

Cellswitch 500 User Guide



Use your cellphone to remotely monitor and control a wide variety of applications.

- **Access Control:** Open your gate or Garage with your cellphone
- **Security:** Electric Fence / Power-failure / Fire Sensors / Alarm Sensors
- **Home Automation:** Under-Floor Heating / Geyser / Lights / Plugs / Stove
- **Industrial:** Cold Room Monitoring / Temperature Monitoring
- **Farms:** Pivot control / Irrigation / Water-level / Security

Specifications

Power Supply

- Power: 12Vdc at 500mA
- Average Power Consumption: 20mA at 12Vdc

Digital Inputs

- Trigger voltage: 3Vdc to 30Vdc
- The inputs are internally pulled low to 0V.
- Applying 12Vdc will trigger the input.
- Inputs are configurable to send sms's or as counters.

2 X Relay Outputs

- Max Current: 5Amp
- Max Voltage: 230Vac
- Type: N/O COM N/C

Physical Dimensions

- Length = 107mm
- Width = 70mm
- Height = 57mm
- DIN Rail Mount

Antenna

- External SMA Connector

Notes

Sim card

- Use any pre-paid or contract sim.
- Disable the sim card's pin number before installing it into the Cellswitch.
- If a pin code is required use 2356.
- Ensure that there is normal airtime available on the sim.
- Check the airtime by sending the following sms to the device [1234.airtime](sms:1234.airtime)

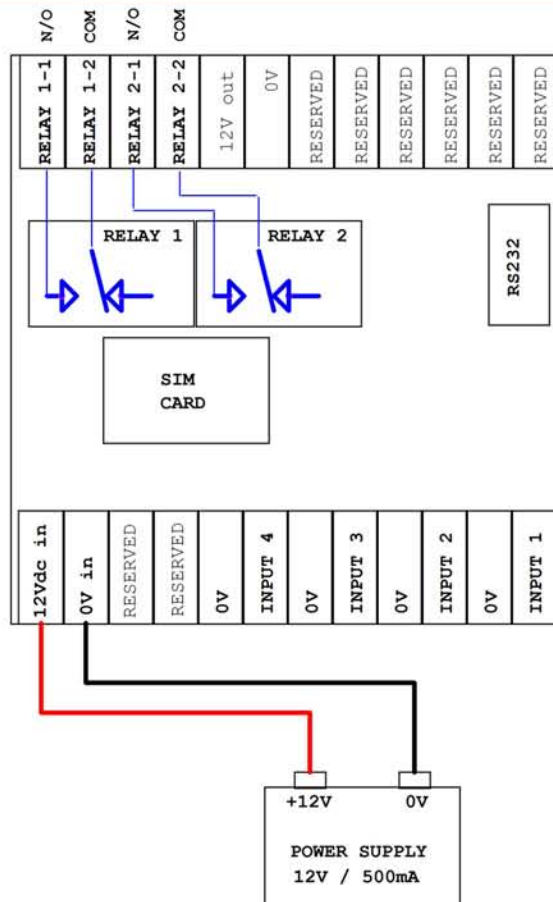
Antenna

- Do not place the antenna in a metal enclosure or against a metal object.
- Check the signal strength by sending the following sms to the device [1234.signal](sms:1234.signal)
- The signal strength must be between 20 and 30.

Status Led

- On power-up the led will turn on, off and then on again.
- After 10 seconds it will start to flash every 1 second.
- If LED stays on see FAQ & Troubleshooting

Output Diagram



Features

Controllable by missed-call and sms	Simply call the device with your cellphone to control the output.
Smart phone app to control multiple Cellswitches	Use our smart phone app to seamlessly control multiple access control, home, agri and industrial automation applications
1500 Programmable cellphone security numbers	Up to 1500 programmable cellphone numbers can be recognized by the device when it is used for access control.
Program and monitor remotely by using our secure website or by sms commands	www.accentronix.com - USER LOGIN -
4 x Digital Inputs	To monitor alarms, sensors, etc.
2 x Relay Output	To switch lights on/off, open gate/garage, etc.
5 x Programmable reporting cellphone numbers	The device can SMS and call up to 5 different cellphone numbers when an input is triggered
Status reports by email	The device can automatically send status reports containing Airtime, Access control logs and IO Status.
Can be configured as a standalone Alarm system.	Connect motion sensors and a siren directly to the Cellswitch. Arm and Disarm remotely by missed-call or sms.
Utility meter function	Monitor water or electricity meters remotely.
Machine-to-Machine interfacing	Remotely connect I/O's by using two or more Cellswitches to communicate with each-other.

How does it work?

The Cellswitch is a kind of cellphone you connect to an electronic appliance or device to enable you to communicate with it using your own cellphone. You insert a pre-paid or contract sim card into the Cellswitch and communicate with by sending it a SMS or by simply calling it, as you would SMS or call your friend.

When the Cellswitch recognise your SMS or cellphone number it will respond in a certain way.

Any sim card may be used. The unit uses roughly R10 airtime per month to operate. Airtime is also used when the units sends sms's and when it connects to the server to be updated.

What about security?

Your Cellswitch will ONLY respond to missed calls from programmed cellphone numbers.

The **1234** in front of every SMS command is a password that you can change whenever you want.

How easy is it to use?

Your cellphone communicates directly to your Cellswitch by missed call or easy to understand SMS commands. Our smart-phone app makes it even easier.

Simply type a SMS with the words **1234.On** and send it to the cellphone number of your Cellswitch and your lights, geyser, irrigation system etc will switch on from any where in the world!!!

Simply SMS **1234.Off** to switch it off again!

Connect your Cellswitch to your gate or garage door and call it. You can now get access to your property or open the gate for the garden service without even being there.

The call is free as the Cellswitch does not answer the call but simply recognises the calling number and disconnects the call automatically. Please note the Caller Line Identification must be enabled on your cellphone.

How easy is it to program?

Simply log onto our secure, easy to use website www.accentronix.com, register as a user, register your Cellswitch by using the cellphone number of the sim card you are using and follow the easy to understand instructions.

This method is great for a body corporate to add and remove security access control cellphone numbers at security complexes. This eliminates the need for remote controls as the Cellswitch can remember up to 1500 cellphone numbers. Every time someone moves in or out, the body corporate simply log onto our website, add or remove those people's cellphone numbers, hit update and DONE!

How many different devices can I monitor and control?

With the Cellswitch 100 you can monitor two different devices and control one at the same time. In other words you can monitor your alarm system, mains power and open and close your gate with a single device.

When your alarm trips, it will SMS and call you, your family and your neighbours notifying them someone is busy breaking into your house. You can then phone your neighbour and open the gate for him remotely to go and investigate the situation.

Getting Started

- Step 1** Using your cellphone, ensure that the PIN number of the SIM card is disabled and there is airtime available on the sim before inserting it into the Cellswitch. Make sure that there is normal airtime loaded on the sim. The sim pin may be set to 2356 if necessary.
- Step 2** Connect Power. The status led will turn on for a couple of seconds and then start to flash. See the troubleshooting section if it stays on.
- Step 3** Phone the number of the sim card inserted into the Cellswitch. You will hear one ring after which your call will automatically be disconnected.
- Step 4** Send a sms with the text **1234.signal** to the Cellswitch to retrieve the signal strength. The Cellswitch will reply with a sms containing the signal status. It must be between 20 and 30.
- Step 5** Send a sms with the text **1234.airtime** to the Cellswitch to retrieve the airtime. If there is airtime available on the sim and if it is not a contract sim, you will receive a reply sms containing the available airtime.
- Step 6** Log onto www.accentronix.co.za to register and configure your Cellswitch. Use the website to remotely monitor and manage all your Cellswitches from our secure, easy to use website.

Access Control

- Step 1** Follow Getting Started section above
- Step 2** Install the Cellswitch into the gate motor enclosure. Connect the power terminals directly to the battery.
- Step 3** Connect the N/O COM terminals of the Cellswitch over the N/O COM terminals of the gate remote receiver
- Step 4** Check that the signal strength is between 20 and 30. **1234.signal**
- Step 5** Add the access control numbers at www.accentronix.co.za

Home Automation

- Step 1** Follow Getting Started section above
- Step 2** Connect the Cellswitch n/o com output through a 10Amp relay to the geyser.
- Step 3** In the "Custom sms commands" section on www.accentronix.co.za, change the ON command to "Geyser on" and the OFF command to "Geyser off".

Alarm Panel Monitoring

- Step 1** Follow Getting Started section above
- Step 2** Connect digital input 1 of the Cellswitch directly to the siren output or to a programmable output on the alarm panel.
- Step 3** Connect the Cellswitch n/o com outputs to the programmable Arm/Disarm inputs on the alarm panel.
- Step 4** Connect the power directly to the alarm battery.
- Step 5** Add the cellphone numbers that must receive the alarm sms's in 'Reporting Options' section.
- Step 6** Add the sms messages that needs to be sent in the 'Digital Input Options' section.
- Step 7** Add the Cellphone numbers that may arm/disarm the alarm in the "Access Control" section.

Power Fail Monitoring

- Step 1** Follow Getting Started section above
- Step 2** Connect the Cellswitch power directly to a 12V alarm battery and power supply.
- Step 3** Connect the coil of a 230Vac relay to the Live and Neutral of your Eskom power. The relay will then be energized while Eskom power is available.
- Step 4** Connect the COM terminal of this relay to the 12Vdc terminal of the Cellswitch. Connect the N/O terminal of the relay to the Input 1 terminal of the Cellswitch.
- Step 5** Add the cellphone numbers that must receive the Power Fail/Restored sms messages in 'Reporting Options' section.
- Step 6** Add the sms messages that needs to be sent in the 'Digital Input Options' section i.e. "Power Fail" and "Power Restored"

Temperature Monitoring

- Step 1** Follow Getting Started section above.
- Step 2** Connect the LabTemp expansion board to the Cellswitch RS232 port.
- Step 3** Click on the 'Enable LabTemp board' block in the 'General Setup' section.
- Step 4** Follow the 'Power Fail Monitoring' section above.
- Step 5** Connect up to 3 digital temperature probes (-55 to 125'C).
- Step 6** Complete the Alarm Delay Time and Max/Min temperatures in the 'LabTemp Expansion Board' section.
- Step 7** Send the **1234.stat1** sms command to get the current temperature status.

Add additional I/O's to the Cellswitch

- Step 1** Follow Getting Started section above.
- Step 2** Connect the I/O expansion board to the Cellswitch
- Step 3** Power the Expansion board with 12Vdc
- Step 4** Click on the 'Enable IO board' block in the 'General Setup' section
- Step 5** Send the **1234.status** sms command to get the current status.
- Step 6** Send **1234.io1on** or **1234.io1off** to control output 1
- Step 7** Send **1234.expon"246"** or **1234.expoff"246"** to control outputs 2,4 and 6 simultaneously.

Analogue Sensor Monitoring (4 to 20mA)

- Step 1** Follow Getting Started section above
- Step 2** Connect the LabTemp expansion board to the Cellswitch RS232 port.
- Step 3** Click on the 'Enable LabTemp board' block in the 'General Setup' section
- Step 4** Complete the Scaling, Units, and Max/Min triggers in the 'LabTemp Expansion Board' section.
- Step 5** Send the **1234.stat1** sms command to get the current analogue status.

SMS Commands

- When sending a sms command to the Cellswitch, make sure that there is no spaces in front or after the text.
- The 1234 is the default password that can be changed in the 'General Setup' section on the Cellswitch portal.
- Whenever a valid command is received by the Cellswitch, it will reply with the relevant information.
- The commands are not case sensitive.

General SMS Commands

1234.signal	Request signal status
1234.airtime	Request pre-paid airtime
1234.email	Send email report now
1234.clear	Clears email logs (logs are automatically cleared on the 1'st of every month)
1234.status	Request Input and Output status
Reset	'Reset' Reboots the device

Control Commands

Cellswitch 100 and 500

1234.on	Switches output 1 On
1234.off	Switches output 1 Off
1234.pulse	Switches output 1 On and Off

Cellswitch 500

1234.on2	Switches output 2 On
1234.off2	Switches output 2 Off
1234.pulse2	Switches output 2 On and Off

I/O Expansion Board

1234.io1on	Switches output 1 On
1234.io1off	Switches output 1 Off
1234.io8on	Switches output 8 On
1234.io8off	Switches output 8 Off
1234.expon"12345678"	example: 1234.expon"1357" switches 1,3,5 and 7 on
1234.expoff"12345678"	example: 1234.expoff"1357" switches 1,3,5 and 7 off

LabTemp Expansion Board

1234.stat1	Request temperature probe and analogue values
------------	---

Other Commands

Alarm Mode

1234.alarmmodeon	Changes CellSwitch into stand alone alarm system
1234.alarmmodeoff	
1234.arm	Arm Alarm
1234.disarm	Disarm Alarm

Input Counters

1234.in1countenabled	Pulse count on Input 1 Enabled
1234.in1countdisabled	
1234.in2countenabled	Pulse count on Input 2 Enabled
1234.in2countdisabled	
1234.trigin1"5000"	Input 1 Pulse Count Trigger
1234.trigin2"5000"	Input 2 Pulse Count Trigger
1234.saveint"30"	Input pulse count saving interval (In Minutes)
1234.saveint"ALWAYS"	
1234.resetcounter1	Reset Pulse counter 1
1234.resetcounter2	Reset Pulse counter 2

Web Portal

← → C <https://cellswitchportal.co.za/cellswitch/devicelist.aspx> Q ☆ ☰

Getting Started Latests Headlines Bookmarks Mail

ACCENTRONIX
YOU IMAGINE WE CREATE

ACCENTRONIX HOME DEVICE LIST REGISTER DEVICE LOG OUT

Device List Refresh

	Device Name	Device cell number	Type	Signal	Airtime	Last Comms	Status	Delete
Select	WORCESTER HUIS HEK	+27822334455	Cellswitch 100	29	R2.84	2013-07-17 12:00:34 PM	●	✖
Select	WORCESTER HUIS GARAGE	+27822334455	Cellswitch 100	28	R32.08	2013-07-17 12:00:44 PM	●	✖
Select	DANTES COVE GARAGE	+27822334455	Cellswitch 100	28	R2.66	2013-07-17 12:00:40 PM	●	✖
Select	ACCENTRONIX ALARM	+27822334455	Cellswitch 100	22	R44.23	2013-07-17 12:00:41 PM	●	✖
Select	EMAIL TEST 3	+27822334455	GSM Intercom 1000	20	R5.60	2013-07-09 09:22:11 AM	●	✖

General Setup

Device Name:

Device Cellular number:

Device SMS Password:

Enable M2M mode

Automatically Reset device every hours.

Expansion Boards

Enable IO board

Enable LabTemp board

SMS Reporting Options

Reporting Options

SMS the reporting numbers

Dial the reporting numbers

Reporting Numbers

Reporting Number 1:

Reporting Number 2:

Reporting Number 3:

Reporting Number 4:

Reporting Number 5:

Report Settings

Status Report Options

Send weekly status report

Email Reporting Options

Status report time:

Email address 1:

Email address 2:

Output Relay Options

Output Mode

When a call is received, **Output 1** will:

Toggle

Switch ON for: seconds

Send output switching confirmation SMS

Output 1 reply sms

Output 1 On message:

Output 1 Off message:

Output 1 Pulsed message:

Remember output relay state when powered off

Output Timers

Output 1 Timers

Enable/Disable timer 1

Timer 1 ON Time Timer 1 OFF Time

Enable/Disable timer 2

Timer 2 ON Time Timer 2 OFF Time

Digital Input Options

Global Input Options

SMS will be sent when an input goes HIGH

SMS will be sent when an input goes HIGH or LOW

SMS will be sent when an input goes LOW

Input 1 Options

Input 1 Trigger Message (HIGH):

Input 1 Trigger Message (LOW):

Input 1 Trigger Delay: Seconds

Input 2 Options

Input 2 Trigger Message (HIGH):

Input 2 Trigger Message (LOW):

Input 2 Trigger Delay: Seconds

Custom SMS Commands

Custom SMS messages to control outputs

Output #	ON Command	OFF Command	Pulse Command
1	<input type="text" value="Geyser On"/>	<input type="text" value="Geyser Off"/>	<input type="text" value="Pulse"/>

LabTemp Expansion Board

Alarm Trigger Delay Minutes

Temperature Alarms (-55 to 125)

Probe #	High Trigger	Low Trigger
1	<input type="text" value="10"/>	<input type="text" value="-55"/>
2	<input type="text" value="25"/>	<input type="text" value="-55"/>
3	<input type="text" value="-15"/>	<input type="text" value="-55"/>

Probe #	Message (High)	Message (Low)
1	<input type="text" value="Temperature 1 High"/>	<input type="text" value="Temperature 1 Low"/>
2	<input type="text" value="Temperature 2 High"/>	<input type="text" value="Temperature 2 Low"/>
3	<input type="text" value="Temperature 3 High"/>	<input type="text" value="Temperature 3 Low"/>

Analogue Alarms (4 to 20mA)

Analogue #	Unit Display	Scale
1	<input type="text" value="Amp"/>	<input type="text" value="0"/>
2	<input type="text" value="kPa"/>	<input type="text" value="0"/>

Analogue #	High Trigger	Low Trigger
1	<input type="text" value="15"/>	<input type="text" value="0"/>
2	<input type="text" value="6000"/>	<input type="text" value="-1000"/>

Analogue #	Message (High)	Message (Low)
1	<input type="text" value="Current too High"/>	<input type="text" value="Current Normal"/>
2	<input type="text" value="Pressure too High"/>	<input type="text" value="Pressure Normal"/>

Access Control

Access Control Options

Only programmed access control numbers will be accepted when the device is called

Any number will be accepted when the device is called

Name	Cellphone Number	House/Unit No	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="button" value="Add"/>
Yolanda	0821234567	1	Save ✖
Philip	0829876543	1	Save ✖
Elsa	0721122334	2	Save ✖

FAQ & Troubleshooting

Airtime and Sim Card

- Make sure that there is always normal airtime loaded on the sim.
- The easiest way to load airtime is via online banking.
- Keep track of pre-paid airtime by the weekly email reports.
- Request the current airtime by sending the following sms to the device: **1234.airtime**
- The device uses data to communicate to the server for updates.
- A nominal amount of airtime is used every month as described in the portal T&C.
- When you phone the device for Access Control, it will be treated as a free missed call.
- When the Intercom makes a call after pressing a button, standard network call rates apply, depending on the pre-paid or contract sim in the device.
- When the Cellswitch or Intercom sends a sms, standard network sms rates apply.

Positioning Of The Antenna

- The antenna should not be placed inside a metal enclosure or inside the Intercom housing.
- Avoid positioning the antenna closer than 3cm to any metal object.
- Check the Signal Strength and Quality by sending the following sms to the device: **1234.signal**
- The device will reply with a value which must be between 20 and 30
- The minimum recommended signal for optimum performance is 20.
- If the signal is below 20, try rotating or moving the antenna to a higher position.

General Troubleshooting

Q. The Cellswitch or Intercom does not want to update!

- A.** Phone the device and determine if it rings once and disconnect. If it goes directly to voice mail, check the "Calls goes directly to voice mail" section below. If you hear one ring and it disconnects automatically, make sure that there is normal airtime available on the sim by sending it a sms **1234.airtime** If you do not receive a sms back, the airtime have most probably ran out. Log onto your online banking and load airtime on the cellphone number of the Cellswitch or Intercom. The Cellswitch uses about R120 airtime per year. After you verified the airtime, check that the signal strength is between 20 and 30 by sending the following sms: **1234.signal**

Q. When I phone the device, it rings once but does not want to open the gate. My number is programmed onto it!

- A.** Check that your cellphone's 'Caller ID' is activated. Any 'No Number' calls will be ignored.

Q. When I phone the device, it keeps on ringing and does not want to open the gate!

- A.** It is probably a Contract sim. Contact the service provider (i.e. Vodacom or MTN) and ask them to enable the CLIP 'Calling Line Identification Presentation' of the sim. The CLIP is usually enabled by default on 'pre-paid' sim cards only.

Q. Calls goes directly to voicemail!

- A.** Disconnect power from the device for 10 seconds and check that the led starts flashing after 10 seconds. If the led does not start to flash, check that the sim and antenna is connected properly.

Q. The LED stays on and does not start to flash!

- A.** Check that the sim card pin code is disabled. Remove the sim and clean the contacts.