



SimPal-T40

SimPal-T20

Wireless Power Socket

User Manual

Manual version 1.0

SimPal-T40/T20 GSM Power Socket

Thank you for purchasing the SimPal-T40/T20.

SimPal-T40 GSM power socket is a remote controlled socket consisting of a GSM module. The power supply output can be turned on or off remotely by the SMS command or local controlled by pressing button.

SimPal-T20 slave socket connect with T40, up to 30 meters range between T20 and T40 connection. You can control one T40 and four T20 with one SIM card.

Both T20 and T40 socket support temperature monitor, temperature control, calendar control and delay control by sending SMS from your mobile phone.

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

This brochure suits for **SimPal-T40** and **SimPal-T20** model.

Details of the functioning and advanced operation of this socket 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 socket. This SIM card number is referred as SimPal-T40 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 in order to ensure your safety.**

For your safety

- This socket was designed for home or office use. Do not use it on the electrical appliance which is for industry or business operation, for example, industrial appliances, large heaters and refrigerators.
- Before using this socket, make sure that the mobile phones can be used well in the area, otherwise, do not put this socket into operation.
- The power consumption of the appliances connected with the socket cannot exceed 3600W and the current cannot exceed 16A.
- The electrical appliance which power consumption is higher than 1500W must be grounded.
- Do not make two plugs of socket short circuit.
- Do not touch the socket jack by any metal objects or hand.
- This socket 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 socket, otherwise it can be damaged.
- This socket is a wireless signal transmission socket. Keep it away from electronic equipment likely to interfere with the wireless signals, in order to avoid signals interference.
- Switch off this socket and mobile phone when entering areas marked "Explosive", "Might explode", "Closed wireless transceiver sockets" etc.
- Do not cast this socket in a fire, as this may cause explosion.
- This socket should only be operated from power approved by the socket manufacturer. The use of any other types of power may damage the socket.
- Keep the socket and its accessories out of the children reach.

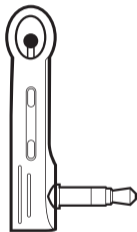
Exception clause

1. We operate on a policy of continuous development. We reserve the right to make changes and improvements to any of the sockets described in this document without prior notice.
2. For the latest socket 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 socket suitable market or suitable area promise.
3. We hold no responsibility for the illegal use of this socket.
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 cancel some functions at any time without prior notice

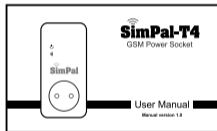
1.1 Package contents



GSM power socket
(1 unit)



Temperature sensor
(1 PC)



User manual
(1 PC)

1.3 Light indicator

Model	Indicator	Action	Status
SimPal-T40 and SimPal-20 Power Socket	Power LED	Turning off	Socket power output OFF
		Constant light	Socket power output ON
	Wireless signal LED	Flash slowly	Searching network (SimPal-T40) Lost connection with T40 (SimPal-T20)
		Slowly breath	Working in standby mode.
		Two fast and one slow Flash	Socket in pairing mode
		Continues light in 3 seconds	Rest to factory setting
		Flash fast	Process SMS command

2.1 User authorization level

Socket settings can be set or adjusted via a SMS command.

There are two mobile phone user controlling levels:

Master-user (“Master”):

Only one **Master** has authorization to use all features of SimPal-T4.

In order to enable all the functions on the socket, the **Master** must store his/ her mobile number in the socket’s memory. Only one **Master**’s mobile number is allowed for a socket.

Family users (“Family”):

There are four families have authorization to use commands of switch on or cut off the socket output, check socket temperature value or receive power status change alert.

The other mobile phone users have no authorization to control the socket.

2.2 About the SMS Command

- **SMS command format:** #code#content#.
- The maximum digits that are allowed for the phone number is sixteen.
- SimPal-T40 will reply to the user after it receives the SMS command.



Note

- The “#” symbol must not be ignored when typing an SMS command.
- No allow any space within the commands.

3.1 Start to use

- Installed SIM card to SimPal-T40 GSM power socket; you will see a SIM card slot at the side, make the SIM card metal contact upside and hardly push the SIM card until SIM card fixed.
- Insert the temperature sensor into the I/O port until it is seized.

Power on:

1. Plug the SimPal-T40 in an AC power socket.

The GSM LED will be flashing slowly for about 15 seconds, and turn to slowly breathe status, breathe LED means the socket already register GSM network, its ready to working.

The socket default power output is OFF.

2. Insert the plug of electronic appliance in the SimPal-T40 electrical outlet.

3. **M button** (See 5 on Figure1) can be pressed for about one second to switch on or off the socket output.

After adding user numbers to the socket, users can send SMS command to control the power supply output.



Note:

- 1.If the GSM indicator light is flash slowly all the time, which imply the SIM card working abnormally, all functions of this socket are invalid.
- 2.Check GSM network signal of the using place:
 - GSM network's signal strength may affect the socket feature. Therefore, before

using, the user should ensure that SimPal-T40 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 socket. This allows the user to check the GSM network connection of the socket.

3.2.1 Register Master-number.

Sending following SMS to socket SIM card number from your mobile phone (the phone number will be the **Master** number):

Register Master-number on the socket: #00# (1)

3.2.2 Change Master number

Master sends following SMS message in order to:

Change master-number: #14#*NewMasterNumber* (2)

- *NewMasterNumber* should be the new Master mobile phone number.

3.3.1 Register Family-number

Up to 4 Family-number can be stored on GSM socket.

Family-number have the authority to send SMS command to switch on or cut off the SimPal-T40 or SimPal-T20 power output.

Method

Master sends following SMS message in order to:

Register a Family: #06#*Family-Number* (3)

- *Family-Number* should be the User's mobile phone number.

3.3.2 Check Family number

Master sending SMS to check Family number: #06# (4)

3.3.3 Delete Family

Method

Master sends following SMS message in order to:

Delete a Family: #15#*Family-Number* # (5)

Delete all Families: #15# (6)

3.4 Pairing slave socket

Master sends SMS to pairing slave socket T20 with T40 GSM socket, before pairing, need to make sure T20 reset factory setting, if the T20 already paired with other T40 before, need to keep press T20 M button for 5 seconds to reset the T20 to factory setting. Sending following SMS message to GSM socket in order to:

Pairing slave socket: #60#name# (7)

After receive SMS reply “Power on “name” socket now! ”, plug the T20 socket to main power, T20 LED flash slowly for some seconds and go to slowly breath status after connected with T40 socket.



Note

- “name” is the slave socket ID communicate with GSM socket, operate slave socket by sending SMS request included “name” in SMS command.
- Request different T20 “name” for one GSM socket.
- “Name” only can be English letter or digital number.

Master sends following SMS message to GSM socket in order to:

Disconnect slave socket: #70#name# (8)

3.5 Control socket power

Method

Method 1: To press **M button one second** (See 5 on Figure1).

Method 2:

Master sends following SMS message to socket in order to:

Turn ON T40 GSM socket output: #01#0# (9)

Turn ON T20 GSM socket output: #61#name# (10)

Turn OFF T40 GSM socket output: #02#0# (11)

Turn ON T20 GSM socket output: #62#name# (12)

3.6 Delay control the socket output

Description

- The socket output can be set to delay switch ON/OFF for a period time.

- Delay control function will auto deactivate once manual change socket status by sending SMS or M button, activate calendar control or temperature control will also deactivate the delay control function.
- When the “delayed switch on the socket” command is received and if the socket output is switched on, the socket output will be switched off immediately and be switch on again as the setting delayed time is reaching. Contrarily, if the socket output is switched off, the output will remain switching off until the setting delayed time is reaching.

 **Method**

Master sends following SMS message in order to:

Delay switching on SimPal-T40 output after a certain minutes: #12#0#Minutes#1# (13)

Delay switching on SimPal-T20 output after a certain minutes: #63#name#Minutes#1#(14)

Delay switching off SimPal-T40 output after a certain minutes: #12#0#Minutes#0# (15)

Delay switching off SimPal-T20 output after a certain minutes:#63#name#Minutes#0# (16)

- **Minutes** are time parameters, its range is 1-720,

Deactivate SimPal-T40 delay control function: #11#0# (17)

Deactivate SimPal-T20 delay control function: #63#name#0# (18)

3.7 Calendar control

3.7.1 Activate calendar control

Description

- The socket output can be set to switch on for duration and then be switch off after the duration.
- Calendar control function will auto deactivate if user manually change the socket status by SMS or M button, Delay control or Temperature control will also deactivate calendar control function.

 **Method**

Master sends following SMS message in order to:

Activate SimPal-T40 calendar control function: #19#0#1# (19)

Activate SimPal-T20 calendar control function: #64#name#1# (20)

Socket will auto switching on or off the output according to the schedule settings.

3.7.2 Set calendar

 **Description**

After successful setting of time duration to switch on the socket output, the schedule parameter will be saved on the socket until socket reset to factory settings.

 **Method**

Master sends following SMS message in order to:

Set time period to switch on the SimPal-T40 output:

#20#0#*WorkDay*#*StartTime*#*EndTime*# (21)

Set time period to switch on the SimPal-T20 output:**#65#name#WorkDay#StartTime#EndTime#****(22)**

- **WorkDay**: one digit, the values lie in the range of “0” to “8”.

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	Weekend

- **StartTime** and **EndTime**: Be consists of 4 digits (hh:mm) and works on a 24 hour clock. If **StartTime** bigger than **EndTime**, it will operate until next day EndTime.
- The socket output will switch on at the **StartTime** and cut off at the **EndTime**.
- For example: #20#0#1#0000#2130# , 0 means the SimPal-T40, 0000 means time 00:00(hh:mm)AM, 2130 means time 9:30PM.

3.7.3 Deactivate calendar control

Method

Master sends following SMS message in order to:

Deactivate SimPal-T40 calendar control: #19#0#0# (23)

Deactivate SimPal-T20 calendar control: #64#name#0# (24)

3.8 Temperature control

3.8.1 Activate temperature control function

Description

- The external temperature sensor must be inserted into the **I/O** port of socket. The socket power output can be auto controlled according environment temperature change.
- Temperature control function will auto deactivate if user manually change the socket status by SMS or M button, Delay control or Calendar control will also deactivate calendar control function.
- There are warming mode and cooling mode for temperature control function. In warming mode, socket will auto turn on when temperature lower than smaller temperature value, and turn off when higher than bigger temperature value; Cooling mode, socket will auto turn on when temperature higher than bigger temperature value and turn off when temperature lower than smaller value.

Method

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

Activate SimPal-T40 temperature control: #23#0#1# (25)

Activate SimPal-T20 temperature control: #66#name#1# (26)

3.8.2 Set temperature control parameters

Method

Master sends following SMS message in order to:

Set SimPal-T40 temperature control parameters: #24#0#mode#low-temp#high-temp# (27)

Set SimPal-T20 temperature control parameters:

#67#name#mode#low-temp#high-temp# (28)

Mode parameter can be 1 or 2, Warming mode is 1, cooling mode is 2;

Temp range should be within -10 to 50 degree.

For example #24#0#1#15#25#, it means set SimPa-T40 temperature control parameter, work with warming mode, and turn on socket when temperature lower than 15 degree, turn off socket

when temperature higher than 25 degree.

After successful setting of temperature range, the temperature parameter will be saved on the socket until socket reset to factory settings.

3.8.3 Deactivate temperature control function

Method

Master sends following SMS message in order to:

Deactivate SimPal-T40 temperature control: #23#0#0# (29)

Deactivate SimPal-T20 temperature control: #66#name#0# (30)

3.9 Temperature alarm

Description

A range of temperature can be pre-set onto each socket. In this case, if the surroundings

temperature is detected out of the pre-set temperature range, the SimPal-T40 will auto-send the SMS alarm message to your mobile phone.

This feature depends on the temperature sensor.

Method

Master sends following SMS message in order to:

Activate SimPal-T40 over-temperature alarm: #21#0#1# (31)

Activate SimPal-T20 over-temperature alarm: #68#name#1# (32)

Set SimPal-T40 temperature range: #22#0#MinTemp#MaxTemp# (33)

Set SimPal-T20 temperature range: #69#name#MinTemp#MaxTemp# (34)

- **MinTemp** and **MaxTemp**: The values can be set within the range of -10 to 50 centigrade degree.

Deactivate SimPal-T40 temperature alarm: #21#0#0# (35)

Deactivate SimPal-T20 temperature alarm: #68#name#0# (36)

3.10 Socket output change SMS alert

Description

SimPal-T40 will default sending SMS notify Master and Family when socket output is changed. The Master can enable/disable this SMS notification.

Method

Master sends following SMS message in order to:

SMS notification upon the socket output changing (Default): #03#1# (37)

Deactivate SMS notification upon the socket output changing: #03#0# (38)

3.11 Mains power change SMS alert

Description

SimPal-T40 will default sending SMS notify when main power supply lost or restore. It only alert when SimPal-T40 power supply change, SimPal-T20 power supply change will not report.

Master can enable/disable this SMS notification.

 **Method**

Master sends following SMS message in order to set:

SMS notification upon the power supply changing (Default): #05#1# (39)

Deactivate SMS notification upon the power supply changing: #05#0# (40)

3.12 SMS notification to User

SimPal-T40 will sending SMS alert when mains power lost/restore, temperature alert or other information. Default sending SMS to Master and family. Master can change the setting to cancel SMS to family number.

 **Method**

Master sends following SMS message in order to:

Activate SMS alert to User #16#1# (41)

Deactivate SMS alert to User #16#0# (42)

3.13 Check status

Method

Master or Family sends following SMS message in order to:

Check SimPal-T40 socket operating status: #07# **(43)**

Check SimPal-T20 socket operating status: #70# **(44)**

After receiving the SMS commands, it will reply SMS message:

GSM-Socket: ON Temp: 23C
"Slave1": OFF Temp: 30C T
"Slave2": ON Temp: 23C C
"Slave2": ON Temp: 25C D

Socket under "delay control" it will show character "D" after this socket temperature value, when socket under "Temperature control", it will show character "T" after this socket temperature value, when socket under "Delay control", it will show "D" after this socket temperature value.

Check SimPal-T40 "delayed control" parameters: #34# **(45)**

Check SimPal-T20 “delayed control” parameters: #63#name# (46)

Check SimPal-T40 “Calendar control” parameters: #33# (47)

Check SimPal-T20 “Calendar control” parameters: #64#name (48)

Check SimPal-T40 “Temperature control” parameters: #32# (49)

Check SimPal-T20 “Temperature control” parameters: #66#name# (50)

Check SimPal-T40 “over-temperature alarm limits” parameters: #35#0# (51)

Check SimPal-T20 “over-temperature alarm limits” parameters: #68#name# (52)

3.14 Weak GSM signal notification

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

Method

4. Main Technical Parameters

Input power plug	110~230V/50HZ, CEE 7/7 hybrid Schuko/French/American/Australia plug
Output power outlet	110~ 230V/50HZ, 230V/30A(30s), 16A long-duration, CEE7/4 German "Schuko"/ French/ American/Australia
Operating temperature	-10°C ~+50°C
Store temperature	-20°C ~+60°C
Relative humidity	10-90%, without condensation
Communication protocols	GSM PHASE 2/2+ (including data operation)
Data interface	GSM SIM 1.8V/3.0V socket
RF frequency	433Mhz FSK
Slave socket distance	Up to 30 meters
Temperature sensor range	-10°C ~50°C
GSM working band	850/900/1800/1900Mhz

Appendix: SMS commands list

Category	Function	Command
Define the users	Register Master-number	(1) <u>#00#</u>
	Change Master-number	(2) <u>#14#NewMasterNumber#</u>
	Add Family-number	(3) <u>#06#Family-Number#</u>
	Check Family-number	(4) <u>#06#</u>
	Delete Family-number	(5) <u>#15#Family-Number#</u>
	Delete all Family-number	(6) <u>#15#</u>
Pairing T20 socket	Pairing slave socket	(7) <u>#60#name#</u>
	Disconnect slave socket	(8) <u>#70#name#</u>
Manual change socket output	Connect T40 socket power	(9) <u>#01#0#</u>
	Connect T20 socket power	(10) <u>#61#name#</u>
	Disconnect T40 socket power	(11) <u>#02#0#</u>

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Category	Function	Command
	Disconnect T20 socket power	<u>(12)</u> #62#name#
Delay control	Delay switching ON SimPal-T40 after a certain minutes	<u>(13)</u> #12#0# <i>Minutes</i> #1#
	Delay switching ON SimPal-T20 after a certain minutes	<u>(14)</u> #63#name# <i>Minutes</i> #1#
	Delay switching OFF SimPal-T40 after a certain minutes	<u>(15)</u> #12#0# <i>Minutes</i> #0#
Delay control	Delay switching OFF SimPal-T20 after a certain minutes	<u>(16)</u> #63#name# <i>Minutes</i> #0#
	Deactivate T40 delay control	<u>(17)</u> #11#0#
	Deactivate T20 delay control	<u>(18)</u> #63#name#0#
Calendar control	Activate SimPal-T40 calendar control	<u>(19)</u> #19#0#1#
	Activate SimPal-T20 calendar control	<u>(20)</u> #64#name#1#
	Set SimPal-T40 calendar control parameters	<u>(21)</u> #20#0# <i>WorkDay</i> # <i>StartTime</i> # <i>EndTime</i> #

SimPal-T40/T20 POWER SOCKET USER MANUAL

Category	Function	Command
	Set SimPal-T20 calendar control parameters	<u>(22)#65#name#WorkDay#StartTime#EndTime#</u>
	Deactivate SimPal-T40 calendar control	<u>(23)#19#0#0#</u>
	Deactivate SimPal-T40 calendar control	<u>(24) #64#name#0#</u>
Temperature control	Activate SimPal-T40 Temp control	<u>(25)#23#0#1#</u>
	Activate SimPal-T20 Temp control	<u>(26) #66#name#1#</u>
	Set SimPal-T40 temp control parameters	<u>(27)#24#0#mode#low-temp#high-temp#</u>
	Set SimPal-T40 temp control parameters	<u>(28)#67#name#mode#low-temp#high-temp#</u>

SimPal-T40/T20 POWER SOCKET USER MANUAL

Category	Function	Command
	Deactivate SimPal-T40 temp control	<u>(29)#23#0#0#</u>
	Deactivate SimPal-T20 temp control	<u>(30)#66#name#0#</u>
Temperature monitor	Activate SimPal-T40 temperature monitor	<u>(31)#21#0#1#</u>
	Activate SimPal-T20 temperature monitor	<u>(32)#68#name#1#</u>
	Set SimPal-T40 temp range	<u>(33)#22#0#MinTemp#MaxTemp#</u>
	Set SimPal-T20 temp range	<u>(34)#69#name#MinTemp#MaxTemp#</u>
	Deactivate SimPal-T40 temp monitor	<u>(35)#21#0#0#</u>
	Deactivate SimPal-T20 temp monitor	<u>(36)#68#name#0#</u>
	Socket output change SMS alert (Default)	<u>(37)#03#1#</u>
	Deactivate SMS alert of socket output change	<u>(38)#03#0#</u>

SimPal-T40/T20 POWER SOCKET USER MANUAL

Category	Function	Command
	SMS notification upon the power supply changing (Default)	(39)#05#1#
	No SMS notification upon the power supply changing	(40)#05#0#
SMS notification	SMS alert to User	(41)#16#1#
	Deactivate SMS alert to User	(42)#16#0#
Check status	Check SimPal-T40 socket status	(43)#07#
	Check SimPal-T20 socket status	(44)#70#
	Check SimPal-T40 "Delayed Control"	(45)#34#
	Check SimPal-T20 "Delayed Control"	(46)#63#name#
	Check SimPal-T40 "Calendar control"	(47)#33#
	Check SimPal-T20 "Calendar control"	(48)#64#name#
	Check SimPal-T40 "Temp control"	(49)#32#

SimPal-T40/T20 POWER SOCKET USER MANUAL

Category	Function	Command
	Check SimPal-T20 "Temp control"	(50)#66#name#
	Check SimPal-T40 "temp monitor"	(51)#35#0#
	Check SimPal-T20 "temp monitor"	(52)#68#name#
	Check GSM signal	(53)#27#
	Enable weak signal alert	(54)#27#1#
	Disable weak signal alert	(55)#27#0#
Change password	Change password	(56)#04#old-password#new-password#
Reset socket	Reset T40 to factory setting	(57)#08#Password#

