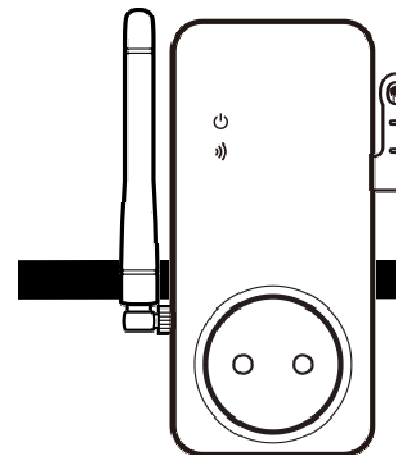




SimPal-S460

4G LTE Power Socket

User Manual

Manual version 1.0



APP Management and Settings
GSM Socket

Available on
Google Play

Available on
App Store

SimPal-S460 4G LTE Power Socket

Thank you for purchasing the SimPal-S460 power socket.

SimPal-S460 working with 4G LTE SIM card, is a simple and powerful device to remote control the power to the electrical devices or electrical outlets at home via SMS or app in mobile.

SimPal-S460 supports power meter function and power loading monitor, can be used to monitor connected device working status. It will send SMS when connected device power consumption abnormal. S460 come with built-in power capacitor and temperature sensor, functions as an alarm during a power failure or temperature deviations.

All services and functions need to be supported by the 4G network and a SIM card.

This brochure suits for **SimPal-S460** 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-S460 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.**

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, iatrical appliances, large heaters and refrigerates.
- 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 3500W 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. Device working temperature range is -10℃~+35℃, stop to use this product when environment temperature out of working range.

- Do not plug this socket in a row, only allow connect other electricity device on the socket. (nicht hintereinander stecken, nur andere Stromgeräte an der Steckdose anschließen lassen).
- 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.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

FCC Warning

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE 1: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

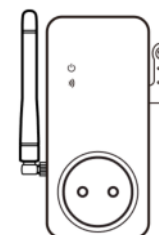
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE 2: Any changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

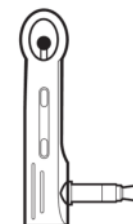
Exception clause

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

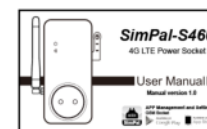
1.1 Package contents



GSM power socket
(1 unit)

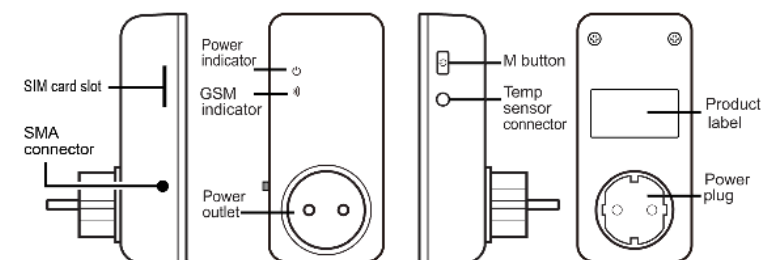


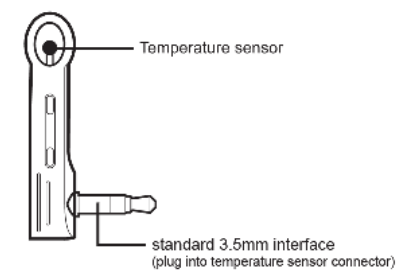
Temperature sensor
(1 PC)



User manual
(1 PC)

1.2 Sockets instructions





1.3 Light indicator

Indicator	Action	Status
Power LED	Turn off	Socket power output OFF
	Constant light	Socket power output ON
Wireless signal LED	Flash slowly	Searching network
	Slowly breath	Working in standby 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-S460.

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.

Users ("User-number"):

There are four Users have authorization to use most commands of this device. It does not allow to register User number and reset factory setting for User number.

No registered mobile phone number 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-S460 will reply to the user after it receives the SMS command.

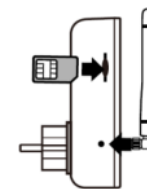


Note

- 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-S460 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.
- Screw the GSM antenna onto the antenna connector.



- Insert the temperature sensor into the I/O port until it is seized.

Power on:

1. Plug the SimPal-S460 in an AC power socket.

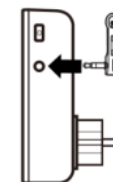
The GSM LED will be flashing slowly for about 15 seconds, and turn to slowly breathe status, breathe LED means the socket already registers GSM network, it's ready to work.

The socket default power output is OFF.

2. Insert the plug of electronic appliance in the SimPal-S460 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 flashes slowly all the time, which implies the SIM card is 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-S460 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 Download “GSM Socket” APP

We offer free APP to work with SimPal-S460, search “GSM Socket” on Google Play or Apple APP Store, download and install the APP, then it can use APP to control SimPal-S460.

First time register device on APP, input device name and SIM card number which installed on SimPal-S460 device. The APP will create SMS content, send the SMS to device, it will operate according APP function description.

Even without APP, user can send SMS manually according following instruction to control the socket.

3.3 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)

3.3.1 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.

3.3.2 Register User-number

Max allow to register 4 User numbers on one device.

User-number have the authority to control the socket.

☒ Method

Master sends following SMS message in order to:

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

- **User-Number** should be the User's mobile phone number. Suggest to add country code in front of phone number. Such as #06#+4912345678#

3.3.2 Check User number

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

3.3.3 Delete User

☒ Method

Master sends following SMS message in order to:

Delete a User number: #15#*User-Number* #

(5)

Delete all Users: #15#

(6)

3.4 Turn on/off 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 power ON: #01#0#

(7)

Turn power OFF: #02#0#

(8)

3.5 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 Schedule control or Temperature control will also stop the delay control function.
- When the “delayed switch on the socket” command is received and if the socket output is ON, the socket output will be switched off immediately and be switch on again when the setting delayed time is reaching. Contrarily, if the socket output is OFF, the output will remain switching off and turn ON when setting delay time is reach.

Method

Master sends following SMS message in order to:

Delay switching on after a certain minutes: #12#0#Minutes#1# (9)

Delay switching off after a certain minutes: #12#0#Minutes#0# (10)

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

3.6 Schedule control

3.6.1 Activate schedule control

Description

- The socket can be set three group schedule to auto turn on off according time schedule.
- Schedule control function will temporary deactivate if user manually change the socket status by SMS or press M button, it will process schedule control when time reach next action point.

Method

Master sends following SMS message in order to:

Turn on schedule control function: #19#0#1#

(11)

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

3.6.2 Set schedule

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 output:

#20#0#ID#*WorkDay*#*StartTime*#*EndTime*# (12)

- ID means schedule control serial number, max allow 3 group schedule control. ID range is 1-3.
- ***WorkDay***: Schedule control day parameter, it can be number 0-7. If want to set several

single days, it needs to combined day number. Such as 1234, means from Monday-Thursday; 15 means Monday and Friday.

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

- **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#2#13#0000#2130#, set group 2 schedule control, Monday and Wednesday, turn on power from 00:00 and turn off at 21:30.

Turn off schedule control function: #19#0#0# (13)

3.7 Temperature control

3.7.1 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 always process even manual change power status. It will check temperature value and process temperature control every one minute.
- 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:

Turn on temperature control: #23#0#1# (14)

3.7.2 Set temperature control parameters

✕ **Method**

Master sends following SMS message in order to:

Set temperature control parameters: #24#0#mode#low-temp#high-temp# (15)

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-S460 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.

Turn off temperature control: #23#0#0#

(16)

3.8 Temperature alarm

Description

A range of temperature can be pre-set onto socket. When the surroundings temperature is detected out of the pre-set temperature range, the SimPal-S460

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:

Set temperature alarm - ON: #21#0#1# (17)

Set temperature range: #22#0#MinTemp#MaxTemp# (18)

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

Set temperature alarm - OFF (Default): #21#0#0# (19)

3.9 Power loading alarm

Description

The socket support power loading alarm function. It can monitor connected appliances power consumption and report power consumption daily, weekly or monthly. Also can set power loading alarm, it will send SMS when power loading out or back setting range,

Method

Master sends following SMS message in order to:

Check power voltage and loading: #51# (20)

Check yesterday power consumption: #52#1# (21)

Check this week power consumption: #52#2# (22)

Check this month power consumption: #52#3# (23)

Set power loading alarm - ON: #53#0#1# (24)

Set power loading range: #53#0#MinValue#MaxValue# (25)

- **MinValue** and **MaxValue**: The values can be set within the range of 0 to 3500, means 0-3500W. Default value is 5-3500.
- The power alarm is executed only when the power is turned on. When the power is turned off, the power is always zero, it does not send alarm message.
- After the power is turned on, it will compare the power before the power is turned off. If the two powers are in the same range, no SMS alarm will be sent.

Set power loading alarm - OFF(default): #53#0#0# (26)

Set daily report power consumption: #54#1# (27)

Set weekly report power consumption: #54#2# (28)

Set monthly report power consumption: #54#3# (29)

Set report power consumption function - OFF(default): #54#0# (30)

 **Note:**

The power consumption data will lost when device reboot, it will new calculate from beginning when socket power restore.

3.10 SMS when on/off button pressed

-  **Description**
SimPal-S460 will default sending SMS notify Master and Users when press M button to change power status. It can send SMS to enable/disable this SMS notification.
-  **Method**
Master sends following SMS message in order to:
SMS when on/off button pressed - ON (Default): #03#1# (31)
SMS when on/off button pressed - ON: #03#0# (32)

3.11 Power failure alarm

Description

SimPal-S460 will default sending SMS notify when main power supply lost or restore.
It can send SMS to enable/disable this SMS notification.

Method

Master sends following SMS message in order to set:

SMS when power lost or restore - ON (Default): #05#1# (33)

SMS when power lost or restore - OFF: #05#0# (34)

3.12 SMS notification to User

SimPal-S460 will sending SMS alert when mains power lost/restore, temperature alert or other information. Default sending SMS to Master and all other Users. It can send SMS to change the settings.

 Method

Master sends following SMS message in order to:

SMS to Master and all Users: #16#1# **(35)**

SMS only to Master number: #16#0# **(36)**

3.13 Calling control settings

Master and user number default allow calling SimPal-S460 to switch power output, default without SMS reply when calling switch power. Master sends following SMS to set:

Calling control function – ON (Default): #09#1# **(37)**

Calling control function – OFF: #09#0# **(38)**

SMS when calling operation – ON: #49#1# **(39)**

SMS when calling operation – OFF (Default): #49#0# **(40)**

Any number calling control – ON: #31#1# **(41)**

Any number calling control – OFF (Default): #31#0# (42)

3.14 Check status

☒ Method

Master or User sends following SMS message in order to:

Check operating status: #07# (43)

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

Main Unit: ON 23C

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 “Schedule control”, it will show “S” after this socket temperature value.

Check “delayed control” parameters: # _____ 3 _____ 4 _____ #

(	4	4	)
Check “Schedule control” parameters:	<u>#33#</u>		(45)
Check “Temperature control” parameters:	<u>#32#</u>		(46)
Check “Temperature alarm” parameters:	<u>#35#0#</u>		(47)

3.15 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

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

Check GSM signal and network status:	<u>#27#</u>	(48)
Activate SMS alarm upon weak GSM signal:	<u>#27#1#</u>	(49)
Deactivate SMS alarm upon weak GSM signal (Default):	<u>#27#0#</u>	

(5 0)

- **Successful SMS reply**

Operator: Name

Network type: LTE

CSQ: 20

Weak GSM signal alarm: ON

The alerter will send SMS message when it alarms:

Weak GSM signal alert, the CSQ is **.

3.16 Resetting the socket

Description

- 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 socket to its original status to make it work normally.

SimPal-S460 reset factory setting:

Method 1: Press the side **M** button of the device for 10 seconds.

Method 2: Master sends following SMS message in order to:

Reset SimPal-S460 socket: #08#1234#

(51)

4. Main Technical Parameters

Input power plug	110~250V/50HZ, CEE 7/7 hybrid Schuko/French/American/Australia plug
Output power outlet	110~ 250V/50HZ, 230V/30A(30s), 16A long-duration, CEE7/4 German "Schuko"/ French/ American/Australia
Operating temperature	-10℃~+35℃
Store temperature	-20℃~+50℃
Relative humidity	10-90%, without condensation
Communication protocols	GSM PHASE 2/2+ (including data operation)
Data interface	GSM SIM 1.8V/3.0V socket
Max loading	16A 3500W
Temperature sensor range	-10℃~50℃
4G LTE working band	Cat1 LTE FDD: B1, B3, B5, B7 ,B8 ,B20 LTE TDD: B40 UMTS: B2/B4/B5

Appendix: SMS commands list

Category	Function	Command
Define the users	Register Master-number	(1) #00#
	Change Master-number	(2) #14# <i>NewMasterNumber#</i>
	Add User-number	(3) #06# <i>User-Number#</i>
	Check User-number	(4) #06#
	Delete User-number	(5) #15# <i>User-Number#</i>
	Delete all User-number	(6) #15#
Manual change socket output	Turn on power	(7) #01#0#
	Turn off power	(8) #02#0#
Delay control	Delay switching ON after a certain minutes	(9) #12#0# <i>Minutes#1#</i>

Category	Function	Command
	Delay switching OFF after a certain minutes	(10) #12#0# <u>Minutes</u> #0#
Calendar control	Schedule control function - OFF	(11) #19#0#1#
	Set schedule control parameters	(12) #20#0#1D# <u>WorkDay#</u> <u>StartTime#EndTime#</u>
	Schedule control function - OFF	(13) #19#0#0#
Temperature control	Temperature control function - ON	(14) #23#0#1#
	Set temp control parameters	(15) #24#0#mode#low-temp#high-temp#
	Temperature control function - OFF	(16) #23#0#0#
Temperature alarm	Temperature alarm function - ON	(17) #21#0#1#
	Set temp alarm range	(18) #22#0# <u>MinTemp#MaxTemp#</u>

Category	Function	Command
	Temperature alarm function - OFF	<u>(19) #21#0#0#</u>
Power meter	Check voltage and power loading	<u>(20) #51#</u>
	Check yesterday power consumption	<u>(21) #52#1#</u>
	Check this week power consumption	<u>(22) #52#2#</u>
	Check this month power consumption	<u>(23) #52#3#</u>
	Power loading alarm - ON	<u>(24) #53#0#1#</u>
	Set power loading range	<u>(25) #53#0#Low#High#</u>
	Power loading alarm - OFF (Default)	<u>(26) #53#0#0#</u>
	Daily report power consumption	<u>(27) #54#1#</u>
	Weekly report power consumption	<u>(28) #54#2#</u>
	Monthly report power consumption	<u>(29) #54#3#</u>

Category	Function	Command
	Report power consumption - OFF	(30) #54#0#
SMS notification	SMS when press button – OFF (Default)	(31) #03#1#
	SMS when press button - OFF	(32) #03#0#
	SMS when power lost - ON (Default)	(33) #05#1#
	SMS when power lost - OFF	(34) #05#0#
	SMS to User number – ON (Default)	(35) #16#1#
	SMS to User number - OFF	(36) #16#0#
Calling control	Calling control function – ON (Default)	(37) #09#1#
	Calling control function – OFF	(38) #09#0#
	SMS when calling operation – ON	(39) #49#1#
	SMS when calling operation – OFF (Default)	(40) #49#0#

Category	Function	Command
	Any number calling control – ON	(41) <u>#31#1#</u>
	Any number calling control – OFF (Default)	(42) <u>#31#0#</u>
Check status	Check socket status	(43) <u>#07#</u>
	Check S "Delayed Control" status	(44) <u>#34#</u>
	Check "Schedule control" status	(45) <u>#33#</u>
	Check "Temp control" status	(46) <u>#32#</u>
	Check "temp alarm" status	(47) <u>#35#0#</u>
	Check GSM signal and network type	(48) <u>#27#</u>
	Weak GSM signal alarm - ON	(49) <u>#27#1#</u>
	Weak GSM signal alarm – OFF (Default)	(50) <u>#27#0#</u>
Reset socket	Reset factory setting	(51) <u>#08#1234#</u>

