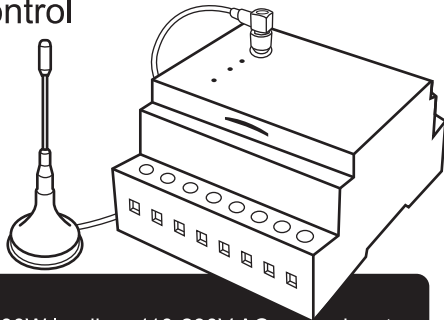


SimPal-D220

4G Power Control

V1.0



Important notes:

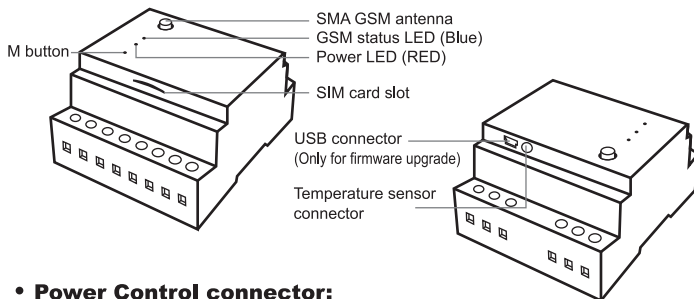
Max allow 16A, 3500W loading, 110-230V AC power input.

• Product Instruction:

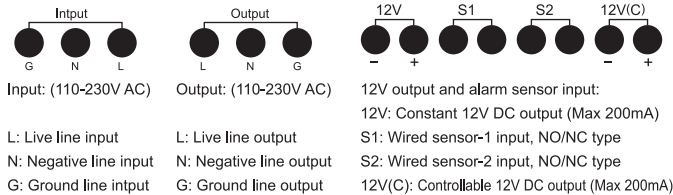
SimPal-D220 DIN-Rail 4G Power Control: Use a GSM SIM card to remotely control the power on/off. Built-in power adapter, 110-230V power input, 12V and 110-230V power output. Two-lines wired sensor and one temperature sensor are supported.

SimPal-D220 integrates a power monitoring function that reports daily power usage. It sends a text message to the user's mobile phone when the power load changes.

• Product Structure:



• Power Control connector:



• Start to use:

(Important notes: Cut off power supply when wiring cables)

1. Connect the GSM antenna onto connector.
2. Install SIM card, put the SIM card metal contact downside and cut corner at the left. Hardly push the SIM card until it locked inside the SIM card slot.
3. Connecting wired sensor, temperature sensor. (If necessary)
4. Connecting 110-230V AC power input and output, make sure power supply is cut off when wiring the cable.
5. Connect the 110-230V AC power, then device start to working. The LED will light on within 3-5 seconds after power connected.

• Download "SimPal GSM" APP

We offer free APP to work with SimPal-D220, search "SimPal GSM" on Google Play or Apple APP Store, download and install the APP, then it can use APP to control SimPal-D220.

First time register device on APP, input device name and SIM card number which installed on SimPal-D220 device. The APP will create SMS content, send the SMS to device, it will operate according APP function description.

Even without APP, user also can edit and send SMS command manually according following instruction to control the device.

• Register phone number

Max allow 5 numbers to control the device, one Master number and four Users. Master have full authorization to configure the devices, User number only can be added by Master number. All configurations are process by sending SMS to device SIM card. The SMS format is #code-1#code-2#. The detail command as following

Register Master number: #00#
Add User number: #06#User-number#
Deleted User number: #15#User-number#

If device replied "Master number already exist", then it needs to reset the device factory settings. Keep press M button for 10 seconds, it will reset the device.

• Voice call to turn on/off power

Master or User number call the device SIM card number, it can turn on/off 230V power or turn on power for some seconds. The command to change settings as following:

Calling to turn on/off power function - ON (default): #09#1#
For example: current 230V power is on, when user calling, it will turn off power; calling again, it will turn on power.

Calling to turn on power for some seconds: #09#2#time#
Time parameters is 1-1800, it means duration 1-1800 seconds.

Calling control - OFF: #09#0#

Default it does not send SMS when calling turn on/off power, it can send SMS to enable send SMS.

SMS when calling control - ON: #41#1#
SMS when calling control - OFF (default): #41#0#

• Power on/off

Master or User send SMS to turn on/off 230V power:

Turn on 230V power: #01#0#
Turn off 230V power: #02#0#

• Delay control

Set the 230V power auto turn on/off for some minutes. Master or User send following SMS to:

Turn on power for some minutes: #12#0#time#0#

Turn off power for some minutes: #12#0#time#1#
(Time range is 1-720, it means 1-720 minutes)

Delay control function will auto stop when manually on/off power.

• Schedule control

Set the 230V power auto on/off according setting schedule, Master or User send following SMS to:

Set schedule turn on power parameters: #20#0#day#start-time#end-time#
It will turn on power when it reaches the setting time.

• Day: one digit, the values lie in the range of "0" to "8".

• The following table contains the descriptions of each value:

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

For example: #20#0#0#2000#0800#, it means "everyday", it will turn on power from 20:00 and turn off at 08:00 next day.

Set schedule control - ON: #19#0#1#

Set schedule control - OFF(default): #19#0#0#

Schedule control can be temporarily closed by send SMS or press button to change power status, but it will process schedule control again when reach next time point.

• Temperature control

When temperature sensor installed, it will display temperature value in SMS reply.

Temperature control function mostly use when output power connected with heating or cooling device, it will auto turn on/off power according the temperature change. Master sends SMS to:

Set temp control parameters: #24#0#mode#low-temp#high-temp#

• Mode parameter can be 1 or 2, Warming mode is 1, cooling mode is 2;
• Temp range should be within -30 to 100 degree.

For example #24#0#1#15#25#, it means set thermostat control parameter, work with warming mode (Connected with heating device), turn on power when temperature lower than 15 degree, turn off when temperature higher than 25 degree.

Set temp control - ON: #23#0#1#

Set temp control - OFF(default): #23#0#0#

• Temperature alarm

Master set temperature range for device, when temperature out of range, it will send SMS to notify user of temperature change. Master or User send SMS to:

Set temperature alarm range: #22#0#low-temp#high-temp#
Temperature range is -30 to 100 degree.

Temperature alarm - ON: #21#0#1#

Temperature alarm - OFF (default): #21#0#0#

• Power Monitoring

The device support power monitor function. It can monitoring connected appliances power consumption and report power consumption daily, weekly or monthly. Also can set power load alarm, it will send SMS when power load out or back setting range. The SMS command as following:

Check power voltage and loading: #51#

Check yesterday power consumption: #52#1#

Check this week power consumption: #52#2#

Check this month power consumption: #52#3#

Set power load alarm - ON: #53#0#1#

Set power load range: #53#0#Low-Value#High-Value#

- Low-Value and High-Value: 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 load alarm - OFF(default): #53#0#0#

Set daily report power consumption: #54#1#

Set weekly report power consumption: #54#2#

Set monthly report power consumption: #54#3#

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

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

• Wired sensor alarm

D220 support two wired sensor input, one constant 12V DC output, one controllable 12V DC output, Constant 12V DC can be work as power supply for wired sensors. The input sensor is NO/NC type (Normal Open or Normal Close). Need to connect wired sensor NO/NC and COM PIN onto S1 or S2 terminal. No allow connect power onto S1 or S2 terminal. It may burn device if connected DC/AC power onto S1 or S2 terminal.

D220 will send SMS when sensor trigger, it can send SMS to change the settings:

SMS when sensor alarm - ON: #40#1#

SMS when sensor alarm - OFF: #40#0#

Change sensor name: #43#sensor1#Sensor2#

Default sensor name is "Sensor-1" and "Sensor-2", Master can define own sensor name, such as #43#Door#Window#, then it will name sensor-1 "Door", name sensor-2 "Window". The name will included in alarm SMS.

Sensor default support both NO/NC mode, it can change alarm only one mode.

Change alarm mode: #44#sensor-number#mode#

Sensor number can be 1 or 2, means sensor 1 or sensor 2, mode can be 1, 2, 3. Mode 1 means NC mode, only alarm when two terminal close. 2 means NO mode, only alarm when two terminal open; 3 means NO/NC mode, it will alarm when two terminal closed or open.

• Auto control power when sensor trigger

When wired sensor trigger, it can set to auto change power status, this can be use for home power smart control. For example, when wired sensor detect human motion, auto turn on power for some seconds. The command to set auto control power as following:

Sensor trigger, auto turn on 230V power: #42#220#time#

Time range is 0-1800, it means turn on power for 0-1800 seconds. Set time 0, it turn off this function. Default value is 0.

Sensor trigger, auto turn on 12V DC power: #42#12#time#

Time range is 1-1800, it means when sensor trigger, auto turn on 12V DC power output for 1-1800 seconds. Default value is 60.

When sensor trigger, it can be both turn on 230V and 12V DC power according settings.

• Control 12V DC output

It can send SMS to turn on/off 12V DC output, when set 12V DC constant on off, then it will close sensor auto control 12V function.

Turn 12V DC power- ON: #42#12#1#

Turn 12V DC power- OFF: #42#12#0#

• Advanced settings

SMS when on/off button pressed

Default send SMS when M button pressed, Master send SMS to set:

SMS when on/off button pressed - ON (Default): #03#1#

SMS when on/off button pressed - OFF: #03#0#

SMS when power lost or restore

Default sending SMS notify when main power supply lost or restore. Master send SMS to set:

Power lost or restore SMS - ON (Default): #05#1#

Power lost or restore SMS - OFF: #05#0#

Reset factory settings

Reset factory settings if you want to change or forgot Master number. There are two methods to reset factory setting:

- Method 1: Master send following SMS to:

Reset factory setting: #08#1234#

- Method 2: Keep pressing the M button for 10 seconds, it will long beep and reset factory setting.

• SMS command list

Category	Function	Command
Define the users	Register Master-number	#00#
	Add User-number	#06#User-Number#
	Check User number	#06#
	Delete User-number	#15#User-Number#
	Delete all User-number	#15#
Power Control	Calling control power - ON	#09#1#
	Calling to turn on power for some seconds	#09#2#time#
	Calling control power - OFF	#09#0#
	SMS when calling control - ON	#41#1#
	SMS when calling control - OFF (default)	#41#0#
	Power - ON	#01#0#
	Power - OFF	#02#0#
Delay control	Turn ON power after some minutes	#12#0#Minutes#1#
	Turn OFF power after some minutes	#12#0#Minutes#0#
Schedule control	Set schedule control parameters	#20#0#WorkDay#StartTime#EndTime#
	Schedule control - ON	#19#0#1#
	Schedule control - OFF	#19#0#0#
Temp control	Set temp control parameters	#24#0#mode#low-temp#high-temp#Warming=1; Cooling=2
	Temp control - ON	#23#0#1#
	Temp control - OFF (default)	#23#0#0#
Temperature alarm	Temp alarm - ON	#21#0#1#
	Set temp range	#22#0#MinTemp#MaxTemp#
	Temp alarm - OFF (default)	#21#0#0#
Power Monitoring	Check voltage and power	#51#
	Check yesterday power consumption	#52#1#
	Check this week power consumption	#52#2#
	Check this month power consumption	#52#3#
	Set power load alarm - ON	#53#0#1#
	Set power load range	#53#0#Low-Value#High-Value#
	Set power load alarm - OFF	#53#0#0#
	Daily report power consumption	#54#1#
	Weekly report power consumption	#54#2#
	Monthly report power consumption	#54#3#
Report power consumption - OFF	#54#0#	
Sensor alarm	SMS when sensor alarm - ON (default)	#40#1#
	SMS when sensor alarm - OFF	#40#0#
	Change sensor name	#43#sensor1#Sensor2#
	Change alarm mode	#44#sensor-number#mode#
Sensor trigger, turn on power	Sensor trigger, auto turn on 230V power	#42#220#time#
	Sensor trigger, auto turn on 12V DC power	#42#12#time#
Control 12V DC	Turn 12V DC power - ON	#42#12#1#
	Turn 12V DC power - OFF	#42#12#0#
SMS notifications	SMS when on/off button pressed - ON (Default)	#03#1#
	SMS when on/off button pressed function - OFF	#03#0#
	SMS when power lost or restore - ON (Default)	#05#1#
	SMS when power lost or restore function - OFF	#05#0#
	SMS to Users - ON (Default)	#16#1#
	SMS to Users - OFF	#16#0#
Check status	Check status	#07#
	Check "Delay Control" status	#34#
	Check "Schedule control" status	#33#
	Check "Temp control" status	#32#
	Check "temp alarm" status	#35#
	Check GSM signal	#27#
	GSM signal alert - ON	#27#1#
GSM signal alert - OFF (Default)	#27#0#	
Reset socket	Reset to factory setting	#08#1234#

• Technical specification

Max power loading:	16A 3500W (Two lines control)
Power input:	AC 110~230V
Power output:	AC 110~230C, DC12V (max 200mA)
	Cat1 LTE FDD: B1, B3, B5, B7 ,B8 ,B20
GSM frequency:	LTE TDD: B40
	2G support.
Temperature sensor type:	DS18B20
Temperature sensor range:	-30 to 100 degree
SIM card slot:	standard size SIM card
Wired sensor input:	NO (normal closed) or NC(normal open)