



“Automation Gone Cellular”

Model CS-100

User Manual

A product of:

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Cell Switch™

Model CS-100

Remote Controller

User Manual



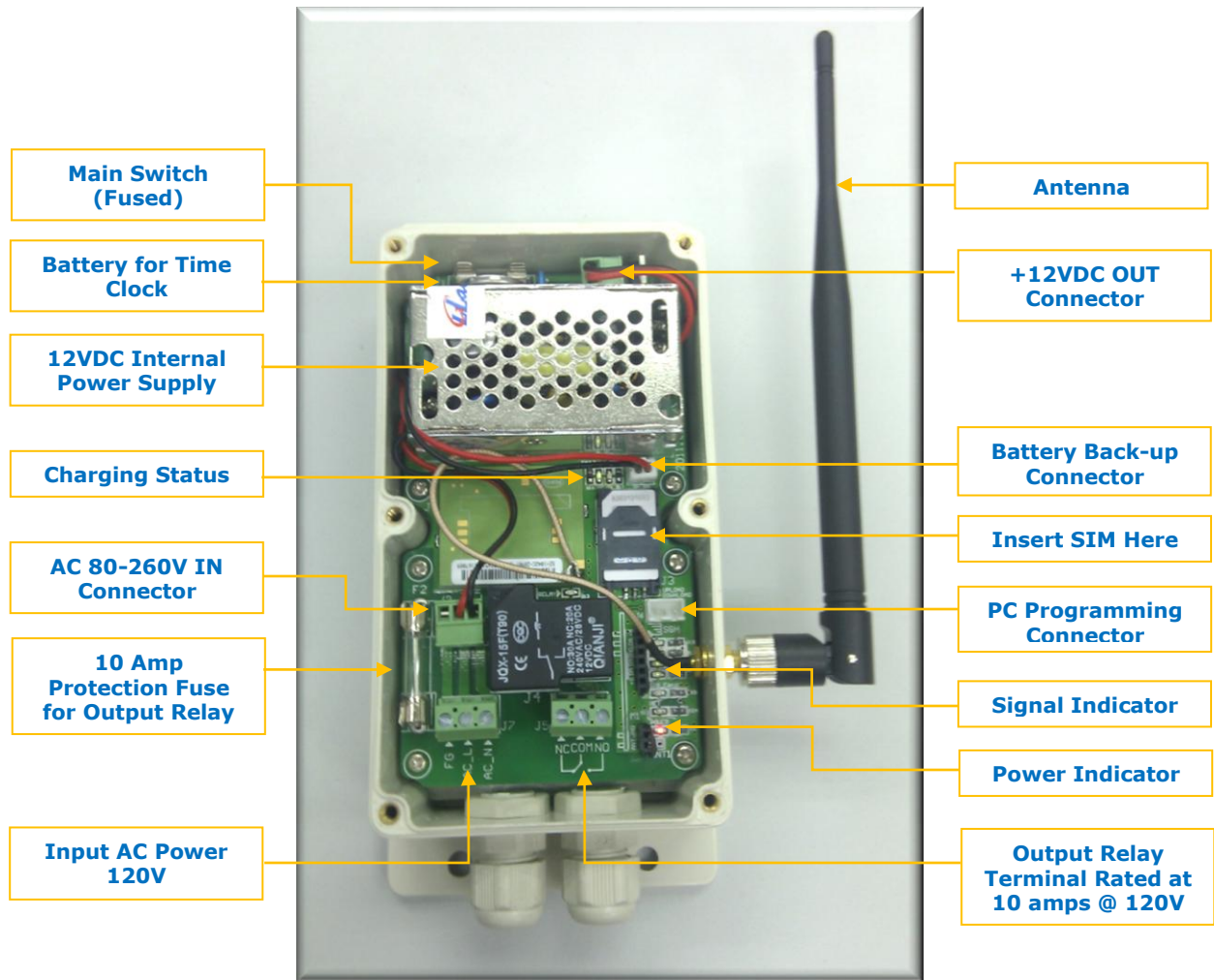
IMPORTANT!

Please read through the instruction manual before you start to install and program the device.

If you are unsure how to connect the device you wish to control please refer to a qualified person.

Description:

The CELL SWITCH™ MODEL CS-100 is to be a versatile option as a Single Output Relay system with normally open and closed contacts to provide a low cost solution for a wide range of applications only requiring a simple on/off command. It is activated by calling its cell phone number and it will reject the call without answering and switch on the device connected to it. There is no call costs incurred when dialing the unit and it will only recognize an authorized telephone number calling it and reject unauthorized callers the call without answering. The system has the capability to load up to 25 numbers in the white list as authorized users and the single output relay can be programmed to switch on for a pre-determined length of time whenever the CELL SWITCH™ MODEL CS-100 is called, alternatively the output relay can be permanently switched on or off by sending the CELL SWITCH™ MODEL CS-100 a text message.



Requirements:

A mobile phone SIM card with sufficient credit to send confirmation text messages when programming the CELL SWITCH™ MODEL CS-100 unit. It is our recommendation to utilize a T-Mobile SIM card with unlimited nationwide messaging. If the unit did not arrive preloaded with a SIM Card it is important to follow the following step:

SIM Card Configuration: You must remove the PIN request from the SIM before inserting it in the unit; otherwise the device will not work. This can be done either by the provider or simply insert the SIM in a T-Mobile phone and disable the PIN Request and the Voicemail function. It is important to make sure that the voicemail does not pick up the call.

Installation:

To install the **CELL SWITCH™ MODEL CS-100** you will need to mount the unit within the close proximity of a 120V power supply and the device you wish to control. The **CELL SWITCH™ MODEL CS-100** comes with its own 12 Volt Amp Internal Power Supply all mounted in an IP65 Enclosure and rated for indoor our exterior applications. The unit is supplied with a 10 amp rated plug to enable the easy connection to appliances.

Once you have installed the **CELL SWITCH™ MODEL CS-100** and make the required connections to the device to be controlled the SIM Card can now be Installed in the Holder as described in the schematic drawing and the Power Supply connected and Switched on.

The Signal Led (Green) on the board will oscillate infrequently until it finds and logs on to the Network and will then flash every 3 seconds constantly and if does not happen then the unit has not logged on and it may be required to use an extension antennae or alternative network provider.

Once the system has logged on the Network the first thing you need to establish is the actual Signal Strength of the Location of the Installation to secure a constant signal strength for the reliability of the **CELL SWITCH™ MODEL CS-100** and this can be done by simply sending the following SMS Text message to the unit.

***PSSW*SGH?**

The system will now send back a report to indicate the Signal Strength at the location of the **CELL SWITCH™ MODEL CS-100** and you will receive a similar message as follows.

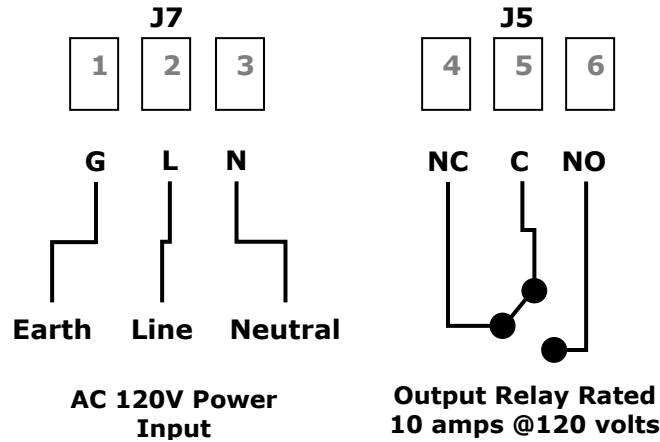
The Signal Strength range can typically vary from **"3-31"** of which it is suggested that a consistent Signal Strength acceptable should be at least 12 and above as the signal network strengths can vary dramatically.

Connection Details:



The unit is shipped prewired as a normally open contact, this means that when the relay is activated the device that is connected the unit will be turned on. If for some reason you would like the device to be on all the time then the unit should be wired as normally closed. The wire on J5 Pin 6 should be moved to J5 Pin 4.

Warning: The unit should be unplugged before opening the cover and making any changes. If you are unsure how to connect the device you wish to control please refer to a qualified person.

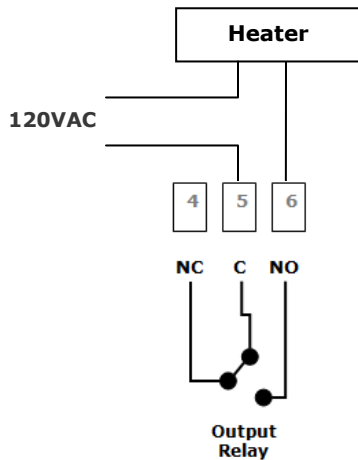


Port	Descriptions
1	Earth (GND)
2	Line (L)
3	Neutral (N)
4	NORMALLY CLOSED (N.C)
5	COMMON (COM)
6	NORMALLY OPENED (N.O)

Supply AC Power 120V to the unit

OUTPUT RELAY 10 amps @120 volts Max.

Example Connections



A heater connected to output relay. When the **CELL SWITCH™ MODEL CS-100** is activated the relay contact will switch from the NC position to the NO position thus making the circuit and the heater will be switched on

Factory Default Settings

The default settings are, open access mode*, the default password is 12345

* Any call to the CELL SWITCH™ MODEL CS-100 will activate the unit

Programming the CELL SWITCH™ MODEL CS-100

The CELL SWITCH™ MODEL CS-100 is programmed by sending it SMS text commands from a mobile phone, these are sent to the telephone number of the SIM card installed in the CELL SWITCH™ MODEL CS-100 .

The password command must pre-fix all SMS text commands it is recommended the default password be changed.

Remember that all SMS text commands must always be sent in **CAPITAL LETTERS**

DO NOT add spaces or any other characters otherwise the system will simply ignore the commands

Programming Commands

The **CELL SWITCH™ MODEL CS-100** is pre-programmed and controlled by sending certain SMS Text Messaging to the unit and is password protected with a factory default setting of five digits preset at ***PSSW12345** and this prefixes any commands to the unit.

Changing the Password

It is possible to Change this password to another 5 digit number by sending the following SMS Text message to the unit and we assume the new Password is **54321**

***PSSW12345*NPW=54321**

You will receive the following message back from the unit to confirm the password has been changed
NPW=54321

The new password is now ***PSSW54321**

Checking Signal Strength

***PSSW*SGH?**

The system will now send back a report to indicate the Signal Strength at the location of the *CELL SWITCH™ MODEL CS-100* and you will receive a similar message as follows.

SIGNAL STRENGTH < 14 > which indicates a mid range of Signal Strength and is acceptable to maintain a constant network as the networks will vary and can drop as low as < 5 > and any lower the unit can well log off the network and Latch off the Relay if active and give the indication that the unit is faulty when it is only subject to no Signal Strength.

In this instant the unit will consistently search and communicate with the network until it have re-established a network link and log back on!

If this happens on a regular basis it is suggested you install an additional External Antenna.

Output Relay Latch Time when called

The *CELL SWITCH™ MODEL CS-100* can be programmed to latch the Relay from a period of from 1 second up to 12 hours when called and this allows a vast range of flexibility for many applications from Automatic gates to switching on heating and lighting and remote re-setting of servers etc.

This function can be operated in two modes of security which can be set as desired and the factory default is "**Open Mode**" meaning any person who has access to the actual SIM Card telephone number of the unit can operate the system and this is usually only used for setting up the system or for low security applications based on applications of convenience.

The other mode of operation is the "**Security Mode**" which only allows the persons who have their telephone numbers entered into the security list of the unit to access the system and this is usually also done once all the pre-programming of the telephone numbers has been programmed into the system and the Latch times set. (For additional information see Setting Security Mode below)

The *CELL SWITCH™ MODEL CS-100* comes preset to latch the relay for a period on 1 second and to change this latching period time to say 1 hour you would use the following programming command which is always calculated in seconds with 5 digits and therefore the command would be sent as **03600**.

To pre-program to unit to latch the relay for 1 hour when called you would send the following SMS Text message to the unit, using the new password ***PSSW54321**

***PSSW54321*RLY=03600** and the unit will return the following SMS Text Message.

RELAY SET - 03600 and the Relay of the unit will now latch for one hour whenever the unit is called (Subject to authorization of the number if Security Mode Set)

In addition to the pre-programmed latching time when the unit is called, it is also possible to temporary or permanently latches the Relay via SMS Text message without affecting the existing programming function when the unit is called.

If it is required to latch the relay temporarily for say 2 hours you would use the following SMS text command and again based on seconds.

***PSSW54321*RLYT=07200** and the unit will return the following SMS Text Message.

RELAY TEMP 07200 and the relay has been temporarily latched for 2 hours as set in seconds.

If you require to latch the Relay permanently "**ON**" and back "**OFF**" again this can be done by using the following SMS Text commands.

To latch the relay permanently **"ON"** you would send the following SMS text command to the unit.

***PSSW54321*RLYP=ON** and the unit will return the following SMS Text Message.

RELAY <P> ON

To latch the relay permanently back **"OFF"** you would send the following SMS text command to the unit.

***PSSW54321*RLYP=OFF** and the unit will return the following SMS Text Message.

RELAY <P> OFF

If you need to check the status the Relay and what mode it is you can send a SMS Text request using the following command.

***PSSW54321*RLY?** And the unit will return the following SMS Text Message. (Example assuming Relay is still part active after programming to be on for 2 hours and 1 hour remaining.

RELAY ON 03600

If the relay has been programmed as permanently on the unit will return the following S.M.S Text message.

RELAY ON <P>

If the Relay is inactive the unit will return the following SMS Text message.

RELAY OFF

SMS Report after latching the unit by calling the unit

It is possible to receive a text message whenever the Relay is latched via Phone Call which will report both **Relay On** and **Relay Off** to the user that has call the unit and only practical for certain infrequent applications and the factory default for this function is off.

To enable this function you would send the following SMS text message to the unit.

***PSSW54321*RLYM=ON** and the unit will return the following SMS Text message

RLYM-ON and the unit will return both **Relay On** and **Relay Off** status SMS Text messages when called.

To turn this function off you would send the following SMS Text Message to the unit.

***PSSW54321*RLYM=OFF** and the unit will return the following SMS Text Message

RLYM=OFF and this function is now disabled.

Programming in the administrator number in the system

It is possible to program 1 administrator number into the system that will be recognized as authorized number that have programming access to the system as well as activate the device it is connected to.

To add 09876543210 as the administrator you would send the following SMS text message to the unit
***PSSW54321*ADM1=09876543210**

Programming in the authorized telephone numbers in the system

It is possible to program up to **250 Land line or Mobile Phone** Numbers into the system that will be recognized as authorized numbers that can access the system and activate the Device it is connected to. All telephone numbers can be programmed into the system using only the 7 digits of the telephone number as the system will scan the numbers of the last digits and accept and authorize that number to allow access to the system and will then reject the incoming call and activate the Relay as set and operate the device it is connected to. Any Unauthorized numbers calling the unit will result in the system rejecting the call and refusing access to the system .

It is Possible to program up to **5 telephone numbers** into the system using the same SMS Text command and you would use the following command to enter the first 5 examples of numbers, based on using the last 7 digits of the number.

***PSSW54321*CLD01=1212121,CLD02=1313131,CLD03=1414141,CLD04=1515151,CLD05=1616161** and the unit will return the following SMS Text Message.

**CLD01=1212121
CLD02=1313131
CLD03=1414141
CLD04=1515151
CLD05=1616161
END**

Please note that you can 5 telephone numbers into the system using the same SMS text command only for up to the first 25 authorized users.

If you wish to just replace a number you can just replace say number 6 in the list by sending the following SMS Text command

***PSSW54321*CLD06=156561** and the unit will return the following SMS Text Message.

CLD06=1561561 and the previous number **"1717171"** has been replaced with **"1561561"**

If the list number is more than 25, you can only program individual telephone number in 1 text message like the below example

***PSSW54321*CLD26=1735399**

If the list number goes above 100, you would send the text command like the following example

***PSSW54321*CLD100=1324590**

If you require checking or confirming what numbers are in the **"Authorized List"** you can either request all of the numbers in the list or request any particular one number in the list.

To request a single number stored you would send the following SMS Text Message to the unit.

***PSSW54321*CLD05?** And the unit will return the following similar SMS Text Message.
CLD05=1616161

Setting the Security Mode

Once all the telephone numbers have been programmed into the system you can now set the **"Security Mode"** and to program this you would send the following SMS Text message to unit.

***PSSW54321*SSM=ON** and the unit will return the following SMS Text Message.

SSM=ON and the **"Security Mode"** is on

To set the system back to **"Open Mode"** you would send the following SMS text message to the unit

***PSSW54321*SSM=OFF** and the unit will return the following SMS Text Message.

SSM=OFF and the **"Open Mode"** has been set to factory default.

Setting the Operating Time for Output relay

The system has the function to activate the output relay up to twice a day at a programmable time. To program the operating time for output relay you would send the following text command to the unit.

***PSSW54321*SMW=SS,MM,HH,TTT,G;**

SS is a 2 digits value stand for seconds

MM is a 2 digits value stands for minutes

HH is a 2 digits value stand for hours

TTT is a 3 digits value stand for Turn ON time in seconds

G stands for Group (Time Section) number **1 - 2**

For example assume that you want the output relay to turn on for 20 seconds at 8.30am, you would send the following SMS message to the unit.

***PSSW54321*SMW=00,30,08,020,1;**

The unit will return the following SMS Text Message.

SMW=00,30,08,020,1;

For example assume that you want the output relay to turn on for 100 seconds at 6.00pm for the second time section, you would send the following SMS message to the unit.

***PSSW54321*SMW=00,00,18,100,2;**

The unit will return the following SMS Text Message.

SMW=00,00,18,100,2;

Setting the Time Clock

To set the time, you can send the following SMS command to the unit. The time must enter in 24 Hour format.

***PSSW54321*TSET=SS,MM,HH;**

SS is a 2 digits value stand for seconds

MM is a 2 digits value stands for minutes

HH is a 2 digits value stand for hours

For example to set the time 8.00am, you would send ***PSSW54321*TSET=00,00,08;** to the unit and the unit will return the following SMS text message **TSET=00,00,08;**

To check the time clock you may send text command ***PSSW54321*TREAD?** to the unit and the unit will return the following SMS text message **The time is SSMMHH: 00,00,08;**

Power Down Alarm

The system has the function to send a text alert in the event the main power is lost and the system is relying on battery backup.

When power failure you would receive the following text message from the unit

POWER DOWN

When power restored you would receive the following text message from the unit

POWER RESTORED

Battery low Alarm

The system has the function to send a text alert in the event the battery is running low.

You would receive the following text message from the unit when battery low

Battery low voltage

Reset the CELL SWITCH™ MODEL CS-100

To reset the system to factory default you would send the following SMS Text message to the unit.

PSSW54321*RESET and the unit will return the following SMS Text Message.

<UNIT RESET>

Warning!

This command will reset the password to *PSSW12345 and the reset the output latch time to 1 second and completely wipe the numbers stored with the memory of the system!

Specifications

Model	CELL SWITCH™ MODEL CS-100
Operating Voltage	12 or 24V DC
Operating Current	Maximum 500mA, typically 55mA
Relay Connections	Normally Open, Normally Closed & Common Contacts
Relay Contacts	NC: 10A@120VAC/28VDC NO: 20A@120VAC/28VDC
GSM Frequency MHz	GSM850, GSM900, GSM1800, GSM1900
Humidity	Less than 80% RH
Operating Temperature	-20°C to 55°C
Physical size	157 x 90 x 60 mm
Protection	IP65
Weight	800 Grams
Approvals	C.E.