SentinelPoint

User Manual

Firmware release 20120710

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Disclaimer

Please be aware that the use of SentinelPoint is at the users own risk. Please see the Intelligent Devices Limited website for terms and conditions and the accompanying terms and conditions incorporated in the User Manual

Warranty

All new goods supplied by SentinelPoint have a 12 months warranty period from the date the goods were delivered (unless otherwise stated). This warranty does not affect your statutory rights as a consumer. If new goods develop a defect during the 12 month Warranty period please contact us and we will advise the returns procedure.
Please note that the warranty does not cover you for any defects in the goods arising from fair wear and tear, willful damage, accident, negligence by you or any third party, use otherwise than in accordance with its intended use, failure to follow the manufacturer's or Supplier's instructions, or any alteration or repair carried out without the Intelligent Devices Limited's prior written approval.

About SentinelPoint

SentinelPoint is an alarm and tracking device for fixed installation in all types of vehicles or machinery. The device includes a GPS receiver with integrated patch antenna as well as a GSM wireless module. It is possible to use appropriate alarm settings for situations where a variable local area is left or whilst power interruption.

SentinelPoint is designed for fixed and permanent installation to a 12V or 24V power supply. However, the device also features a built-in LiIO battery, so that theft, sabotage or unintentional power failures can be signaled. Alarms communicated via SMS and to up to three phone numbers can be user defined to receive these alarms.
Device settings are also possible via voice calls. The caller is lead through a voice menu and can set the requested parameters using the mobile keypad.

Access Security

SentinelPoint Password:

This password is assigned to the SentinelPoint and is required when settings of the SentinelPoint are made, retrieved or need to be changed. This password also consists of a 4-digit number and is set to ''4444'' in default mode. It can be changed using the command "NEWPWD=". (See SMS Commands).

There is a master password that can be used in case the individual set password is forgotten. Please contact your dealer in this case.

Technical Specification

General

- Casing measuring approx. 8 x 6 x 3 cm
- Determination/transmitting of GPS-coordinates, Speed
- Determination/transmitting of GSM-cell-Data
- Parameter configuration per SMS or Voice Call
- The current status is signaled via green LED
- Ambient temperature: 0 ... +50°C
- Storage temperature: -10 ... +70°C

GSM

- Integrated GSM module: Telit GE865
- Suitable for all networks, frequencies (GSM-850 / E-GSM-900 / DCS-1800 / PCS-1900) and all providers (UMTS is not supported)
- Usable with prepaid- or contract SIM cards of all providers, no SIM-Lock
- Controlled via "normal" SMS, acknowledgement

GPS

- MediaTek MT3329 receiver with excellent GPS performance
- 22-channel GPS receiver
- Internal patch antenna

Power-Supply

The SentinelPoint needs a single power-supply in the range of 12V ... 24V / 600mA.

Current consumption

The following table gives an overview about the average current consumption.

Average Current	Description
Up to 30mA at 12vDC	All Functions Active
Up to 25mA at 24vDC	All Functions Active
Between 50mA and 200mA	In Battery Charge Mode
Approx. 0.5mA	In pwdown! Mode
Approx. 15mA	With MOVEALARM=OFF

Note: The stated current consumption is an average current consumption. Because of the internal battery charger the measured current can vary from the values in the table. To measure the correct average current consumption it is necessary to measure the consumed current for a least 10 days to make sure that some complete charge and discharge periods are measured.
Note: The stand-by current for GSM and GPS depends on the used GSM-provider and the environmental conditions.

Installation

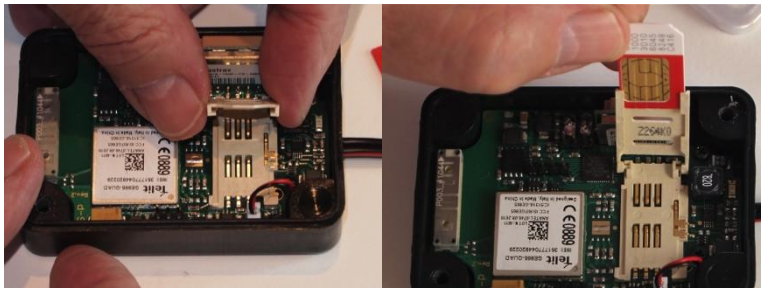
The SentinelPoint must be installed such that the build-in GPS antenna is directed upwards. There is an orange sticker that indicates the side that has to be uppermost. **No metal or metallized objects, covers etc. should be above the antenna.**

Quick Start

For a quick start of the SentinelPoint three steps are necessary.

1. Insert your SIM card to the SentinelPoint

Remove Lid Lift SIM Holder and slide SIM card in holder with cut edge top right, then close SIM holder and slide holder forward to lock the SIM in.



2. Connect the external power-supply (12/24V)
(Red → positive; black → negative) please observe the green LED, refer to LED flashing Codes.

Now the SentinelPoint can be setup via "SMS Commands"

- Set the name of the SentinelPoint
- Set the master numbers (for SMS-Alerts)
- Choose the alarm types
  or some setting via Voice Call

Note: Some settings cannot be carried out via voice call such as naming the device etc. (see SMS Commands)

Powering the SentinelPoint

The SentinelPoint can easily be switched off by the sms command “pwdown!”. (Take a look at page 7 to get a description of the parameter).

To switch off the device remove the external power-supply and send the sms command “pwdown!”. The LED will flash three times to indicate that the SentinelPoint will now be switched off.

To switch on the device connect the external power-supply. The LED will flash three times to indicate that the SentinelPoint is switched on.

Note: Due to the internal design of the SentinelPoint it is only possible to switch off the device if no external power is applied. Otherwise you **cannot** switch off the SentinelPoint.

Note: It is possible that the internal battery of the SentinelPoint becomes fully discharged if the device is switched off for a long time (25 days). If you now connect the SentinelPoint to the power-supply the device enters a special charging mode to charge the battery. During this phase GSM and GPS is totally switched off and the LED will repetitively blink four times.

The SentinelPoint automatically enters normal operating mode if the internal battery has reached a charge-threshold level. In order to enter normal operation mode it typically takes 30 – 60 minutes, charging time depending on the temperature of the internal battery and the external power supply.

SMS Commands

The device is fully configurable by SMS commands. The following table shows each command with a short description. The allowed values/ranges is given in brackets. The next pages shows some examples of how to use this commands.

SMS command	description
PARAMETER?	Request for a parameter SMS. The Device will send a parameter SMS to the originator.
STATUS?	Request for a status SMS. The Device will send a status SMS to the originator.
MASTER1=	Command to set the number for Master1. Default: NA is shown [max 18 characters] Use the International Numbering system "+" when using country codes not "00"
MASTER2=	Command to set the number for Master1. Default: NA is shown [max 18 characters]
MASTER3=	Command to set the number for Master1. Default: NA is shown [max 18 characters]
ALARMS=	Command to enabled or disable the alarms. [ON/OFF] Note (if enabled): An alarm sms with the alarm cause will be sent if the external battery has been disconnected or there is no battery voltage or the external battery charge is low. **Note:** A parameter report will be sent with the following meanings: ALARMS = ON/OFF
MOVEALARM=	Command to enable or disable the move alarm. [YES/NO] Note: By enabling the move-alarm the current position will be saved as 'home position', if there isn't already a 'home position' set. The allowed movement of the SentinelPoint around the home position is 75m. If the SentinelPoint moves out the set radius it sends a MOVE-OUT alarm to the user defined master numbers. If SentinelPoint moves back within 15 meters from the home position then the SentinelPoint sends a MOVE-IN alarm to the master numbers.
HOME!	Set the current position as home position if the MOVE ALARM is enabled
NAME=	Command to set the name of Sentinel Point. This name will be sent in each sms. Default: MY SP [max 12 characters]

TRACKING=	Command to activate or deactivate the SMS tracking function. Note (if enabled): Every 5 minutes a status SMS would be sent to every specified Master. Note: A status report will be sent with the following meanings: TRACKING = ON/OFF
BATT=	Command to set the type of battery either to 12V or to 24V. [12/24] Note (for BATT set to 12 or 24): The parameter sms will show the parameter BATTERY=.V with the actual battery voltage
NEWPWD=	Command to change the default password for SMS commands. NEWPWD= must be followed by the 4 digits password you wish to set. Example: NEWPWD=1111 NOTE: Don't forget the password. There is currently no way the user can set it back to default. If you do forget the password, please contact the supplier who will reset the password remotely.
PWDOWN!	Command to shut down SentinelPoint Note: Before SentinelPoint can be shut down it has to be disconnected from the external power supply

SMS Examples

To request a status SMS send the following text to the SentinelPoint:
4444,status?

To request a parameter SMS send the following text to the SentinelPoint:
4444,parameter?

To set the numbers Master1 and Master2 and request a parameter SMS to check the numbers send the following text to the SentinelPoint:
4444,parameter?
Master1=1xxxxxxxxxx
Master2=1xxxxxxxxxx

To enable alarms send the following text to the SentinelPoint:
4444,parameter?
alarms=on

To set the 'home position' send the following text to the SentinelPoint:
4444,home!

To change the password for sms-commands to 1111 send the following text to the SentinelPoint:
4444,newpwd=1111

To enable the tracking-function in an interval of 5 minutes send the following text to the SentinelPoint:
4444,tracking=on

Parameter SMS

The parameter SMS contains all settings for the device. The SMS will send from the device to the originator of a received SMS when the originator is asking for it by the keyword “parameter?“.

SMS from the originator the SentinelPoint
4444, parameter?

SMS from the SentinelPoint to the originator
SENTINELPOINT
MY SP
MASTER1=+44179123xxxx
MASTER2=-
MASTER3=-
MOVEALARM=ON
ALARMS=OFF
BATT=12

SMS text	description
SentinelPoint	Device-logo
MY SP	Name of the SentinelPoint → NAME=
MASTER1=0123456789	Master number 1 (an alarm SMS will sent to this number) → MASTER1=
MASTER2=-	Master number 2 (an alarm SMS will sent to this number) → MASTER2=
MASTER3=-	Master number 3 (an alarm SMS will sent to this number) → MASTER3=
MOVEALARM=ON	Indicates, that the move-alarm is enabled → MOVEALARM= [ON/OFF]
ALARMS=OFF	Indicates, that alarms are disabled → ALARMS= [ON/OFF]
BATT=12	12V battery type used → BATT=[12/24]

Status SMS

The status SMS contains the current status of the device. The SMS will send from the device to the originator of a received SMS when the originator is asking for it by the keyword “status?”.

SMS from the originator to the SentinelPoint
4444, status?

SMS from the SentinelPoint to the originator

Sentinel Point
MY SP
FW=20120405
LAT, LONG=52.10723,8.66492
HOME-POS=52.10727,8.66503
BATTERY=12.8V
TRACKING=OFF

SMS text	description
SentinelPoint	Device-logo
MY SP	Name of the SentinelPoint
FW=20120405	Firmware version
LAT,LONG=52.10723,8.66492	Current latitude and longitude
HOME-POS=52.10727,8.66503	Latitude and longitude of your home position
BATTERY=12.8V	Current voltage of the external battery
TRACKING=OFF	SMS-tracking-function is disabled
ALARMS=ON	Current State of Alarms

Alarm SMS

The alarm SMS will automatically send by the device to the numbers at Master1, Master2 and Master3.

Alarm SMS from the SentinelPoint to the Masters
<Alarm-source>
SentinelPoint
MY SP
FW=20120405
LAT, LONG=52.10723,8.66492
HOME-POS=52.10727,8.66503
BATTERY=12.8V
TRACKING=OFF

SMS text	description
Alarm-source>	indicates the type of alarm (see next table)
SentinelPoint	Device-Logo
MY SP	Name of the SentinelPoint
FW=20120405	Firmware version
LAT,LONG=52.10723,8.66492	Current latitude and longitude
HOME-POS=52.10727,8.66503	Latitude and longitude of your home position
BATTERY=12.8V	Current voltage of the external battery
TRACKING=OFF	SMS-tracking-function is disabled
ALARMS=ON	Current State of Alarms

Alarm-source>	description
MOVE-OUT=-	Indicates that device is moved out of the set GPS position
MOVE-IN=-	Indicates that device is moved in the set GPS position
BATT-ALARM=-	Indicates that the external voltage is under the set limit
DISCON-ALARM=-	Indicates that no external voltage is connected

Tracking SMS

The tracking sms will automatically be sent every 5 minutes by the device if the tracking-mode was previously enabled with the sms-instruction 'tracking=on' (take a look at page 10 to get a description of the parameter).
Note: The tracking sms will be sent to the set masters (MASTER1, MASTER2,MASTER3). The device will try to resend the SMS to the recipient every 30 seconds until successful.
Alarm SMS from the SentinelPoint to the Masters

-=TRACKING-SMS=-
SentinelPoint
MY SP
GPSFIX=YES
LAT,LONG=52.10723,8.66492
HOME-POS=52.10727,8.66503
SOG:0
COG:183
BATTERY=12.8V
SPBATTERY=3.9V
ALARMS=OFF
TRACKING=ON

SMS text	description
-=TRACKING-SMS=-	indicates the type of alarm (see next table)
SentinelPoint	Device-Logo
MY SP	Name of the SentinelPoint
GPSFIX=YES	'YES' if the device can receive the GPS position, otherwise 'NO'
LAT,LONG=52.10723,8.66492	Current latitude and longitude
HOME-POS=52.10727,8.66503	Latitude and longitude of your home position
SOG:0	Speed Over Ground in knots
COG:183	Course Over Ground
BATTERY=12.8v	Current Voltage of the External Battery
SPBATTERY=3.9	Current voltage of the device internal battery
ALARMS=OFF	Indicates alarms are currently disabled
TRACKING=ON	Indicates TRACKING is currently enabled

LED flashing codes

The SentinelPoint uses different flashing codes of the LED to indicate the current condition of the "GSM" module.

LED	GSM	GPS
1 x green	SentinelPoint is registered (logged in) and ready to use.	GPS-position is acquired
2 x green	SentinelPoint is registered (logged in) and ready to use.	GPS-position is not acquired
3 x green	SentinelPoint is not registered into the GSM-network.	A GPS-position is not acquired
4 x green	SentinelPoint is in Charge mode	GPS and GSM are disabled in this mode.
fast flashing	The SentinelPoint is receiving or transmitting a SMS or The SentinelPoint is receiving an incoming call	

Voice Call

The SentinelPoint can be controlled by authorized callers with held of a voice call. A caller is authorized, if the caller can identify himself with a correct access code (i.e. after the answers incoming call, the caller must enter the correct 4-figure access code (figures only!) via the phone keyboard)

Operation

The SentinelPoint can be controlled from any telephone / mobile phone that is able to transmit DTMF (Dual Tone Multi Frequency) tones. The SentinelPoint answers the call after the 2nd ring. A female voice then asks the caller to enter the password. If this does not occur within 20 seconds (every input resets the call time back to 20 seconds), or an incorrect password is entered three times, the connection will be terminated. If the correct password is entered, the SentinelPoint responds with an announcement that it is ready to receive commands.

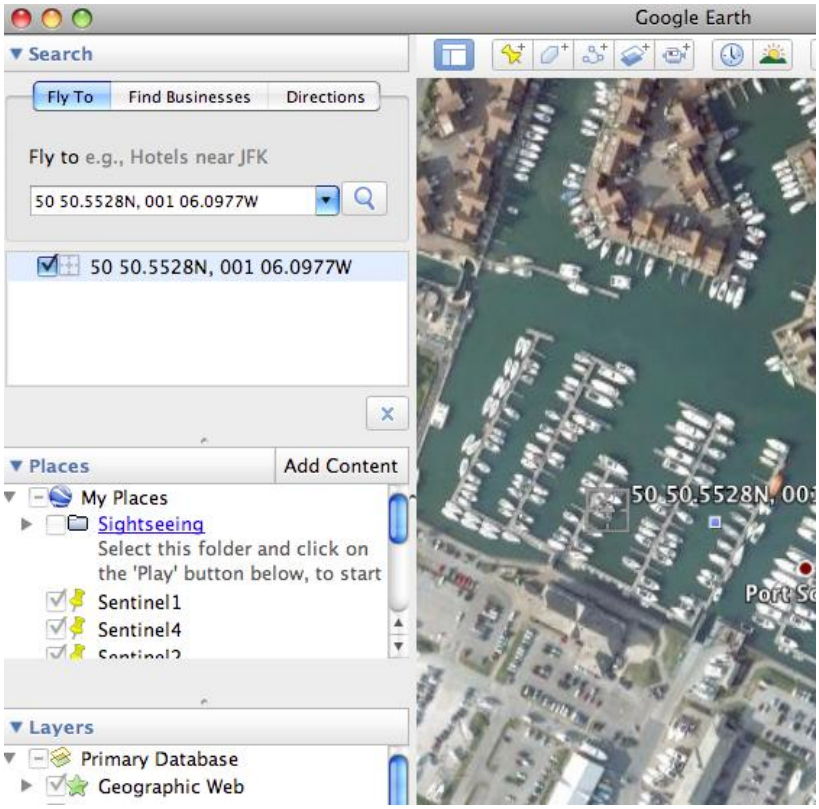
A Voice Menu tells the caller how to navigate through it and how to set any changes.
NOTE: If there is no input within 1 minute the connection will be closed automatically.

Preparing the GPS-Coordinates for Google Earth

The information for latitude and longitude can be entered directly into “Google Earth” or “Google Maps”.

Example: The SentinelPoint sends the position in the SMS:
LAT=50 50.5528N
LONG=001 06.0977E

An example for entering the co-ordinates “50 50.5528N, 001 06.0977E” (= 50°...latitude north and
1°... longitude east) in “Google Earth”:



IMPORTANT: When entering geographic co-ordinates into ”Google Earth” or ”Google Maps” (in this case 50 and 001) a space must be entered between the values for latitude and longitude. Entries for
latitude and longitude must also be separated by a comma.