SimPal-T2

GSM Temperature Monitor

User Manual

V2.1

SIMPAL-T2 GSM Temperature Monitor

Thank you for purchasing the SimPal-T2.

SimPal-T2 GSM Temperature Monitor is a remote temperature alarm device consisting of a GSM module and a built-in temperature sensor. It needs to work with GSM SIM card. All settings are done by send SMS to this device SIM card number.

Device come with built-in temperature sensor and cable digital temperature sensor. It will monitor both temperature sensor all the time. Once temperature change crossing the setting range, it will auto send SMS To users mobile phone number.

The device come with built-in power capacitor, It will send SMS when 230V mains power change. It can send SMS when power lost or power restore.

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 device are described in this instruction manual.

CONTENT

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

2. Request to disable PIN code of the SIM on your mobile phone before install onto SimPal-T2.

For your safety

- Before using this device, make sure that the mobile phones device allow using in the area, otherwise, do not Use this device.

- This device 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 device, otherwise it can be damaged.

- SimPal-T2 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.

- Do not use this product when entering areas marked "Explosive", "Might explode" etc.

- Do not cast this device in a fire, as this may cause explosion.

- Keep the device and its accessories out of the children reach.

- Forbid to remove the power plug parts separately.

Exception clause

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2. For the latest device 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 device suitable market or suitable area promise.

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Chapter 1 Features and accessories

1.1 Main function

• This device uses a GSM SIM card.

• Remotely operated by SMS command: The device is programmed and set by sending SMS commands.

• Input: 110V-230V AC/ 12V DC

• Working temperature range: -10—+50 degree Celsius.

• Cable digital temperature sensor: waterproof and higher accurate temperature sensor, report temperature by SMS.

• SMS alarm when temperature rapid-changing or crossing setting range: When it detects temperature rapid-changing or crossing setting range, it will send SMS to user's mobile phone.

• Support max 5 mobile phone users for each device.

• Power failure alarm: It will send SMS when power lost or power restore.

1.2 Package contents

GSM Temperature Monitor
(1 PCS)

Temperature sensor
(1 PCS)

User manual
(1 PCS)

1.3 Device instructions

Power indicator

GSM indicator

SimPal

Built-in temp sensor

USB data port

Reset button

Cable temp sensor

SIM card slot
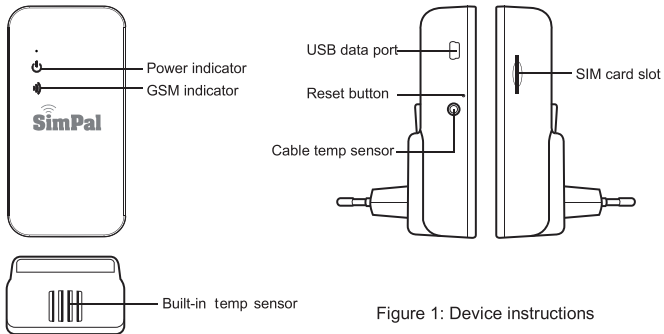
Figure 1: Device instructions

1.4 Light indicator

Indicator	Status	Device function
Power Indicator	OFF	No power supply input
	Constant light	230V AC power connected
GSM Indicator	Flash slowly	Searching GSM network.
	Flash fast	• Sending SMS • Can not recognize SIM card • Can not register GSM network
	Breath flash	Working in standby mode

Chapter 2 Operation guide

2.1 Installation

• The device use big size SIM card. 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 cable temperature sensor into the 3.5mm audio socket until it is seized.
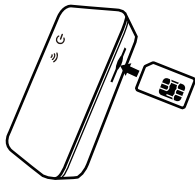
2.2 Power on

Power on:

Plug the SimPal-T2 into wall socket for AC power supply, the device 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 breath flash.

Power off:

Plug out the device from the wall socket, it will power off.

> Note:
> If the GSM indicator light always flash fast, which imply the SIM card working abnormally, all functions of this device are invalid.

2.3 Download APP

It can download APP to control the SimPal-T2 device, all settings can be done via APP. The APP is available on Google Play and Apple Store. Seach "SimPal GSM" to download the APP.

APP Management and Settings
SimPal GSM

2.4 Define the users

Only one Master and four normal Users have authorization to use the device. Device will ignore SMS from other mobile phone number.

Note for SMS commands:
• The "#" symbol must not be ignored when typing an SMS command.
• No allow any space within all commands.

2.4.1 Define the Master number

If device 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 device.

Edit and send following SMS to the device via his/her mobile phone (the phone number will be the Master number) in order to:

Register Master number: #00#   (1)

• Successful SMS reply
  Welcome! Your password is:1234.

After register Master number to the device, The Master allow to transfer 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 reset device to factory settings to remove old Master number before setting the new one.

• 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 device anymore.

2.4.2 Add User number

Up to 4 User number can be stored on one device.
Users have the authority to check temperature value and receive the temperature alarm message (refer to command 8 and 9).

Master edit and send following SMS:
Add a User number: #08#User-Number# (3)

Add several User numbers: #08#User-Number1#...#User-Number4#   (4)

Check User number: #08#   (5)
Delete a User number: #09#User-Number#   (6)
Delete all User numbers: #09#   (7)

SMS to User - ON (default): #05#1#   (8)
SMS to User - OFF: #05#0#   (9)

    📖 Maximum 16 digits allow for phone number.

2.5 Check temperature value

• **Method**
Master or User sends following SMS message to:
Check built-in sensor's temperature: #01#   (11)
Check cable sensor's temperature: #16#   (12)

• **Successful SMS reply**
    Temperature: **
    Temp Alert Function: ON/ OFF
    Temp Range: **~ **

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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 device. If the surroundings temperature is detected crossing the temperature range, the device will send SMS alarm message to users' mobile phone. Such as: Temperature Alert ! Current temperature reading: **

2.6.1 Built-in temperature alarm

• **Method**
Master sends following SMS message to set:
Built-in temperature alarm - ON: <u>#02#1#</u> (13)
Built-in sensor temperature alarm range: <u>#03#MinTemp#MaxTemp#</u> (14)

Built-in temperature alarm – OFF (default): #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.

• Successful SMS reply

> Temperature alert function ON/OFF.
> Temperature alert range: 15-20C

> Device will send SMS when temperature out of setting range:
> BUILT-IN TEMPERATURE ALERT.
> Current temperature reading: **

2.6.2 Cable temperature alarm

• Method
Master user sends following SMS message to set:
Cable temperature alarm - ON: #16#1# (16)
Cable temperature alarm range: #17#MinTemp#MaxTemp# (17)

Cable temperature alarm – OFF (default): <u>#16#0#</u>   (18)

   📖   *MinTemp* and *MaxTemp*: The values are whole numbers, can be set within the range of -50 to 100 centigrade degree *MinTemp* and *MaxTemp* can not be same number.

• Successful SMS reply

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

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

2.7 Rapid temperature change alarm

A time period value and value can be pre-set onto the device. When surroundings temperature change higher than this value within the pre-set time period, a SMS alarm message will be sent to user's mobile phone.

• Method

Master user sends following SMS in order to set:

Rapid temperature change alarm - ON: #13#1#   (24)

Time period and temperature delta value: #14#Temp#Time#   (25)

• Delta value: the range is 3 to 20.
• Time: The time range is 1 to 10 minutes.
• Default delta is 5 degree and Time is 3 minute.

Rapid temperature alarm - OFF: #13#0#   (26)

• Successful SMS reply

> Rapid temperature change function ON/OFF
> Delta: **
> Time: ** minutes

2.8 Power lost alarm

Device will notify the user when the external AC power is lost or resumed. It will send SMS to user mobile phone. Such as "Mains power lost". "Mains power restored".

• Method
Master user sends following SMS message in set:

SMS when mains power change - ON (Default): #04#1#	(27)
SMS when mains power change - OFF: #04#0#	(28)

2.9 Weak GSM signal alarm

Device can send a SMS notification when the GSM signal strength is too weak. The Master user can enable/disable this SMS notification.

• Method
Master user sends following SMS message to set:

SMS when weak GSM signal - ON: #15#1#	(29)
SMS when weak GSM signal – OFF (default): #15#0#	(30)

• Successful SMS reply
   Weak GSM signal strength alert function ON/OFF.

   The device will send SMS message when it alarms:
   Weak GSM signal alert, the CSQ is **.

2.10 Reset factory settings

• This function resets all programmed settings to their original values, including cleaning all user number and temperature parameter.
• If the setting status is wrong or the malfunctions can't be corrected, users can restore the device 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 for 1 seconds.

   Method 2: Master user sends following SMS message to:

   Reset device factory setting: #12#1234#   (33)

• **Successful SMS reply**

   Reset to factory settings successfully.

Chapter 3 Maintenance

• If the device does not in use for long time, it should be plugged off from the AC power source.

• Store and use the device in suitable temperature. Too high or too low temperature will likely to damage it.

• Try to keep the device 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 device, otherwise, it might cause malfunctions.

• Do not store and use the device 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 device 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 external AC power is available.
2	GSM Indicator light flash fast all the time	Can't find or identify the SIM card.	SIM card no install properly: Plug out and check the SIM card again.
3	The device didn't response of any operation.	The device 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 device, GSM indicator keeps flashing.	Network signal weak or network busy.	If mobile phone's signal is weak too, place the device 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 already set in the device.	Change Master number or reset factory 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 device	110~230V AC/ 12V DC 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 device
Built-in temperature sensor range	-10℃~50℃ (±2C)
Cable temperature sensor range	-50℃~100℃ (±1C)
GSM working band	850/900/1800/1900Mhz

Appendix: SMS commands list

Category	Function	Command
Define the users	Register Master number	(1) #00#
	Change Master number	(2) #10#NewMasterNumber#
	Add a user number	(3) #08#User-Number#
	Add several Users	(4) #08#User-Number1# ...#User-Number4#
	Check User number list	(5) #08#
	Delete a User number	(6) #09#FamilyNumber#
	Delete all User numbers	(7) #09#
	SMS to users – ON (default)	(8) #05#1#
	SMS to users - OFF	(9) #05#0#

Category	Function	Command
Getting temperature value	Check built-in temp	(11)#01#
	Check cable temp	(12) #16#
	Built-in temp alarm - ON	(13) #02#1#
Over-temperature alarm	Set built-in temp alarm range	(14) #03#MinTemp#MaxTemp#
	Built-in temp alarm – OFF (default)	(15) #02#0#
	Cable temp alarm - ON	(16) #16#1#
	Set cable temp alarm range	(17) #17#MinTemp#MaxTemp#
Rapid temperature alarm	Cable temp alarm – OFF (default)	(18) #16#0#
	Rapid temp alarm - ON	(24) #13#1#
	Set rapid temp alarm value	(25) #14#Delta#Time#
	Rapid temp alarm - OFF	(26) #13#0#

Category	Function	Command
SMS notification	SMS when power lost - ON (Default)	(27) #04#1#
	SMS when power lost - OFF	(28) #04#0#
	SMS when weak GSM signal - ON	(29) #15#1#
	SMS when weak GSM signal – OFF (default)	(30) #15#0#
Reset to factory settings	Reset the device	(33) #12#1234#

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