



GSM Switch

This manual details the installation and usage of Inventech's 3rd Generation GSM Switch device.

The switch device has 2 digital inputs, 1 optical (220V) input, 2 digital outputs and 2 10A relay outputs. The digital inputs can be used to detect when an event occurs (for instance a gate is opened or a button is pressed) and a change in the state of the input (going open circuit or connecting to GND) can also cause an SMS to be sent to the ADMIN number for the device.

The 2 relay outputs can switch up to 10A and can be controlled by sending a SMS to the remote device. The device can also be enabled to Pulse Output 1 for 10 seconds when a call is received from a number that is in the local call list.

Serial and SMS commands

The device can be controlled and configured by entering commands via SMS or Serial Interface, with a usb to serial adapter.

The SMS are case insensitive and are shown in uppercase for clarity.

To prevent unauthorised access to the device, the last 4 digits of the device's serial number serve as a password. i.e. if the serial number was 12AB-34CD the command to Pulse output 1 would be PULSE 34CD 1

Getting started

When the device is delivered it needs to be configured to have an Admin number.

- Connect the antenna
- Insert your mini SIM into the SIM slot (No pin code must be present and the SIM must have airtime)
- Power on the device
- The Power LED will light and the other will begin flashing
- Wait some time (about 30 seconds) for the Modem to connect to the network
- Phone the device from your mobile phone to register your number as the Admin number. The device will acknowledge this by sending a SMS stating New Admin Registered
- Using the Admin number commands in the form of a SMS can be sent to the device. To obtain the device's ID send the command CFGSERIAL? to the device from the registered admin number. The device will reply with the serial number.

- To enable monitoring of the inputs or if using the missed call feature then the numbers need to be added to the call list by using the ADD command (see below)

Factory Resetting

There are 3 methods to reset the device back to the unconfigured state

- Sending the SMS FACTORYREST or CFGDEFAULT to the device from the Admin number
- Sending the command FACTORYREST or CFGDEFAULT to the device via the serial port interface by using a USB to Serial Dongle
- Bridging out the Rx and Tx pins on the board (the > < symbols) with a jumper or screw driver and then powering on the device as show below:



The device will indicate the a reset by rapidly flashing the User Led on the front of the unit before restarting. You need to remove the bridge before the device restarts to prevent the unit from continually restarting.

SMS and Serial Commands

<i>Command</i>	<i>Description</i>	<i>Action</i>
CFGSERIAL?	Gets the device serial number	Prints the serial number on the console or if received from the admin number will reply via SMS.
CFGDEFAULT<serial>	Resets the device to factory configuration	Erased the admin number and missed call lists.
PULSE <serial> n	Pulses the output number given by the value n	PULSE 1 will pulse OUTPUT 1 for 1 second
DURATIONPULSE <serial> n m	Pulse the output number given by the value n for the number of minutes given by m	DURATIONPULSE 1 10 will switch OUTPUT 1 ON for 10 minutes
ON <serial> n	Switches On the output given by the value n	ON 2 will switch ON Output 2
OFF <serial> n	Switches Off the output given by value n	OFF 1 will switch OFF Output 1
TOGGLE <serial> n	Toggle the output given by the value n	TOGGLE 1 will cause the value of output 1 to change state i.e. ON → OFF and OFF → ON
ADD <number>	Will add the number given by <number> to the call list. Only the ADMIN number or the Serial command will update the call list	ADD +27821234567 will add the phone number given to the call list ¹ The device will confirm by this by sending a response back to the requesting number
REMOVE <number>	Will remove the number given by <number> to the call list. Only the ADMIN number or the Serial command will update the call list	REMOVE +27821234567 will remove the phone number given to the call list ¹ The device will confirm by this by sending a response back to the requesting number.
FACTORYRESET <serial>	Resets the device to factory configuration	Erased the admin number and missed call lists. Can only be received from the ADMIN number.
RESET <serial>	Resets/Restarts the device	Will restart or reboot the device, causing it to restart and register on the GSM network
SETOFFMSG <serial> n “msg”	Sets the message text (in quotation marks) which will be sent when input n goes off (or connects to ground)	SETOFFMSG 1234 1 “POWER FAILURE AT HOME” will set the SMS message that is sent when no voltage is detected on input 1

SETONMSG <serial> n “msg”	Sets the message text (in quotation marks) which will be sent when input n goes on (or positive voltage)	SETONMSG 1234 1 “POWER RESTORED AT HOME” will set the SMS message that is sent when voltage is detected on input 1
SMSREPORT <serial> <ON/OFF>	Enables or disables sending of SMS's. SMS are sent to each number on the call list in sequence. ON is the default action	SMSREPORT 1234 ON Will enable the device to send SMSs.
MISSEDCALL <serial> <ON/OFF>	Enable or disables Output 1 when a incoming call from a matching number in the call list is received. ON is the default action.	MISSEDCALL 1234 ON Output 1 will switch “on” for 10 seconds when an incoming call from a number on the call list is received
SIGNALSTATUS	Will send the Signal strength to the requesting number	SIGNALSTATUS will reply with a value between 0 and 31 0 -115dBm or less 1 -111dBm 2..30 -110...-54dBm 31 -52dBm or greater The higher the value to stronger the signal
OUTPUTSTATUS <serial> <ON/OFF>	Will enable or disable the sending of a SMS confirmation message when either of the output changes state when requested by a SMS command or a missed call action. The default action is enabled	OUTPUTSTATUS 1234 ON Will enable the sending of a SMS to the requesting number when an output changes state.
MISSEDTOGGLE <serial> <ON/OFF>	Will change the action of the missed call from a Pulse to Toggle The default action is Pulse i.e. MISSEDTOGGLE is OFF	MISSEDTOGGLE 1234 ON Will toggle output when a incoming call from a number in the missed call list is detected. Missedcall needs to be ON for this to have any action on output 1

¹ The call list is a list of 10 numbers that will be SMS'ed when either the mains fails on Input 1 or the state of Input 2 changes. If enabled a call from a number in the call list will

cause the OUTPUT 1 to PULSE for 1 second when a call is received by the GSM device. The call is not answered but terminated resulting in no charge. This function is useful to either restart a system or open a electronically controlled security gate.

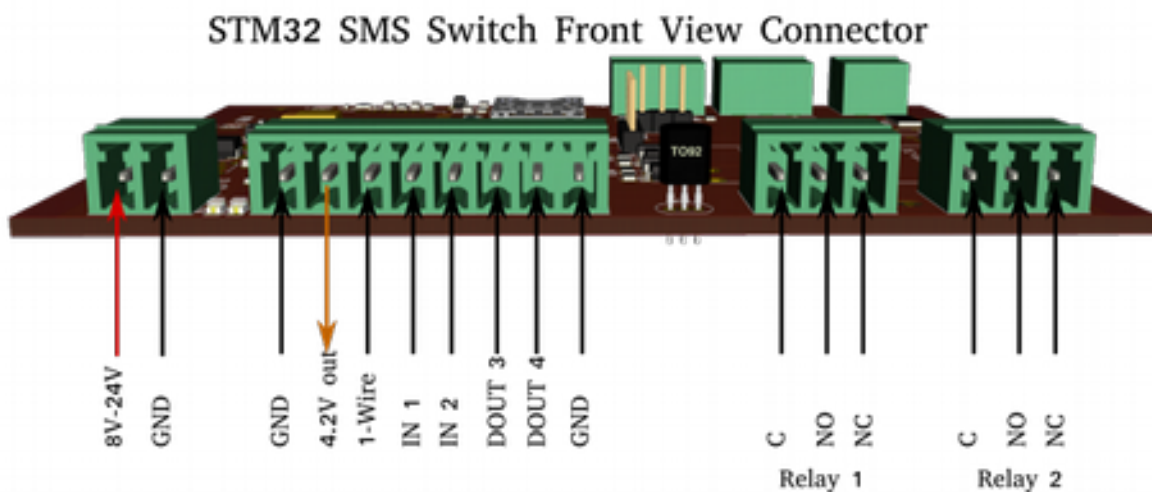
ADMIN number, by default no ADMIN number is configured. The first incoming call will be registered as the ADMIN number for this device. The ADMIN number can be reset by sending the device a FACTORYRESET command.

NOTES ABOUT NUMBER FORMAT

The device only accepts numbers in the international 10 digit format i.e. +27821234567

Connecting the Switching device.

The device has pluggable connectors so it is required to wire to connector and then plug this into the device when done. This makes it simple to replace a faulty unit if required.



STM32 SMS Switch Rear View Connector

