RSU

Random Search Unit

User Manual

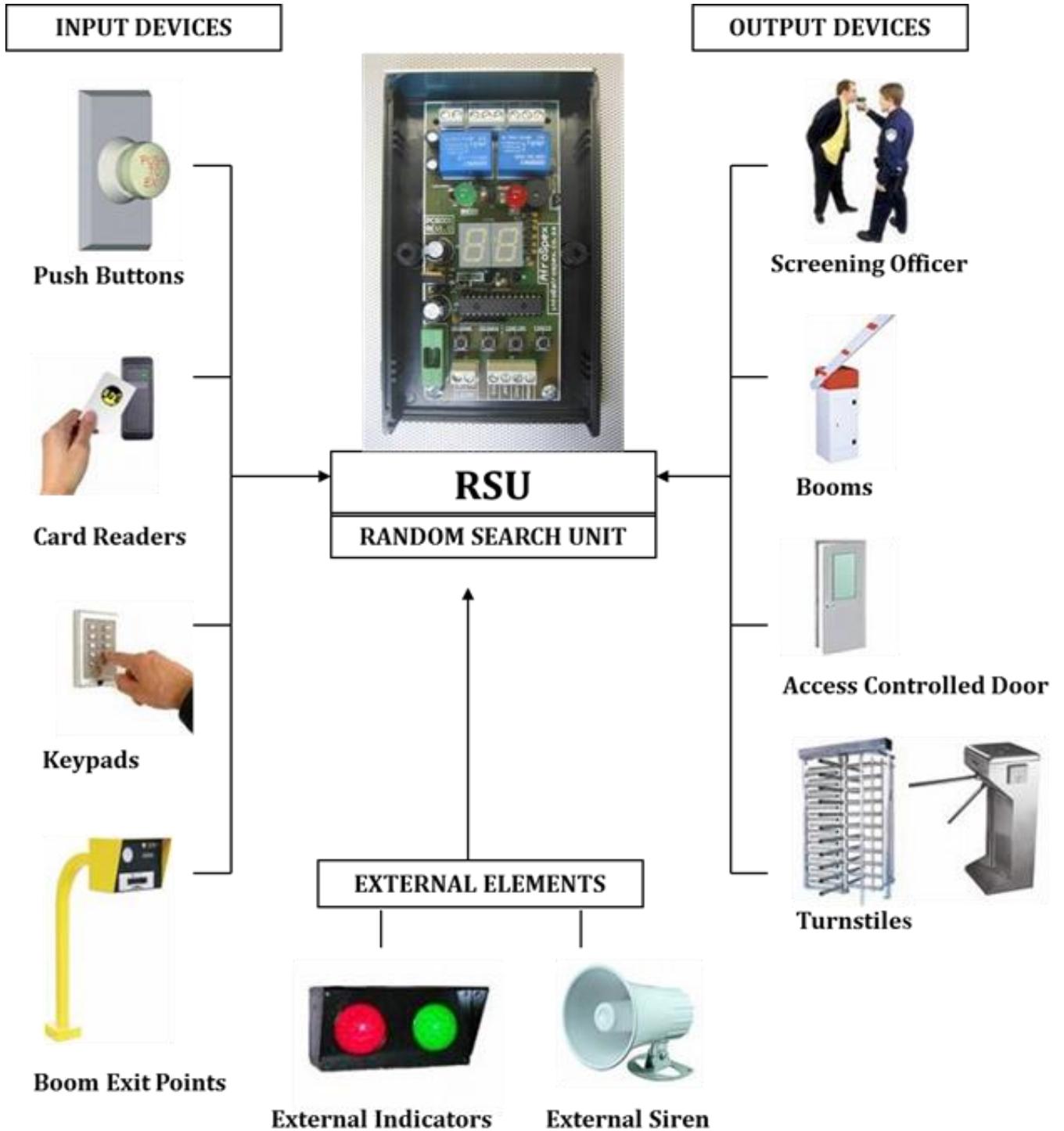
AfroSpex

Custom . Secure . Solutions

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Introduction

The RSU is a stand-alone Random Search Selector Unit.

The RSU aids in providing a totally non-discriminatory outcome for screening individuals at designated screening checkpoints.

The RSU is intended to avoid discrimination lawsuits by taking the human element out of random searches, and replacing it with an electronic alternative.

The random selection process is displayed visually by the unit – making it possible to describe the operation of the unit to everyone concerned.

Checkpoint screenings may aid in the fight against theft, illegal substance abuse, and illegal firearm possession and typically include entrances or exits to and from secured areas.

The RSU serves foremost as an active screening device and secondly as a passive deterrent that will enforce awareness of your search policies, amongst your employees and visitors.

The RSU can operate as a stand-alone screening unit or can easily be integrated with existing security/ access controlled equipment.

The RSU is ideal for aiding security staff at:

*Factories
*Retail Outlets
*Distribution Centres
*Airports
*Public Transport Terminals
*Mining Screening Checkpoints
*Government Departments
*Sports Arenas
*Schools

Random Search Basics

The RSU will be installed at a security screening checkpoint.

The RSU can easily integrate with security products such as turnstiles, booms, security booths and access controlled doors or can be used stand-alone.

The RSU will be set to select one person randomly from a preselected batch size of people passing through the checkpoint.

A person entering the screening area will activate the RSU by means of a trigger input (Example: pushbutton, access control card or keypad).

The RSU will electronically and non-discriminatory select people passing through the checkpoint to be stopped and searched.
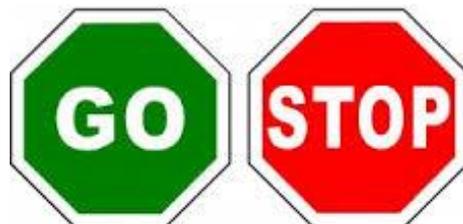
The RSU unit will supply an **Audio** (alarm/buzzer) and **Visual** (Red LED), indication for each **SEARCH** condition.

A security officer will typically enforce the search condition by screening the selected individual for activities deemed illegal or unauthorized. (Random Searches for theft, intoxication, firearms etc.)
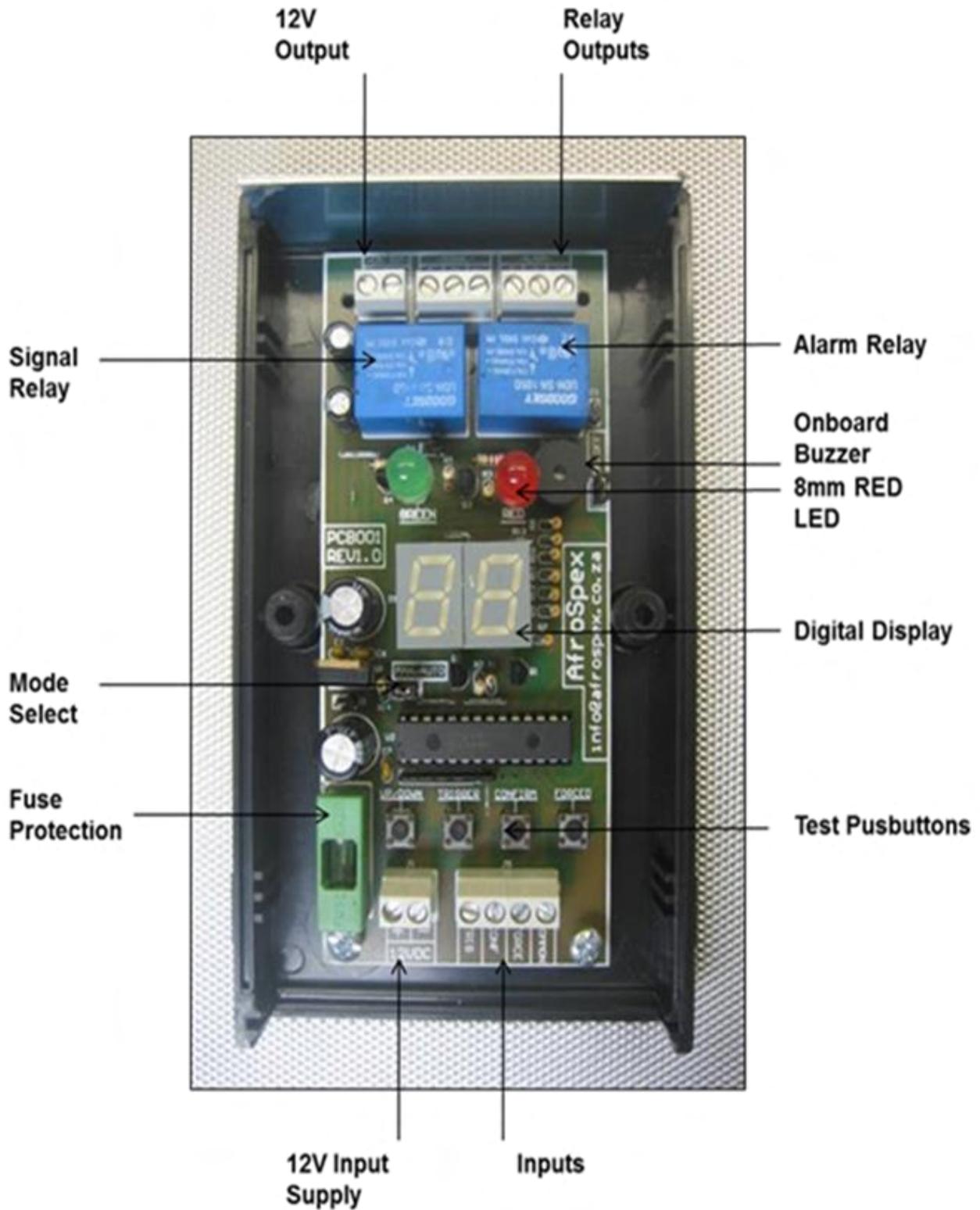
The unit will provide a short visual indication (Green LED) for each **PASS** condition.

Onboard outputs can be utilized to connect external devices to expand the scope of the **SEARCH** or **PASS** condition.

As the security concern changes, so too, can the RSU be adjusted to either search more or fewer individuals.

RSU Controller Layout

12V Output

Relay Outputs

Signal Relay

Alarm Relay

Onboard Buzzer

8mm RED LED

Digital Display

Mode Select

Fuse Protection

Test Pusbuttons

12V Input Supply

Inputs

How to Program the Unit

(Please refer to "RSU Controller Layout'' on p.4)

12VDC is supplied to the unit via the terminals labelled **''12VDC''**

On power-up, the digital display will illuminate and display **''01''**. (Batch Counter)

<u>Setting / Adjusting /Viewing the Randomness of the unit:</u>

*Press either **"UP/DOWN"** tactile pushbutton to set the Random Search of the unit.

*When pressed, the display will start flashing the current Random Search setting.

*The current value of the Random Search menu will be one of the following:

00	**(Zero searches)**
05	**(1 in 5 searches)**
10	**(1 in 10 searches)**
15	**(1 in 15 searches)**
20	**(1 in 20 searches)**

*To change the current value, press and release the **"UP/DOWN"** pushbutton.

*The Random Search setting will increase accordingly (Cycle through 00 to 20 options).

*Once the pushbutton is released for 3 seconds, the current selection will be automatically loaded and the unit will exit the Random Search setting menu.

*The unit is now ready for people to pass through and will display **''01''** – indicating that the first person from the batch can start entering through the checkpoint.

*Each time the unit is triggered by a user, the counter value on the digital display will increment until the number of people in the selected batch (0, 5, 10, 15 or 20) have been reached. When this value is reached, the counter will reset to **''01''**.

Random Search Options

The RSU will select one person randomly from a preselected batch size of people passing through a specific checkpoint:

- **One person will be searched from an adjustable quantity.**
- **By increasing the batch size, the percentage of searches will decrease.**
- **By decreasing the batch size, the percentage of searches will increase.**

<u>The RSU can be programmed to do the following random searches:</u>

0 out of 0
(The random search unit is disabled; all users will pass through the system)

1 out of 5
(One person is randomly stopped out of a total of 5 people passing through the unit)

1 out of 10
(One person is randomly stopped out of a total of 10 people passing through the unit)

1 out of 15
(One person is randomly stopped out of a total of 15 people passing through the unit)

1 out of 20
(One person is randomly stopped out of a total of 20 people passing through the unit)

<u>Note:</u>
When there is no need to search any people passing through the system, the unit can be selected to 0 out of 0.

The unit will operate as usual to ensure that the users are unaware of the search procedure being deactivated.

In times where traffic volumes are too high to implement random screening, this setting can be selected to relieve traffic congestion.

Modes of Operation

The RSU offers two modes of operation: **Manual and Automatic**

The mode is selected by enabling or disabling the jumper marked **"AUTO / MAN"** on the unit.

Automatic Mode: (for high volumes of traffic)

In this mode, the **SEARCH** condition (buzzer and Red LED) will be activated for a period of 2.5 seconds only. Hereafter it will **automatically** return to its initial state, allowing the next user to begin a transaction.

This mode is the most popular as the "disruption" in traffic flow is minimum.

The person to be searched must be identified by the security officer in this period (and be taken aside to be searched, allowing the next user to activate the unit).

When connected to a security barrier (Turnstile, Boom, Booth etc.), the onboard **SIGNAL RELAY** contacts will **disable** the user from gaining access through the barrier during the **SEARCH** condition.

Manual Mode: (for low volumes or for maximum security)

In this mode, the **SEARCH** condition (buzzer and Red LED) will remain active **until** a separate confirmation trigger (Marked **''CONF''**) is **manually** received by an authorized security member.

The onboard **SIGNAL RELAY** output will disable access through any security barriers during this **SEARCH** condition, until a confirmation trigger is received.

This mode is most popular where maximum control is needed during a **SEARCH** condition.

Forced Entry Mode (Optional)

The Forced Entry option is a unique feature added to the RSU.

The Forced Entry input (Marked **''FORCE''**) will allow security staff to activate a "forced" **SEARCH** condition at any time, without the knowledge of the people passing through the checkpoint.

This **SEARCH** condition is therefore **NOT** random and unbiased.

When the Forced Entry input is triggered, the next person to trigger the RSU will be selected to be searched by the unit.

This mode will run concurrently with either **Manual -or Automatic Mode.**

Note:
The use of this feature must be done in accordance to specified company search/ security policies.

Additional Notes

The RSU operates on the principle that only one individual will be randomly selected to be searched in a pre-selected batch quantity, however:

It is possible for 2 individuals to be searched back-to-back.

This will occur when the last person in the previous batch was stopped and the 1st person of the new batch was selected by the unit.

This occurrence is totally random.

Wiring Instructions

Power Supply Input and Outputs:
- The unit is powered by a 12VDC / 1A power supply (supplied) connected between the **"+" and "/-"** terminals on the terminal marked **"-12VDC"** The power on this input runs through a 1A onboard fuse.
- This power is then routed to the controls and also to the auxiliary power output terminals marked **"-12V OUT-"**
- This output can be used to supply a protected 12VDC to external output elements (sirens, buzzers, traffic lights etc.)

Inputs:
- The input device (pushbutton, card reader, keypads etc.) will be connected between **"TRIG"** and **"COMMON".**
- The input marked **"CONF"** is reserved for the confirmation trigger input, when the unit is running in "**Manual Mode".**
- An input element (card-reader, pushbutton etc.) can be connected between **"CONF"** and "**COMMON".** This input serves as CONFIRMATION that the search has been completed before the next transaction can commence.
- An input device can be wired between **"FORCE"** and "**COMMON**". This will put the unit in Forced Entry Mode and the next user to trigger the RSU will be flagged for a search.

Note:
All 3 of the above inputs can be simulated/ tested by using the onboard tactile Test Pushbuttons.
All wired inputs must be supplied by a dry-contact device. (Potential-Free device)

Outputs:
- The **"SIGNAL Relay"** terminals will give access to a single pole relay contacts. "**N/O", "COM", "N/C".**
- These outputs can be used to control security barriers (turnstiles, booms, doors, booths etc.)
- The **"ALARM Relay"** terminals will give access to a single pole relay contacts. **"NO", "COM", "NC".**
- These contacts can be utilized to drive external alarm indicators.

Note:
The '12V OUT' supply can be used to supply external devices.
If the external devices requires in excess of 1A at 12V, a bigger power supply will be required. In this event, the input Fuse (1A) will have to be increased in size, to match the power supply.

Jumper Settings:
- Removing the jumper next to the onboard buzzer, marked **"On/Off",** will mute the onboard buzzer.

- The selector jumper marked **"MAN/ AUTO"** selects the mode of operation: **Automatic Mode** or **Manual Mode.** With the jumper **OFF**, the unit will run in **Automatic Mode.** With the jumper **ON**, the unit will run in **Manual mode**. The jumper can be added or removed at any time during operation.

Technical Specifications

Input Power:
- External +12VDC/1A - Power Supply (Supplied)

Power Consumption:
- Idle: 0.1A @ 12VDC
- Max: 0.3A @12VDC*

 No external devices connected

Input Controls:
- Normally-Open / Potentially-Free Contacts

Output Controls:
- 1 x potential-free single pole **"Alarm Relay"**.
- Power handling: 5A / 250Vac or 10A / 24VDC
- 1 x potential-free single pole **''Signal Relay''.**
- Power handling: 5A / 250Vac or 10A / 24VDC

Data Retention:
All settings are stored in onboard memory and restored upon power restoration.

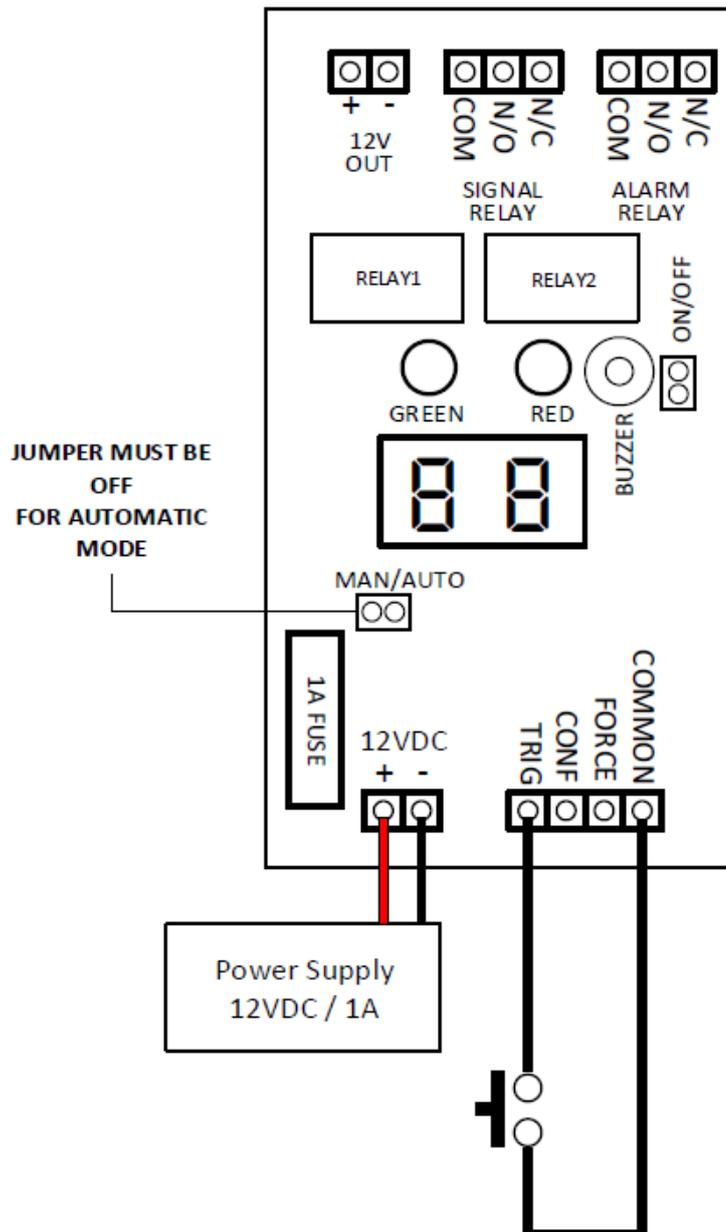**Physical Dimensions of Enclosure:**
190mm (L) x 140mm (W) x 80mm (H)
Enclosure Protection:
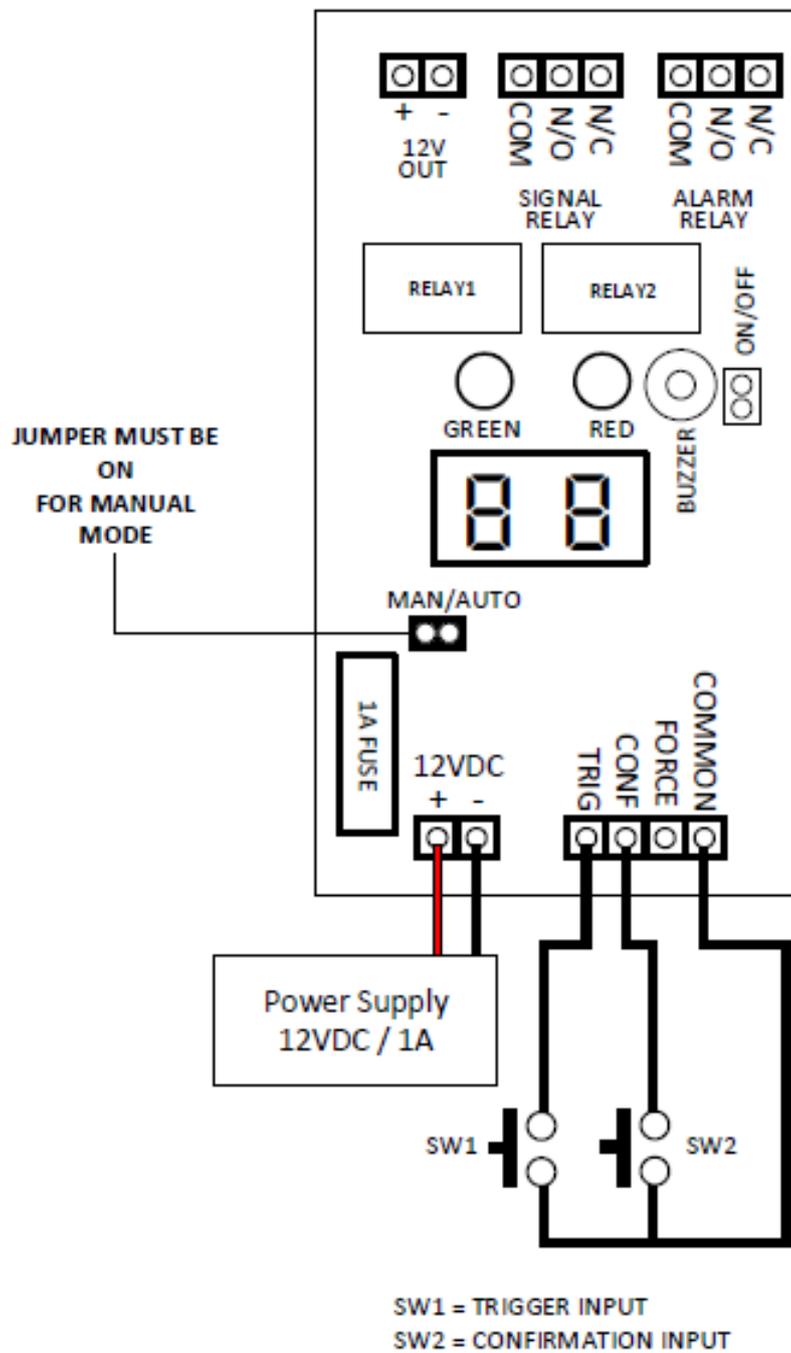IP55 (dust-proof and splash-proof)

Wiring Diagram:
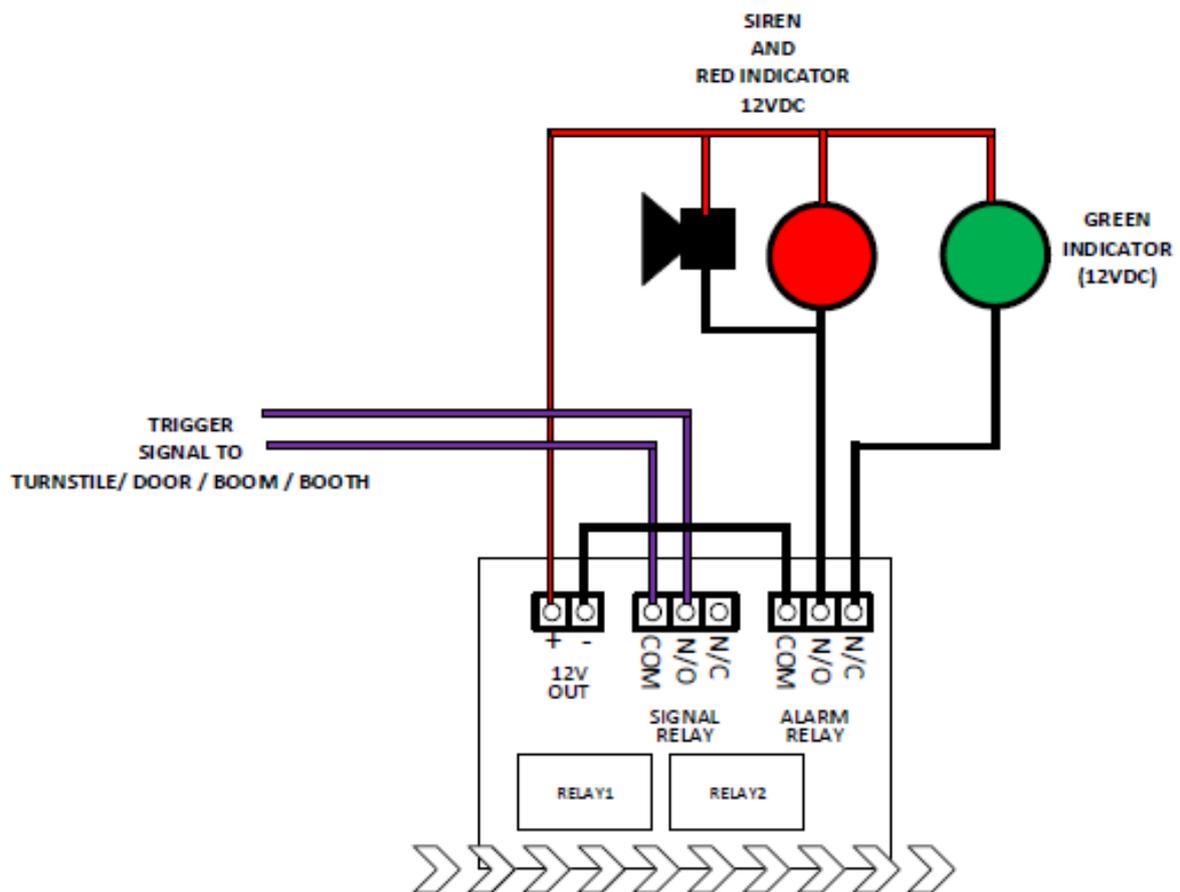
Automatic Mode (Stand-alone)

Wiring Diagram:

Manual Mode (Stand-alone)

JUMPER MUST BE ON FOR MANUAL MODE

MAN/AUTO

1A FUSE

12V OUT
+ -

SIGNAL RELAY — COM N/O N/C
ALARM RELAY — COM N/O N/C

RELAY1 RELAY2

GREEN RED BUZZER ON/OFF

12VDC + -

COMMON FORCE CONF TRIG

Power Supply 12VDC / 1A

SW1 SW2

SW1 = TRIGGER INPUT
SW2 = CONFIRMATION INPUT

Connecting External Devices

Below are typical examples of how to connect external visual and/ or audio indicators to the RSU. The **SIGNAL Relay** can also be used to trigger external security products such as Turnstile, Booms, Doors and Booths.

Who We Are

Afrospex is a proudly South African company, based in Cape Town.

Our core business is the Supply, Manufacture and Installation of security related products.

Contact us for a free Quotation.

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