SENSAPHONE®
REMOTE MONITORING SOLUTIONS

Sensaphone Sentinel and Sentinel Pro
Firmware Revision History

Version 1.7.32

· Corrected an issue which could result in the relay output being set to the wrong state after a reboot.

· Improved storage of certain variables in battery-backed memory while device is powered off or rebooted.

· Corrected issue which caused pulse count and run-time values to reset or become corrupt.

· Improved NTP server compatibility for time synchronization.

· DHCP addresses no longer sent to the server

· (Sentinel PRO & Stratus Only) Improved handling of Modbus values & alarm status when the device reboots or is powered down.

Version 1.7.25

· Reduced the time to automatically reboot the unit in the event of excessive connection negotiation errors.

· Added an 'Auto Acknowledge' feature which will cancel remaining alarm notifications if the condition corrects itself. Feature must be enabled per zone.

· Changed 'Alarm Reset' functionality such that the reset timer will run whenever the alarm is enabled.

· Improved DNS server compatibility.

· (Sentinel PRO & Stratus only) Updated flash memory startup routines to verify that the chip is ready for access prior to use to protect against unexpected writes.

Version 1.7.21

• Corrects an issue which was preventing the unit from successfully rebooting when certain DHCP errors or Ethernet controller errors were detected.

• Improves the operation of the reset-to-defaults button and adds an audible beep when pressed.

• Sends the IP address of the device to the server when configured for DHCP.

Version 1.7.18

• Removed zone values from periodic updates when the zone is disabled.

• Added automatic reboot if consecutive connection attempts result in TCP socket connection failure.

Version 1.7.16

· Corrected an issue which caused occasional website mismatch between zone 'status' and 'value' fields.

Version 1.7.12

• Added verification of datalog records written to internal memory with rewrite if errors detected.

• Improved datalog upload reliability.

• [Sentinel Pro] Reduced false MODBUS "Not Responding" alarms.

• [Sentinel Pro] Eliminated retries if a MODBUS zone is busy or in error.

Version 1.7.11

• Corrected Relay Output issue which caused the unit to incorrectly report the on/off state of the output(s).

• Corrected pulse count processing issue at start-up which caused the unit to potentially fail to boot up.

• Corrected Standby mode issue which caused the Standby time to count down from 65,535 minutes when it was set to 'untimed'.

Version 1.7.10

• Corrected an issue which caused (reset) alarms to be sent out while the device was in standby

Version 1.7.9

• Improved accuracy of temperature readings which can affect units currently in the field. **THESE UNITS MAY REQUIRE RE-CALIBRATION AFTER THIS FIRMWARE UPDATE.**

• Randomized the connection sequence to Sensaphone.net servers which provides for enhanced redundancy and recovery when devices connect to the Sensaphone.net server system

• Zone values will update the Sensaphone.net website while in standby

• The Datalogger will record current values while in standby

• Alarm Reset timers will restart after a reboot. This ensures that the Alarm Reset feature will function correctly if the device reboots (or is powered on) with previously acknowledged alarms.

• Allocated additional memory resources for selected internal tasks

Version 1.7.5

• Added automatic reboot if operating system detects a memory problem or if multiple TCP socket errors occur

• Added led error codes 18 and 19 for TCP socket-closed error and HTTP parse error

• Added alternate method to set clock when NTP is unavailable

• Improved datalog download process

• Improved communication protocol error handling

Version 1.7.4

• Improved datalog record search routines

Version 1.7.3

• Freeze MODBUS zone values while in Standby mode

• Device no longer records a datalog record at startup

• Improved firmware download process

• Optimized datalog memory storage

Version 1.7.2

• Improved memory erase function when the device is reset to defaults

• Corrected potential corruption of pulse count values

• Improved pulse count initialization to avoid spurious counts

• Corrected Standby LED operation on startup

• Corrected deletion of system description when reset to defaults

Version 1.7.1

• Improved datalog record search routines

• Improved detection and correction of invalid dates

• Zone value updates now limited in size to fit in one MTU.

• Initial Zone updates now includes all zones' min/max values

• Improved handling of Runtime zones

- Improved accuracy of internal clock
- Corrected relay output operation when set to 'Cycle'
- Corrected a memory issue if SSL connect attempt fails
- Corrected a problem when the Output uses a Runtime zone as the trigger source
- Optimized datalog timestamps

Version 1.7.0
- Standby LED now flickers if a delayed reset/reboot is pending
- Improved reliability of alarm event updates
- Improved connection reliability over low-bandwidth networks
- Improved DHCP compatibility with certain satellite modems
- Improved handling of resolution of NTP time server names
- Corrected recording of datalog records at alarm interval when status is only Pending
- Min/Max no longer reset when setting pulse count or runtime values

Version 1.6.68
- Pulse count zone types can now support negative values

Version 1.6.67
- Maintain Standby mode through device reboot
- [Sentinel Pro] Reduced MODBUS TCP socket connect timeout
- [Sentinel Pro] Improved MODBUS TCP polling reliability
- Improved device startup time
- Pulse counts now limited to +/- 1,000,000.00

Version 1.6.66
- [Sentinel Pro] Improved MODBUS serial communications error
- [Sentinel Pro] MODBUS Zones now stored in Battery-backed memory
- Initialize Min/Max values when device is reset to defaults
- Improved Datalog memory search and download routines

Version 1.6.41
- Improved accuracy of zone timers
- Optimizations to datalog upload
- Clear alarm values on reset to defaults

Version 1.6.40
- Adjusted TCP socket settings for improved reliability over an impaired network connection with packet loss and/or large delay
- Increased SNTP timeout for improved reliability over a network connection with large delay

Version 1.6.38
- Corrected issue where negative calibration values became corrupted after a firmware

Version 1.6.37
- Improvements made in flash storage routines

Version 1.6.36

• Added battery-backed storage of alarm and min/max values

• Output relays in manual mode are restored to previous state on power-up

• Datalog entries are now synced to the top of the hour

• Faster initialization and validation of datalog storage

Version 1.6.35

• Online LED blinks an error code on failure to connect to the

• Added support for Zone

• Improved alarm event processing to show alarm status changes on website sooner

Version 1.6.34

• If upgrading from 1.6.24, zone values - including pulse count and runtime - will now be maintained after firmware updates. **HOWEVER, PULSE COUNT AND RUNTIME VALUES WILL BE RESET TO ZERO AFTER THIS UPDATE**.

• Added lithium battery monitoring

• Improved output event processing to show changes in output status sooner

• Corrected min/max values for runtime zone

Version 1.6.33

• Enabled SSL certificate

• Improved reset to defaults functionality

• Improved min/max initialization functions

Version 1.6.32

• Optimized zone updates to server

• Corrected issue affecting runtime alarm limits

• Corrected issue causing large pulse count multipliers to display incorrectly on the website

• Added automatic reboot after network settings are changed

Version 1.6.31

• Improved alarm event processing

Version 1.6.30

• Improved alarm acknowledgement processing

Version 1.6.29

• Runtime values now stored in battery-backed RAM

• Added redundant server connections for auto-failover

Version 1.6.28

• Optimized battery percent-charge calculation

• Added internal memory diagnostic tests

Version 1.6.27

• Added support for Sentinel Pro

• Enhanced communication protocol over https

• Corrected issue affecting the pulse count multiplier

Version 1.6.26

• Added support for SSL server connection failover

• Time synchronization now attempts NTP servers in North America, Asia and Europe

• Datalog timestamp improvements

• Internal memory optimizations

Version 1.6.25

• Corrected an issue affecting the output zone list

• Doubled the frequency of pulse count processing

• Optimized server connection timing

• Added support for pulse counting on Zones 11-12