Silent Sentry is equipped with 12 direct Binary or Analogue Inputs, plus a Modbus port allowing alarms from a variety of sources to be monitored.

Text Messages. Recipients and Priorities

Up to 64 different SMS text messages can be sent. The Silent Sentry can be configured for up to 10 SMS message recipients, each in one of three escalating priority groups. This allows messages to be sent to a selected group of recipients, and if not acknowledged within a set time, then sent to the second group of recipients, and if still not acknowledged, then sent to the third group of recipients.

The addition of a regular update message capability ensures the ability of the Silent Sentry to react to alarms when they occur.

Easy Configuration

The Silent Sentry is easily configurable by the user, using the free Omniset configuration software.

The Silent Sentry can be connected to your existing alarm annunciator, PLC or DCS systems and can even be used to remotely acknowledge alarms using your mobile phone.

The Silent Sentry provides an easy solution to remotely monitoring your alarms.

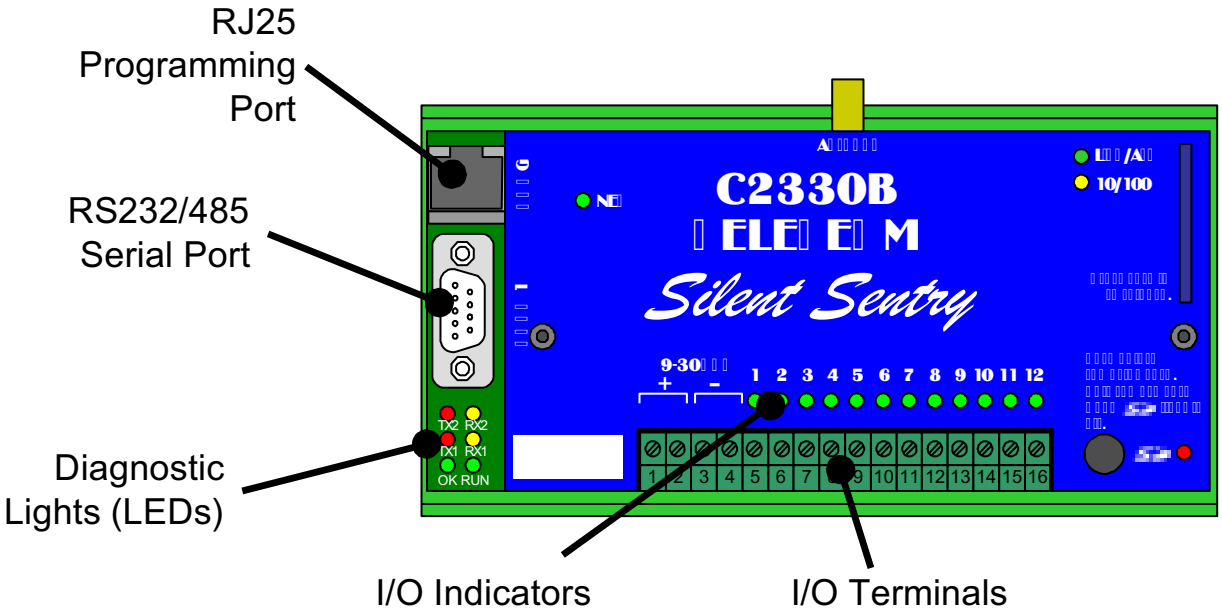
Send the Silent Sentry an SMS message to read a value or control an output.

Typical Applications

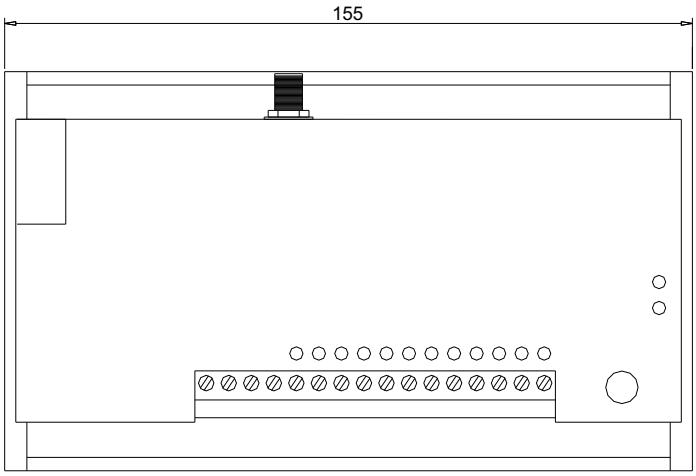
Typical Applications for the Silent Sentry include:

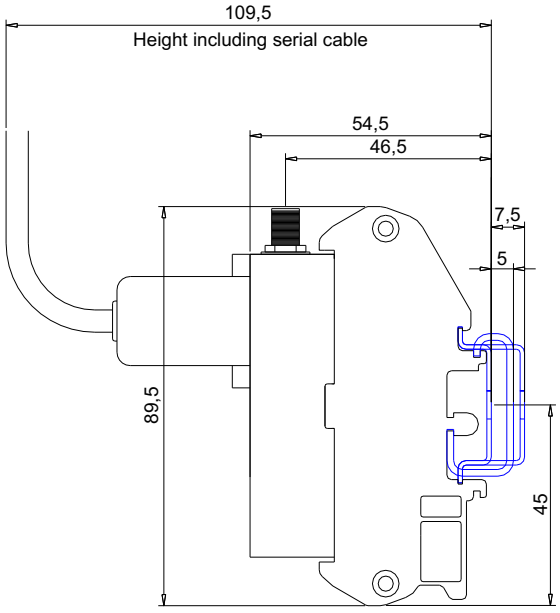
- Remote Site Monitoring
- Computer Rooms
- Environmental and effluent Monitoring
- Small Sub-station monitoring
- Facilities Management
- Utilities Monitoring
- Bore-hole Monitoring.
- Intrusion Alarms
- Production Downtime Minimisation

General Layout



Mechanical Dimensions



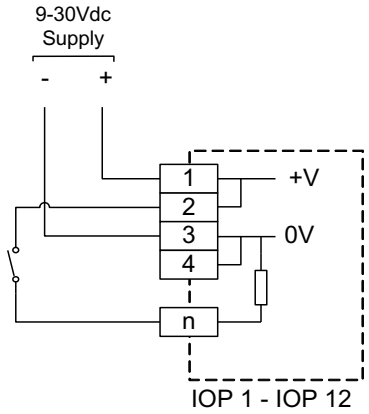


Input/Output Configurable Options

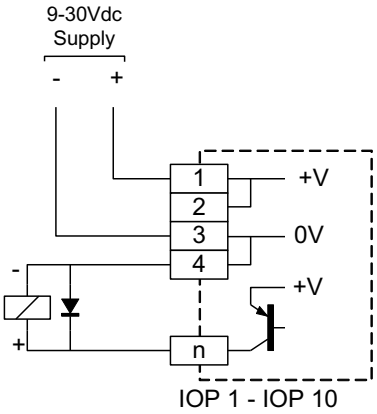
The Teleterm Silent Sentry is equipped with 12 versatile input/output points (I/O points or IOP's). Each I/O point can be individually configured from the options given in the following table:

I/O Point	Terminal No.	Digital Input	Analogue Input	Digital Output
1	5	Yes	0-30Vdc	Yes
2	6	Yes	0-30Vdc	Yes
3	7	Yes	0-5Vdc	Yes
4	8	Yes	0-5Vdc	Yes
5	9	Yes	0-5Vdc	Yes
6	10	Yes	0-5Vdc	Yes
7	11	Yes	0-5Vdc	Yes
8	12	Yes	0-5Vdc	Yes
9	13	Yes	0-5Vdc	Yes
10	14	Yes	0-5Vdc	Yes
11	15	Yes	0-30Vdc	-
12	16	Yes	0-30Vdc	-

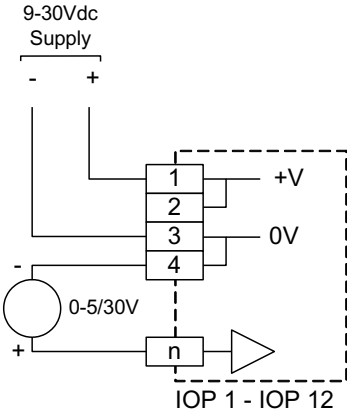
***Note 1**: See the "Specifications" section of this document for detailed specifications of each I/O point option.*
***Note 2**: All 0-30V analogue inputs have increased resolution over the range 0-6V (equivalent to the 0-5V inputs).*
***Note 3**: All Digital Inputs can be configured as Pulse Counters or Hours Counter.*
***Note 4**: All Digital Outputs can be configured as Pulse outputs (normally ON or normally OFF).*



DIGITAL INPUTS



DIGITAL OUTPUTS



ANALOGUE INPUTS

Specifications

SMS Messages

Number of SMS Messages

Number of Messages	64 messages can be stored in the Silent Sentry. Each message can be triggered by a different event.

SMS Message Format

Messages are formatted as follows:

Line 1:	ID + Common Text (per Silent Sentry) (up to 40 characters) ID is a message ID number to uniquely identify each message sent.
Line 2:	Custom Message Text (up to 40 characters)
Line 3:	Date and Time
Example	23 Pump Station P1051 Sump Level High 26/7/05 14:53:41

SMS Message Recipients

Number of Recipients (Mobile Phone numbers)	10 maximum
Number of phone digits	18 digits maximum (per phone no.)

SMS Recipient Priorities

Number of Priority Levels	3
Method of Priority	By time delay. Upon detection of an event, the Silent Sentry will immediately send the relevant message to all priority 1 recipients. If no acknowledgment is received within the user specified time, then the Silent Sentry will send the same message to all priority 2 recipients. If still no acknowledgement is received, then the message is sent to all priority 3 recipients.

Message Hold-Off Time Protection

To ensure that a chattering process alarm does not send SMS messages too often, it is possible to set a Hold Off time for all messages. Once a message has been sent to all recipients, the message will not be sent again for at least the duration set in the Hold off timer setting.

SMS Alarm Acknowledgements

All outstanding Alarms in the Silent Sentry can be acknowledged by sending an SMS to the Silent Sentry with the words "Ack" or "Yes" in the message.

Maximum SMS Messages Per Hour

As further protection against an abnormally high SMS bill for any reason, the Silent Sentry can be set to only send up to a maximum number of SMS messages per hour. This guarantees the maximum size of your SMS bill regardless of the status of your equipment being monitored.

Daily SMS Update

The Silent Sentry can be configured to send a daily fixed message at a specified time of the day. This message ensures that the system is still alive, even in the absence of any alarm messages needing to be sent.
The recipients of this message can be individually selected.

Mobile Network Communications

Antenna	External antenna (0db antenna supplied with the unit)
Antenna connection	SMA Female Jack on Silent Sentry

GSM Bands for each model of Silent Sentry

Model -141 LTE Bands (for AU/ZA)	LTE Cat 1 (4G) B1/B3/B7/B8/B20/B28A
Model -142 LTE Bands (for AU/NZ)	LTE Cat1 (4G) B1/B3/B5/B7/B28
Model -143 LTE Bands (for USA AT&T, T-Mobile)	LTE Cat 1 (4G) B1/B3/B5/B7/B28
Model -144 LTE Bands (for USA Verizon)	LTE Cat 1 (4G) B1/B3/B5/B7/B28
Model -151LTE-M Bands (multi region)	LTE Cat-M1 (5G) B1/B2/B3/B4/B5/B8/B12/B13/B20/ B25/B26/B28/B66/B85

Inputs and Outputs

The Silent Sentry has 12 Input/Output Points (IOP).
Each IOP is configurable in software as analogue or digital, input or output.
IOP 1 to IOP 10 can be Digital Input, Digital Output, or Analogue Input
IOP 11 and IOP 12 can be Digital input or Analogue Input.
(See the table above for a matrix of available functions on each I/O Point.)

Digital Inputs (IOP 1 to 12)

Type	Current Sink (Switch to +V to operate)
Input Impedance	5 kohms nominal.
Input OFF Condition	Input < 2Vdc
Input ON Condition	Input > 3Vdc
Functions	Software selectable as: ON/OFF Input Counter Input (counts rising edge pulses) Hours Input (counts hours while input is on to resolution of 0.01 hours).

Digital Outputs (IOP 1 to 10)

Type	Voltage Source (Solid State Switch to +V when On)
ON State Rated Current	< 100mA continuous max per output. < 200mA peak (<10ms) max per output. < 500mA total for all outputs together
ON State Volt Drop	< 3V at 100mA
OFF State Leakage Current	< 0.1mA at maximum supply voltage
Functions	Software selectable as: ON/OFF Output ON Pulse (settable to 10ms to 300s) OFF Pulse (settable to 10ms to 300s)

Analogue Inputs (IOP 1 to 6, 11, 12)

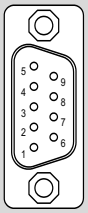
Type	Voltage Input reference to 0V supply
Maximum Range	0-30Vdc (Configurable to smaller ranges such as 1-5Volts)

Accuracy	< 0.25% of reading +6 mV (0 to 5.5V) < 0.25% of reading +30 mV (5.5 to 30V)
Resolution	6 mV from 0 to 5.5 Volts (10 bits) 33 mV from 5.5 to 30Volts (10 bits)

Analogue Inputs (IOP 7 to 10)

Type	Voltage Input reference to 0V supply
Maximum Range	0-5.5Vdc (Configurable to smaller ranges such as 1-5Volts)
Accuracy	< 0.25% of reading +6 mV
Resolution	6mV (10 bits)

Serial Port



Pin	Communication Standard	
	RS232	RS422/485
1	Do not connect	Rx Data + (In)
2	Rx Data (In)	Rx Data – (In)
3	Tx Data (Out)	Do not connect
4	Do not connect	Tx Data+ (Out)
5	Ground	Ground
6	Do not connect	+5V
7	RTS (Out)	Do not connect
8	CTS (In)	Do not connect
9	Do not connect	Tx Data – (Out)

Connector	Sub-miniature DB9 male
Communications	Asynchronous serial port RS232, RS422 (4 wire), RS485 (2 wire)
Protocols Supported	Modbus ASCII (Master or Slave) Modbus RTU (Master or Slave). Conet/s (Other protocols available upon request).
Baud Rates	300 – 38,400 baud
Maximum Cable Length	15 meters (50ft) in RS232 1200m (4000ft) in RS422/RS485
RS232/422/485	Selected by wiring to the DB9 connector.

Modbus Slave Protocol

Address Selection	Set in software 1 – 255
Modbus Functions	1, 2, 3, 4, 5, 6, 15, 16

Modbus Master Protocol

Configuration	Up to 16 "Query Blocks" can read from or write to a Modbus Slave device. Poll rates for each Query Block can be individually set.
Modbus Functions	1, 2, 3, 4, 5, 6, 15, 16

User Configuration

Configuration Software	Omniset Software Utility (Windows) (free download from website www.omniflex.com)

Power Requirements

Power Supply Voltage	10-30Vdc (ripple < 5%)
Power Consumption	2.7W peak (excluding I/O) 1W typical

Environment

Operating Temp.	-10□C – 60□C (+14□F – 140□F)
Storage Temp.	-25□C – 85□C (-13□F – 185□F)
Relative Humidity	5 to 95%

Mechanical

Length	155mm
Width	89.5
Height	109.5 with cables inserted

Weight

Unpacked	250gm approx.
Packed	350gm approx.

Compliance to Standards

Safety	UL60950-1, EN60950-1
EMC (excluding GSM)	EN 55011:2011 Class B
Immunity – ESD	IEC 61000-4-2/EN61000-6-2 – 4kV
Immunity – RF Fields	IEC 61000-4-3/EN61000-6-2 – 10V/m
Immunity – Fast Transients	IEC 61000-4-4/EN61000-6-2 2kV – DC Power port 1kV – Input/Output lines

Ordering Information

ORDER CODE	DESCRIPTION
C2330B-141	Teleterm Silent Sentry 4G (EMEA)
C2330B-142	Teleterm Silent Sentry 4G (AU/NZ)
C2330B-143	Teleterm Silent Sentry 4G (USA-ATT)
C2330B-144	Teleterm Silent Sentry 4G (USA-Ver)
C2330B-151	Teleterm Silent Sentry LTE-M (multi-region)
Accessories	
C1179A	Teleterm USB-C Programming Cable (USB-C to RJ11)
M1831A	RS232 Serial Programming Cable (DB9 to RJ11)