SimPal-T2

GSM Temperature Alerter

User Manual

Manual version 1.0

SimPal-T2 GSM Temperature Alerter

Thank you for purchasing the SimPal-T2.

The SimPal-T2 GSM Temperature Alerter is a remote temperature alert device consisting of a GSM module and a built-in temperature sensor. It also supports external waterproof cable temperature sensor which has higher accurate and wider temperature range. With the SIM card, all settings of the alerter can be changed easily by SMS commands (Short Message System).

SimPal-T2 reports environment temperature value to user's mobile phone by sending SMS. The authorized users set a temperature range, the alerter will auto send SMS alert when the environment temperature reaches the setting value. It can even detect a fire with its temperature rapid changing alarm function.

With built-in power capacitor, SimPal-T2 will send SMS to report power loss and restoring.

SimPal-T2 is easy to set up. After installing a SIM card and plugging it into the wall socket and then it working. It mainly applied for house and office usage and wildly uses in computer room, warehouse, baby room and elderly room etc.

All services and functions need to be supported by the GSM network and a SIM card.

This brochure suits for **SimPal-T2** model.

Details of the functioning and advanced operation of this alerter are described in this instruction manual.

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1. **Purchase a GSM SIM card (mobile phone card) from GSM network service provider and install it in the alerter. This SIM card number is referred as SimPal-T2 number on this brochure.**

2. **The user needs to activate the Caller ID Presentation function of SIM card, and deactivate PIN code of the SIM. Contact with GSM network service provider for support.**

3. **Change the original password at the beginning use. Be sure to keep the password and SIM card number secret. Do not disclose this information to anyone other than the authorized users.**

For your safety

- Before using this alerter, make sure that the mobile phones device allow using in the area, otherwise, do not put this alerter into operation.
- This alerter was designed for indoor use. Don’t use it in wet, chemically aggressive or dusty environment.
- Do not open the case unless maintenance needed.
- Do not keep shaking or fall down this alerter, otherwise it can be damaged.
- This alerter is a wireless signal transmission device. Keep it away from electronic equipment likely to interfere with the wireless signals, in order to avoid signals interference.
- Switch off this alerter and mobile phone when entering areas marked "Explosive", "Might explode" etc.
- Do not cast this alerter in a fire, as this may cause explosion.
- Keep the alerter and its accessories out of the children reach.
- Forbid to remove the power plug parts and plug into wall socket separately.

Exception clause

1. We operate on a policy of continuous development. We reserve the right to make changes and improvements to any of the alerter described in this document without prior notice.
2. For the latest alerter information, please visit: http://www.simpal.cn. We don't guarantee for the document veracity, reliability or any content except regulate in proper laws. Including no guarantee for alerter suitable market or suitable area promise.
3. We hold no responsibility for the illegal use of this alerter.
4. We hold no responsibility for any loss of income or any special, incidental, consequential or indirect damages howsoever caused.
5. The contents of this document are provided "as is". Except as required by applicable law, no warranties of any kind, either expressed or implied, including, but not limited to the accuracy, reliability or contents of this document. We reserve the right to revise this document or withdraw it at any time without prior notice.

Chapter 1 Features and accessories

1.1 Main function

- This alerter uses a GSM SIM card.
- Remotely operated by SMS command: The alerter is programmed and set by sending SMS commands.
- Input: 110V-250V/50Hz.
- Working temperature range: -10—+50 degree Celsius.
- Auto starts working by preset schedule.
- External temperature sensor supported: Get the environmental temperature and send to mobile phone by SMS.
- SMS alarm when temperature rapid-changing or reaching the pre-set value: When it detects the rapid-changing or the reach of pre-set alert value of surroundings temperature, it can auto-send the SMS alarm message to user's mobile phone.
- Support 5 mobile phone users.
- Auto time-synchronization.
- SMS notification upon external power source changing.

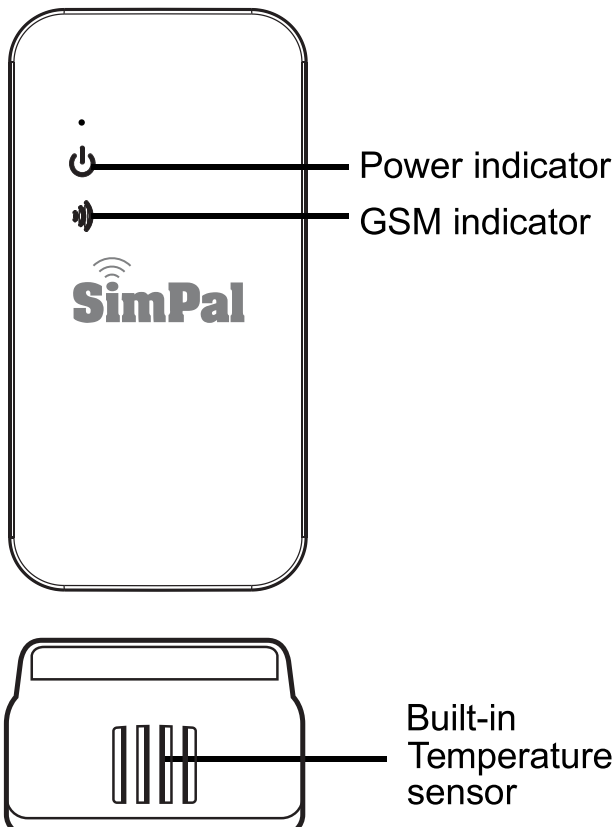
1.2 Package contents

GSM Temperature Alerter
（1 unit）

Temperature sensor
（1 unit）

User manual
（1 unit）

1.3 Alerter instructions



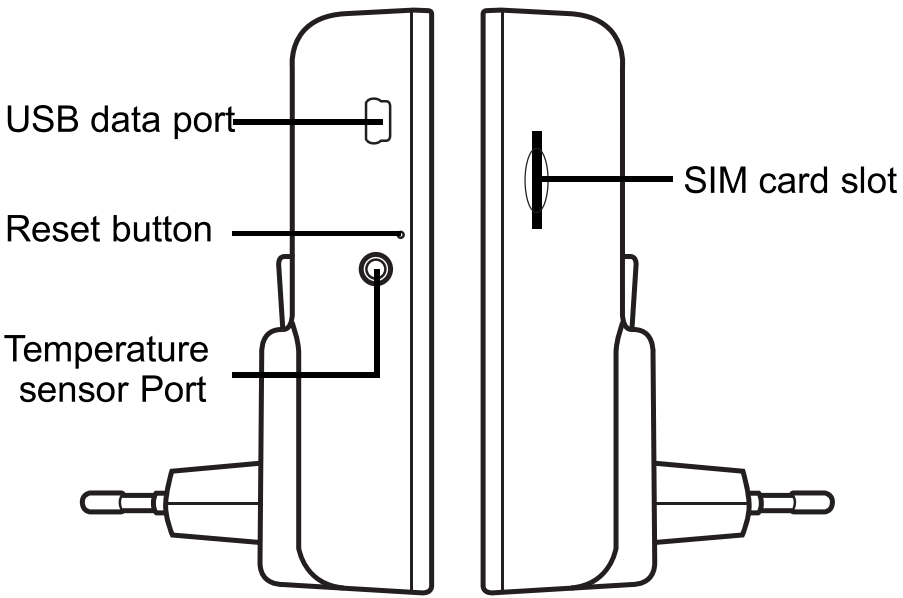


Figure 1: Alerter instructions

1.4 Light indicator

Indicator	Action	Status
Power (Blue) light	Turning off	No power supply input
	Constant light	Power supply connected.
GSM (Blue) light	Turning off	No SIM card, or the SIM card is failed.
	Flash slowly	Searching GSM network.
	Flash fast	Sending SMS or alerter defective.
	Breath flash	Working in standby mode

Note:

If the GSM signal is too weak, the alerter will send a SMS message “Weak GSM signal” to the master user. The alerter should be placed at another place with stronger signal for proper operation.

Chapter 2 Operation guide

2.1 Install the SIM card and external temperature sensor

- Insert the SIM card to card slot, ensuring the golden contact is upside, and beveled corner is same direction as icon show on SIM card slot.
- Firmly push the SIM card until hearing a lock sound.
- Insert the external temperature sensor (if any) into the 3.5mm audio socket until it is seized.

2.2 GSM Power on/ off

Power on:

Plugging the alerter in wall socket for AC power supply, the alerter will start working. The power LED will constant light, the GSM LED will light one second and then off 3-4 seconds. After recognizing the SIM card, the GSM LED will flash slowly indicated that it is searching GSM network. Once registered GSM network, it will beep ring and GSM LED is breathing slowly.

Power off:

Plugging off the alerter from the wall socket, it will power off.

📖 **Note:**

- If the GSM indicator light constant OFF, which imply the SIM card working abnormally, all functions of this alerter are invalid.
- Check GSM network signal of the using place:
  - The GSM network's signal strength may affect the alerter feature. Therefore, before using, the user should ensure that this alerter is used in an area with a strong GSM network signal.
  - For the first time use, the user should perform a test-run by sending SMS to the alerter. This allows the user to check the GSM network connection of the alerter.

2.3 Define the users

Only one **Master** user and four **Family** users have authorization to use the alerter. **The other mobile phone users** have no authorization to use the alerter.

📖 **Note for SMS commands**

- The "#" symbol must not be ignored when typing an SMS command.

- No allow any space within all commands.

2.3.1 Define the Master number

If the alerter is being used for the first time, or it has been reset to factory settings, the Master user's number must be programmed into the alerter.
The user must edit and send the following SMS to the alerter via his/her mobile phone (the phone number will be the **Master** number) in order to:
Add a Master number to the alerter: #00# **(1)**

- **Successful SMS reply**

  Welcome to use SimPal-T2.
  Your Password is:1234.

After add a Master number to the alerter , The Master user can change the master number to a new number. The **Master** user sends following SMS message in order to:
Change the master user's number: #10#***NewMasterNumber#*** **(2)**

📖 ***NewMasterNumber*** should be the new Master user's mobile phone number. Or the alerter should be reset to factory settings to remove old Master number before

setting the new one. (Refer to Chapter 2.12)

- **Successful SMS reply**

  New master number set successfully.
  Successful SMS reply will be sent to the new **Master** user. Then the old **Master** user's number will not be able to control the alerter anymore.

2.3.2 Define the Family numbers

Up to 4 ***family*** users' number can be stored on one alerter.
Family users have the authority to send SMS command and receive the temperature alarm message (refer to command 8 and 9) as well. The ***family*** users should remember and safeguard the alerter's SIM number.

The Master number edit and send the following SMS to alerter in order to:

Add a family number:	#08#***FamilyNumber***#	**(3)**
Add several family numbers:	#08#***FamilyNumber1***#...#***FamilyNumber4***#	**(4)**
Check family number:	#08#	**(5)**
Delete a family number:	#09#***FamilyNumber***#	**(6)**
Delete all family numbers:	#09#	**(7)**

Enable alert message to family numbers(Default): #05#1# **(8)**
Disable alert message to family numbers: #05#0# **(9)**

📖***FamilyNumber*** should be the **Family** user's mobile phone number.
📖The maximum digits that are allows for the phone number is sixteen.
📖Max allow to add 4 family numbers.

- **Successful SMS reply**

  Family number: ****** set successfully.
  Family number ****** deleted.
  All family numbers have been deleted.
  Family alert function ON/OFF.

2.4 Change password

- **Method**

  The **Master** user sends following SMS message in order to:
  Change the password: #11#***Oldpassword#Newpassword#*** **(10)**
  📖The ***password*** is a four digit number.
  📖The original ***password*** is 1234.
- **Successful SMS reply**

New password is ****.

2.5 Getting temperature value

- **Method**

  The **Master** user sends following SMS message to alerter in order to:

  Get the built-in sensor's temperature: #01# **(11)**

  Get the external sensor's temperature: #16# **(12)**

- **Successful SMS reply**

  Temperature: **
  Temp Alert Function: ON/ OFF
  Temp Range: **~ **
  Mains Power Loss Alert Function: ON/OFF
  GSM Signal Strength: **
  Temperature: **
  Plug-in Temp Sensor Alert Function: ON/ OFF
  Temp Range: **~ **
  Mains Power Loss Alert Function: ON/OFF
  GSM Signal Strength: **

2.6 Over-temperature alarm

A range of temperature can be pre-set onto the alerter. In this case, if the surroundings temperature is detected out of or back within the pre-set temperature range, the alerter will auto-send the SMS alarm message to users' mobile phone. Such as: Temperature Alert ! Current temperature reading: **

📖 **Note**

When "Timed alarm of built-in sensor" is enabled, the over-temperature alarm function will disabled automatically.

2.6.1 Built-in sensor over-temperature alarm

- **Method**

  The **Master** user sends following SMS message to alerter in order to:

  Enabled built-in sensor over-temperature alarm: #02#1# **(13)**

  Set built-in sensor over-temperature alarm limits:#03#***MinTemp***#***MaxTemp***# **(14)**

  Disabled built-in sensor over-temperature alarm: #02#0# **(15)**

  📖***MinTemp*** and ***MaxTemp***: The values are whole numbers, can be set within the range of -10 to 50 centigrade degree. The difference of ***MinTemp*** and

MaxTemp values should not be 0.

📖Default ***MinTemp*** is 20 and ***MaxTemp*** is 30 centigrade degree.

- **Successful SMS reply**

  Temperature alert function ON/OFF.

  Temperature alert range: **~ **

  The alerter will send SMS message when it alarms:

  BUILT-IN TEMPERATURE ALERT.

  Current temperature reading: **

2.6.2 External sensor over-temperature alarm

- **Method**

  The **Master** user sends following SMS message to alerter in order to:

Enabled the external sensor over-temperature alarm:	#16#1#	**(16)**
Set external sensor over-temperature alarm limits:	#17#***MinTemp***#***MaxTemp***#	**(17)**
Disabled external sensor over-temperature alarm:	#16#0#	**(18)**
Check the external sensor over-temperature alarm:	#16#	**(19)**

📖***MinTemp*** and ***MaxTemp***: The values are whole numbers, can be set within

the range of -55 to 125 centigrade degree. The difference of ***MinTemp*** and **MaxTemp** values should not be 0.

📖Default ***MinTemp*** is 15 and ***MaxTemp*** is 20 centigrade degree.

- **Successful SMS reply**

  Plug in temperature sensor alert function ON/OFF
  Plug in temperature sensor alert range: **-**

  The alerter will send SMS message when it alarms:
  CABLE TEMPERATURE ALERT.
  Current temperature reading: **

2.7 Timed alarm of built-in sensor

2.7.1 Enable timing alarm of built-in sensor

A special temperature limits (MinTemp1 and MaxTemp1 on the command 21) can be set for a duration. Within this duration, if the surrounding temperature detected by built-in sensor is beyond the limits value, the alerter will send out alarm message. When beyond

this duration, if the surrounding temperature detected by built-in sensor is beyond another limits value MinTemp2 and MaxTemp2, the alerter will send out alarm message too.

- **Method**

  The **Master** user sends following SMS message in order to:

  Enable timing over-temperature alarm of built-in sensor: #06#1# **(20)**

- **Successful SMS reply**

  Schedule temperature alert function ON

2.7.2 Parameters settings for timing alarm

This setting will save the time and temperature parameters on the alerter until the alerter is reset to factory settings.

- **Method**

  The **Master** user sends following SMS message in order to:

  Set time period and temperature limits for built-in sensor alarm:

  #07#***WorkDay#StartTime#EndTime#MinTemp1#MaxTemp1#MinTemp2#MaxTemp2#*** **(21)**

  Check time period and temperature limits for built-in sensor alarm: #07# **(22)**

- ***WorkDay***: one digit, the values lie in the range of “0” to “9”. Default 0.The following table contains the descriptions of each value:

Value	Corresponding day
0	Everyday
1	Monday
2	Tuesday
3	Wednesday
4	Thursday
5	Friday
6	Saturday
7	Sunday
8	Monday to Friday
9	Saturday to Sunday

- ***StartTime*** and ***EndTime***: Be consists of 4 digits (hh:mm) and works on a 24 hour clock. The ***StartTime*** and ***EndTime*** should be in the same day, and the ***EndTime*** must be later than ***StartTime***. Default settings: 0700 to 2100.
- **MinTemp** and **MaxTemp**: The values are whole numbers, can be set within the range of -10 to 50 centigrade degree. The difference of **MinTemp** and **MaxTemp** values should not be 0.
- **MinTemp1** and **MaxTemp1** are temperature limits within the duration. Default **MinTemp1** is 18 and **MaxTemp1** is 24 centigrade degree.

- **MinTemp2** and **MaxTemp2** are temperature limits beyond the duration. Default **MinTemp2** is 16 and **MaxTemp2** is 24 centigrade degree.
- For example: #07#0#0000#2130#18#24#16#24# , 0000 means time 00:00(hh:mm)AM, 2130 means time 9:30PM.
- **Successful SMS reply**

  Schedule temperature alert: ON/ OFF
  Everyday
  Setting time: ****-****
  Temp alert range: **-** degree
  Other times temp alert range: **-** degree

  The alerter will send SMS message when it alarms:
  BUILT-IN TEMPERATURE ALERT.
  Current temperature reading: **

2.7.3 Disable timing alarm of built-in sensor

- **Method**

  The **Master** user sends following SMS message in order to:

Disable timing alarm of built-in sensor (Default): #06#0# (23)

- **Successful SMS reply**

  Schedule temperature alert function OFF

2.8 Temperature difference alarm of built-in sensor

A time period value and temperature difference value can be pre-set onto the alerter. In this case, if the surroundings temperature difference reaches to the pre-set value within the pre-set time period, a SMS alarm message will be auto-sent to user's mobile phone.

- **Method**

  The **Master** user sends following SMS message in order to:

  Enable the temperature difference alarm(Default): #13#1# **(24)**

  Set time period and temperature difference value: #14#***Temp***#***Time***# **(25)**

- **Temp:** The values lie in the range of 1 to 50 centigrade degree.
- **Time:** The values lie in the range of 1 to 300 minutes.
- Default **Temp** is 5 degree and **Time** is 3 minute.

Disable the temperature difference alarm: #13#0# **(26)**

- **Successful SMS reply**

  Rapid temperature change function ON/OFF

Delta: **
Time: ** minutes

2.9 External power supply notification

The alerter will notify the user when the external AC power is lost or resumed. The “Beep, Beep…” tones will be heart (if enabled), also a SMS notification will be sent if the SIM card is available. Such as “Main supply lost”. “Mains power restored”.

- **Method**

  The **Master** user sends following SMS message in order to:

Enable SMS notification upon the power supply changing (Default): #04#1# **(27)**
No SMS notification upon the power supply changing: #04#0# **(28)**

- **Successful SMS reply**

  Mains power SMS alert ON/OFF

2.10 Weak GSM signal notification

The alerter will default send a SMS notification to notify the user when the GSM signal strength is too weak. The Master user can enable/disable this SMS notification.

- **Method**

  The **Master** user sends following SMS message in order to set:

SMS notification upon weak GSM signal (Default): #15#1# **(29)**
No SMS notification upon weak GSM signal: #15#0# **(30)**

- **Successful SMS reply**

  Weak GSM signal strength alert function ON/OFF.
  The alerter will send SMS message when it alarms:
  Weak GSM signal alert, the CSQ is **.

2.11 LED indicators turning ON/OFF

If the LED indicators are turning on, it will display in different ways to show the working status. If it is turning off, it will make the alerter avoid being found easily. The user sends the following SMS command to set LED indicator's mode:

Turn off LED indicator: #18#0# **(31)**
Turn on LED indicator (Default): 18#1# **(32)**

- **Successful SMS reply**
  LED indicator turn ON/OFF.

2.12 Resetting the alerter

- This function resets all programmed settings to their original values, including cleaning all user number, timing parameter and temperature parameter.
- If the setting status is wrong or the malfunctions can't be corrected, users can restore the alerter to its original status to make it work normally.

🕮 **Note**

This function needs to be used carefully as it also erases all setting values.

- **Method**
  Method 1: Press the Reset button on the alerter for 5 seconds.
  Method 2: The **Master** user sends following SMS message to the alerter in order to:
  Reset the alerter: #12#***Password***# **(33)**
- **Successful SMS reply**
  ******** reset to factory settings successfully.

Chapter 3 Maintenance

- If the alerter does not in use for long time, it should be plugged off from the AC power source.
- Store and use the alerter in suitable temperature. Too high or too low temperature will likely to damage it.
- Try to keep the alerter and all its accessories dry. Do not store and use it in the bathroom, or other place with high humidity. Do not allow pour water or other liquids into the alerter, otherwise, it might cause malfunctions.
- Do not store and use the alerter in dusty.
- Do not use alcohol, acetone and other similar solvents to clean it. Wipe it with soft-wet cloth.
- Do not attempt to open it except as instructed. If the alerter does not work normally, try to resolve it as the guide of the "general troubleshooting", if to the problem can not be solved, contact with the dealer immediately.

Chapter 4 General Troubleshooting

No.	General Trouble	Possible Reason	Solution
1	Power indicator light turns off	No power input.	Check the alerter's external AC power is available.
2	GSM indicator light turns off	Can't find or identify the SIM card.	SIM card no install properly: Plug off the alerter and check the SIM card again.
3	All functions disable (Indicator is working)	Caller ID presentation do not active, insufficient fee of the SIM card.	Contact network provider to active SIM card function. Pay for the card to avoid arrearages.
4	The alerter didn't response of any operation.	The alerter works abnormally.	Plug it off from the AC power, check SIM card, or reset it to factory setting.

No.	General Trouble	Possible Reason	Solution
5	After power on the alerter, GSM indicator keeps flashing.	Network signal weak or network busy.	If mobile phone's signal is weak too, place the alerter at other place with strong signal and try again.
		SIM card PIN code actives.	Close the PIN code.
		SIM card invalid.	Contact with local operator to check of it.
6	The master number already exists.	Another master number was set in the alerter.	Change Master number or recover to factory default setting.
7	Invalid format. Please check and try again.	Invalid command.	Refer to the user manual.
8	No authorization user		Use the Master mobile phone to try the command #00#

Note: If the problem can't be solved with above guidelines, contact to your local distributor or after service center.

Chapter 5 Main Technical Parameters

Power input of alerter	110~250V/50HZ, CEE 7/7 hybrid Schuko/French plug
Operating temperature	-10℃~+50℃
Store temperature	-20℃~+60℃
Relative humidity	10-90%，without condensation
Communication protocols	GSM PHASE 2/2+ (including data operation)
Data interface	GSM SIM 1.8V/3.0V alerter
External temperature sensor	-55℃~125℃
GSM working band	850/900/1800/1900Mhz

Appendix: SMS commands list

Category	Function	Command
Define the users	Add a master number to the alerter	(1) #00#
	Change the master user's number	(2) #10#***NewMasterNumber***#
	Add a family number	(3) #08#***FamilyNumber***#
	Add several family numbers	(4) #08#***FamilyNumber1***# ...#***FamilyNumber4***#
	Check family number	(5) #08#
	Delete a family number	(6) #09#***FamilyNumber***#
	Delete all family numbers	(7) #09#
	Enable alert message to family numbers	(8) #05#1#
	Disable alert message to family numbers(Default)	(9) #05#0#
Password	Change the password	(10)#11#***Oldpassword***#***Newpassword***#

Category	Function	Command
Getting temperature value	Get the built-in sensor's temperature	(11)#01#
	Get the external sensor's temperature	(12) #16#
Over-temperature alarm	Enabled built-in sensor over-temperature alarm	(13) #02#1#
	Set built-in sensor over-temperature alarm limits	(14)#03#***MinTemp#MaxTemp#***
	Disabled built-in sensor over-temperature alarm	(15) #02#0#
	Enabled the external sensor over-temperature alarm	(16) #16#1#
	Set external sensor over-temperature alarm limits	(17) #17#***MinTemp#MaxTemp#***
	Disabled external sensor over-temperature alarm	(18) #16#0#
	Check the external sensor over-temperature alarm	(19) #16#

Category	Function	Command
Timed alarm Temperature difference alarm	Enable timing alarm of built-in sensor	(20) #06#1#
	Set time period and temperature limits for built-in sensor alarm	(21)#07#***WorkDay#StartTime#EndTime#MinTemp1#MaxTemp1# MinTemp2#MaxTemp2#***
	Check time period and temperature limits for built-in sensor alarm	(22) #07#
	Disable timing alarm of built-in sensor (Default)	(23) #06#0#
Timed alarm Temperature difference alarm	Enable the temperature difference alarm(Default)	(24) #13#1#
	Set time period and temperature difference value	(25) #14#***Temp#Time#***
	Disable the temperature difference alarm	(26) #13#0#
SMS notification	Enable SMS notification upon the power supply changing (Default)	(27) #04#1#
	No SMS notification upon the power supply changing	(28) #04#0#

Category	Function	Command
	SMS notification upon weak GSM signal (Default)	(29) #15#1#
	No SMS notification upon weak GSM signal	(30) #15#0#
LED indicator	Turn off LED indicator	(31) #18#0#
	Turn on LED indicator (Default)	(32) #18#1#
Reset to factory settings	Reset the alerter	(33) #12#***Password***#

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