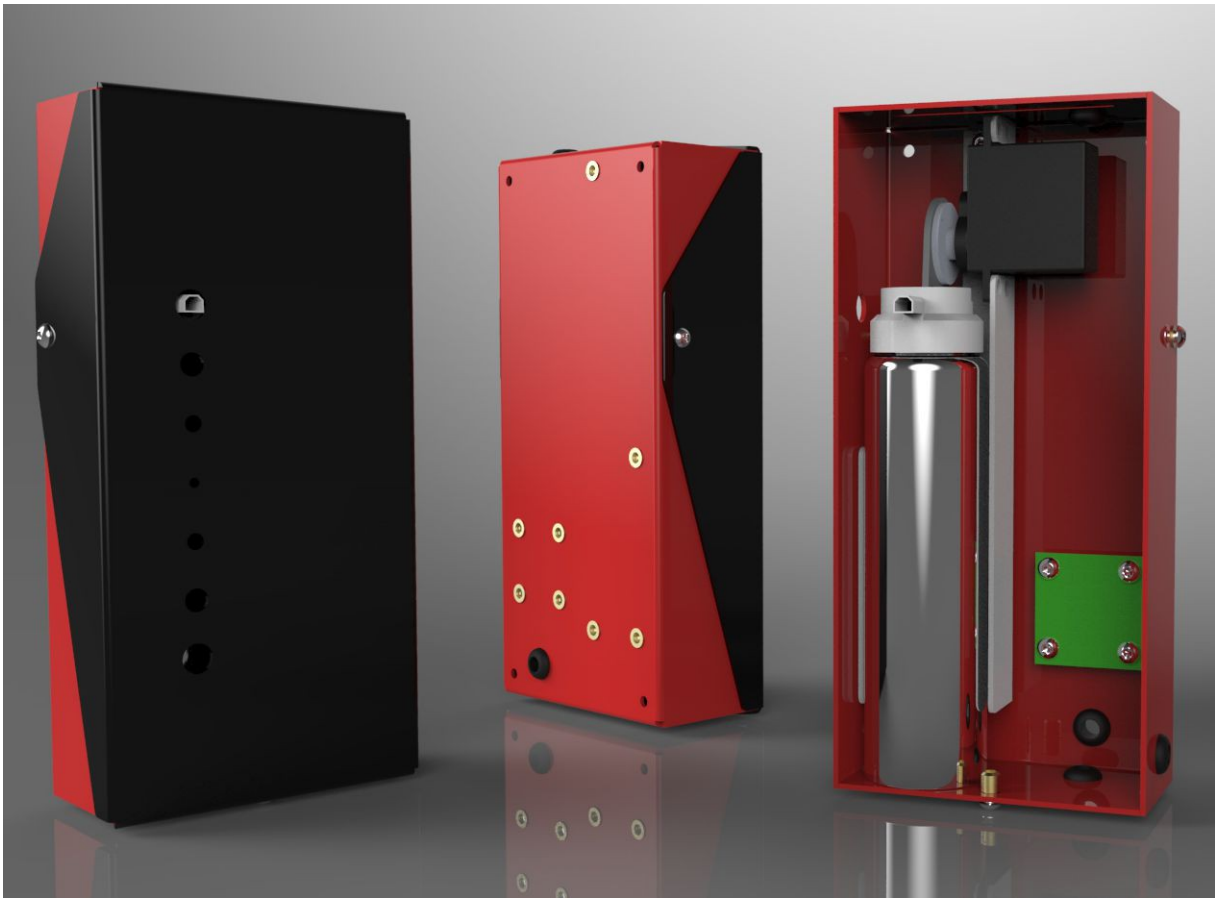
USER MANUAL

Revision: V1.0 Last Edited 07 July 2015



Before Attempting to connect or operate this product, please read these instructions in its entirety.

This manual is intended to provide detailed technical specifications and explanations,to the basic user as well as the more technically-minded person. This manual is a live document, and will be updated often with new information. Please ensure that you have the latest version, by checking our website at: http://www.gsmcommander.com.

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Changelog:

SJD 07 July 2015: Made some changes to format.

1. INTRODUCTION

The Habanero is an intelligent device which is used for pepper gas dispensing and serves as a very effective deterrent to vandals or thieves upon unauthorised or forced entry.

The idea for development of our very own pepper gas dispenser was borne after much consideration was taken into account for what is currently available on the market. We then realized that there are mechanism's which are available but they are not easy to set up, they are not rugged enough and once the pepper gas canister has been emptied out, there is no easy way to replace it with a new canister. These issues have now been resolved with our Habanero!

1.1. Features

Model	Habanero
Inputs	One digital optically-isolated input
Easy set up	Only 3 wires required
Modes	Has two modes, for a continuous burst or pulsed
Actuator	Servo motor control, with a torque of 13kg/10 mm
User Serviceable	Very easy to replace the Pepper canister, disconnect voltage supply first, then just unscrew the enclosure top, lift and tilt it, unclip the rubber O-ring, swap the canister. Done! Yes as simple as that.
Low Power	Lower power consumption under quiescent conditions(idle)
Microprocessor	For accurate control and reliability
Enclosure	Electroplated and epoxy coated mild steel enclosure

2. HOW IT WORKS.

The design has been well thought through after much research had been done. The Habanero had gone through many stages of testing, development and refinement before it was passed for production.
The Habanero consists of a complete epoxy coated mild steel enclosure, control PCB, servo motor,electroplated cam and a neat canister holder.

Operation: The dispenser is activated by a low (0V) signal(Shorted connection between 'IN' and '-'). This will activate the servo motor to trigger the pepper gas dispenser nozzle.

The select switch on the control PCB, controls the mode of operation.

Setting it to "PLS" (Pulse) will give a pulsed (1 second on, 2 seconds off) burst for as long as the input signal is active.

Setting it to the "ON" option will give a continuous burst for as long as the input signal is active. This will empty the canister in approximately 10 seconds. See pic of the inside on the next page.

3. INSTALLATION

3.1. Environment

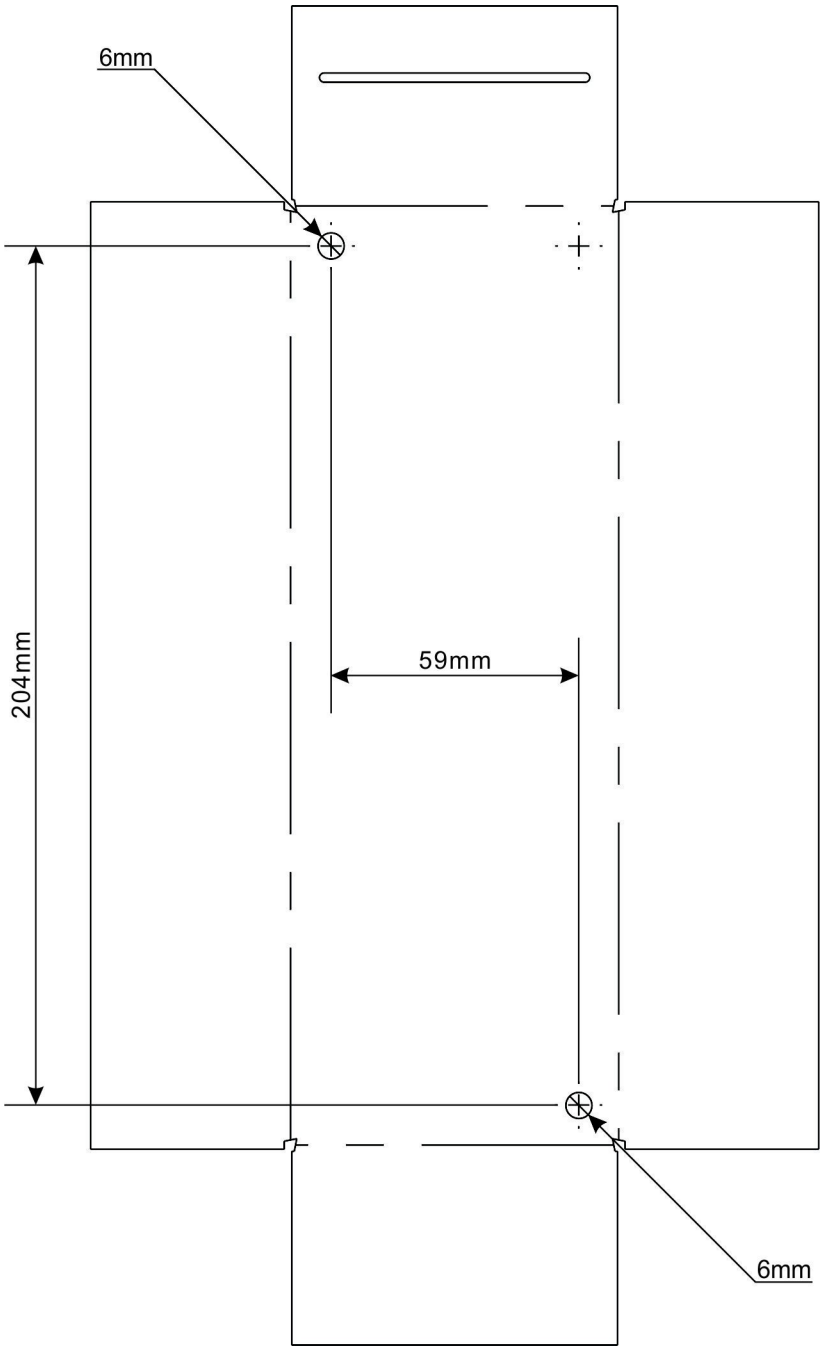
When installing the Habanero or GSM Commander we **STRONGLY** advise that it not be installed in close proximity to a variable speed drive or any other electrically noisy equipment due to the electronics of the devices. The Habanero must be installed upright or vertically so that the Pepper spray can be dispensed properly. It should not be installed in an environment with excessive or high temperatures, or where there is direct sunlight.

Remember: The pepper gas canister is pressurised and could explode if subjected to excessive or high temperatures. The Habanero is not weather sealed and is supposed to be mounted indoors. If you want to use it outdoors, you should provide some basic protection against direct sunlight and rain. Do not install in an environment where it will be subjected to harsh cleaning chemicals, water jets from sprayers or any liquids. The enclosure of the Habanero is not IP 65- rated and therefore must be kept clear of the above-mentioned conditions.

PLEASE NOTE! The guarantee does not cover damage resulting from water ingress or mishandling of the product in any way described above or physical damage or abuse of the product.

3.2. Mounting

The Habanero has 2 holes for screw mounting this will be needed to secure the unit on a flat surface or wall. See the dimensions below:



4. APPLICATION EXAMPLE

4.1. Example : Intruder alarm

Below is an example which shows how one could do a basic Intruder Alarm using V7 smartsetup software to integrate the Habanero with the GSM Commander. This is just a guideline for a very basic intruder alarm, please do customise it for your installation requirements.

One could expand on the alarm condition state, by activating output 2 in order to set off a siren, activate a strobe light, activate another Habanero pepper gas dispenser, send an alert via the armed response alarm panel etc.

If there are more requirements, the GSM Commander is also not limited to 2 inputs and outputs, but are expandable up 32 I/O's specifically for our "professional model" the GC 1281.

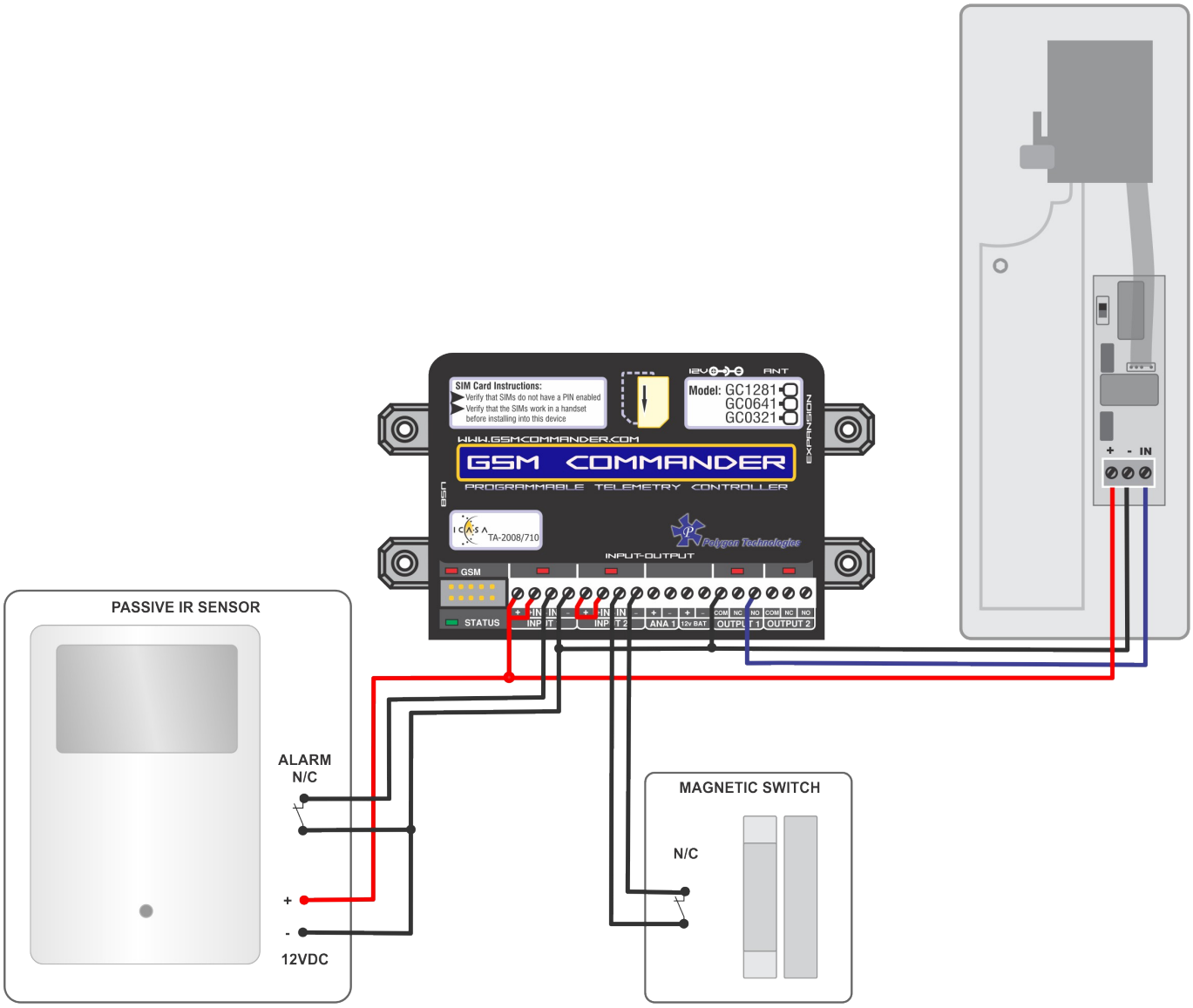
Program example:

NAME	BEHAVIOR TEXT	ACTION
St1	**If PowerUp or Reset THEN Disable statements 2 and 3**	On Start up, disable the Alarm
St2	**If PIR (Input 1) Becomes Inactive THEN Activate Output 1 for 10 seconds**	If the **PIR** triggers, it will activate the Habanero for 10 seconds
St3	**If MAG SWITCH (Input 2) Becomes Inactive THEN Activate Output 1 for 10 seconds**	If the **MAG SWITCH** triggers, it will activate the Habanero for 10 seconds
St4	**If Message is received, containing "ARM" THEN Enable statements 2 and 3**	To arm the alarm via SMS
St5	**If Message is received, containing "DISARM" THEN Disable statements 2 and 3**	To disable the alarm via SMS
St6	**If Output 1 Becomes Active THEN send "Alarm Triggered" to recipients**	SMS the User if the alarm triggers
St7	**If Statement X triggers (St4) THEN send "Alarm Armed" to recipients..**	Notify the user that the alarm is armed
St8	**If Statement X triggers (St5) THEN send "Alarm Disarmed" to recipients..**	Notify the user that the alarm is disarmed
St9	**If Output 1 becomes active THEN Activate output 2(siren)**	Notify the user that the alarm has triggered

Program description:

On power up or reset the GSM Commander will disable the statements which monitor the sensor inputs. So the system is effectively disarmed. After the GSM Commander receives a sms "arm" it will then enable statements 2 and 3. The system is now armed. If any of the inputs become inactive, statements 2 or 3 can trigger and the Commander will activate output 1 for 10 seconds. This will actuate the Habanero pepper spray to dispense pepper gas. At the same time statement 6 and 9 will trigger, sending a sms to recipients and activating output 2 which is the siren.

Please refer to the diagram on the following page.



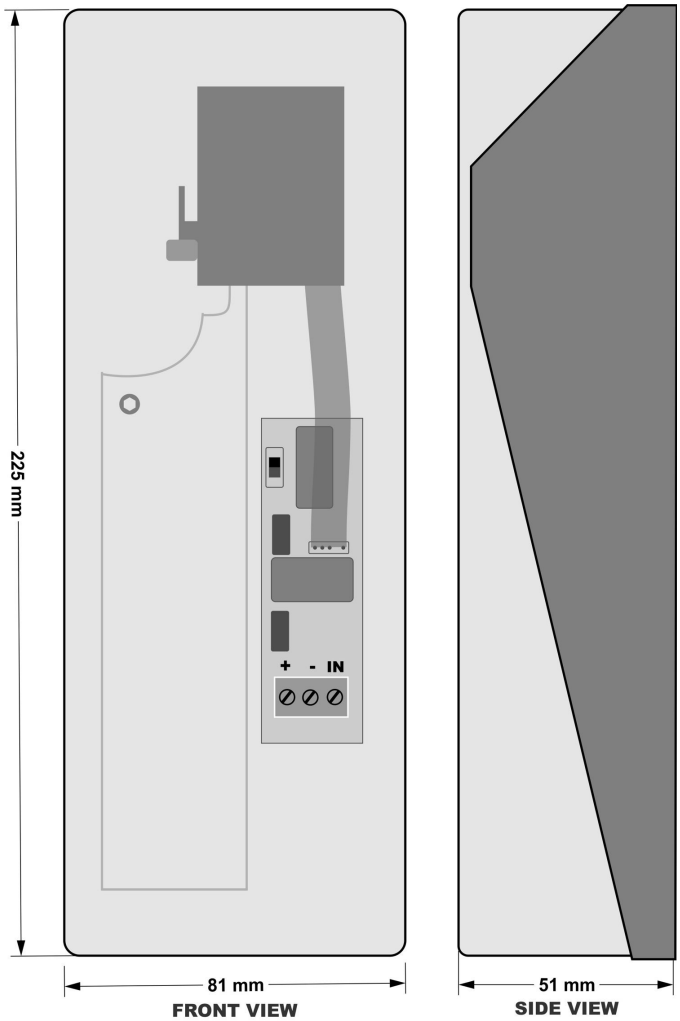
The **PIR SENSOR** is wired to input 1 and the **MAGNETIC SWITCH** is wired up to input 2. The PIR and Habanero pepper gas dispenser is supplied with 12-14 Vdc (from the "+" and "-" terminals) and also serves to monitor the signal coming from PIR dry contacts to the input (+ in, - in terminals).
The magnetic switch has a dry contact which is monitored on input 2.

If the contacts(normally closed) on either sensor goes active this will open up the closed contact and cause the GSMC's input to become inactive. If any of the inputs become inactive (according to program example above) it will result to an alarm condition.

This will allow the GSMC Commander to activate output 1 dispensing pepper gas, send an sms alert and activate output 2 for a siren(optional).

5. SPECIFICATIONS

Operating voltage	9 - 15 Vdc
Quiescent Current (idle)	6 mA
Current (Pulse mode)	~ 310 mA (rms)
Current (On mode)	~ 400 mA (rms)
Power Consumption	~ 4.65W
Digital Input	Optically-isolated, active low 0V
Torque (motor)	13 kg/10mm
Storage Temperature	-20˚C to +60˚C
Mounting	vertical
Dimensions (complete with enclosure top)	225(230) mm x 81(85) mm x 49(51) mm
Weight	1000 grams



6. TROUBLESHOOTING

A. There is no dispensing of pepper gas - check can could be empty
B. The actuator is not activating- Check the input 0V signal and if wire is secured also check that the motor is plugged in properly.

7. GUARANTEE

The Habanero is guaranteed for a period of **24 months** against defects in materials or workmanship. Should your product become defective during the guarantee period it will be repaired or replaced at the sole discretion of **Polygon Technologies** under the following conditions:

A: The unit must not have been forcefully opened or otherwise tampered with.
B: The guarantee does not cover damage resulting from excessive input voltages, lightning, power surges or water ingress.

A decision about issues A and B will be at the sole discretion of **Polygon Technologies**. This guarantee does not provide for shipping costs. This will be for the account of the user under all circumstances.

8. IMPORTANT NOTICE / DISCLAIMER

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Much effort has been made to ensure the contents of this manual are complete and without errors. Nonetheless, the Company cannot be held liable for any damages directly or indirectly resulting from any errors in this manual.

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Polygon Technologies CC reserves the right to make changes to contents of this manual, without notice, at any time.

9. MANUFACTURER CONTACT DETAILS

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