BLUESWITCH Access Control

- Learns Upto 128 Bluetooth Phones

- Range settable from 1.6m to 50m

- FCC / CE certified

- Integral antenna

- External push button release connection

- External light/LED indicator connection

- 12V DC supply

- Easy installation via screw terminals

- Easy 'learn' new cellphones process

BlueSwitch can be configured to trigger in one of three operating modes:

Auto Mode:

Relay triggers whenever a recognized device is in range. To operate in this mode, connect the jumper SIL1 across pins *a* and *b*.

Arrival-Only Auto Mode:

Relay triggers whenever a recognized device comes into range. To operate in this mode, connect the jumper SIL1 across pins *b* and *c*. In addition, it will trigger if a recognized device is present and then the external pushbutton is pressed.

Semi-Auto Mode:

Relay triggers whenever a recognized device is present and then the external pushbutton is pressed. To operate in this mode, disconnect the jumper on SIL1.

Part Number	Description
BLUESWITCH	BLUESWITCH Access Control
PSU-12V1AIN-IP	Power Supply 12V1A IP67

BLUESWITCH Installation

Connect power to the screw terminal TB5 (12V or 24V) LED D4 will flash briefly every 10 seconds to indicate correct operation.

Relay 1 and D5 act as 'recognized device detected' indicators. D5 will light when whenever a recognized device is present. If an external indication is required, it can be connected to Relay 1.

The trigger relay is Relay 2. Connect as required. Relay 2 activates according to the trigger mode previously described. The time delay for which the relay operates may be set between 1 and 255 seconds.

Some trigger modes use an external pushbutton. If this is required it should be connected to the screw terminals marked TB6. The on-board pushbutton closes the same circuit.

Note: If a Bluetooth device is constantly located near BLUESWITCH, for example on a desk within range, the battery will runs down a bit faster quicker than normal.   In this case one option is to set their phone to non-discoverable mode. Then it will not respond to scans from BLUESWITCH.

Circuitboard Layout
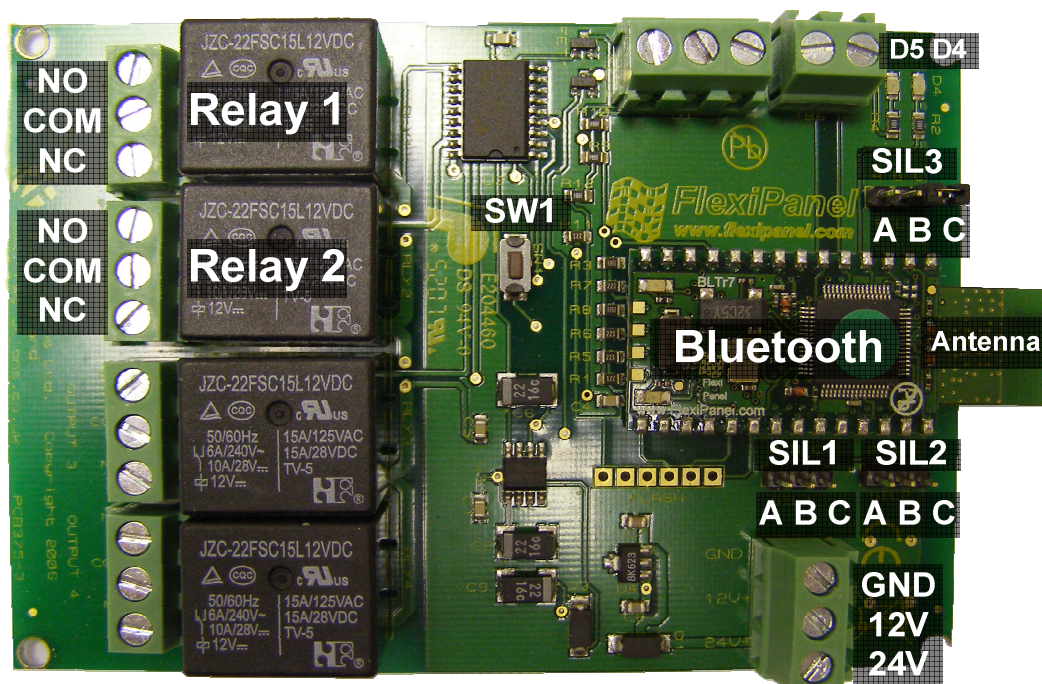
Learning and Erasing Bluetooth devices
BLUESWITCH can learn to recognize up to 128 Bluetooth devices (i.e. mobile phones). These devices must be equipped with a Bluetooth radio which is set to discoverable mode. Note that some Motorola phones can not be set permanently in a discoverable state.

BLUESWITCH Access Control

Learning a new BT device:

1. Ensure the device to be learned is the only Bluetooth device within range.
2. Connect the jumper SIL2 across pins *a* and *b*.
3. BLUESWITCH will scan for devices for 10 seconds.
   Each time it detects a Bluetooth device, LED D4 will extinguish briefly.
   (*Note: If D4 flashes rapidly, all128 storage locations are full.*)

At the end of the 10 seconds:

   – If no devices were detected, step 3 repeats.
   – If one device was detected, it will be added to the list of recognized devices and D4 will go out. Proceed to step 4.
   – If more than one device was detected, step 3 repeats.
4. Remove the jumper from SIL2.

Erase all devices from the BLUESWITCH Memory:

1. Connect a jumper across SIL3 pins *b* and *c*. LED D4 will light.
2. Press and hold pushbutton SW1. LED D4 will go out. Hold for at least five seconds.
3. LED D4 will flash slowly indicating that all recognized devices have been deleted.
4. Remove the jumper link across SIL3.

Setting the Relay Time

The Relay 2 operating time may be set between 1 and 255 seconds. The factory setting is 1 second.
In *Auto Mode*, this is the time Relay 2 operates for, once recognized phones are no longer detected.
In *Arrival-Only Mode*, it is the time since the Relay 2 started operating.
In *Semi-Auto Mode*, it is the since the button was released.

To set the timed action delay:

1. Connect a jumper across SIL3 pins *b* and *c*. LED D4 will light.
2. Briefly press pushbutton SW1. (Do not hold it down – that erases all devices!)
   The LED will flash quickly.
4. Wait for the duration that the output is to operate for, then press pushbutton SW1 again.
   The LED will stay lit to indicate the operation is complete.
5. Remove the jumper link across SIL3.

Setting the Detection Range

1. Press and hold down pushbutton SW1.
2. Connect a jumper across SIL3 pins *b* and *c*.
   D5 wiil light until step 7.
3. Release SW1.
4. LED D4 will repeatedly show a series of flashes:
   One flash indicates the current range setting is 1,
   Two flashes indicates setting 2, etc.
5. Press pushbutton SW1 as many times as the setting required. e.g. for setting 3, press 3 times.
6. LED D4 will repeatedly flash to show the new setting.
7. Remove the jumper link across SIL3.

Detection Range Settings (Approximate! Depending on conditions)	
Setting	*~Range*
1	1.5 m
2	3 m
3	5 m
4	9 m
5	15 m
6*	30 m
7*	50 m

Notes
Range is approximate and will depend on operating environment.
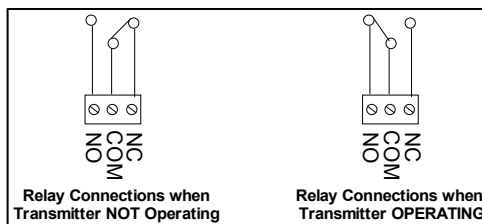*If phone is Class II then the range may be limited to 10m-20m.

Data Outputs

Each output relay provides an isolated switch. Connections are Common (COM), Normally Open (NO) and Normally Closed (NC).

Relay Connections when Transmitter NOT Operating

Relay Connections when Transmitter OPERATING

Connecting a Relay output to an Application

Below is a simple example showing one possible way to wire a relay in order to give switched power to an external load:

When the relay is energised the 'COM' connects to 'NO' and power is applied to the Load.

LOAD
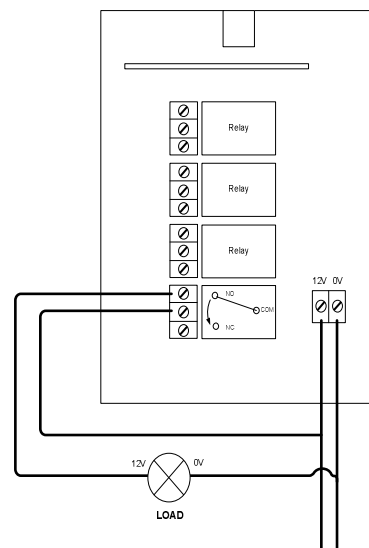
Technical Specifications

Enclosure Rating   IP65
Dimensions: 110 x 85 x 35 mm
Storage Temperature: -30 to +85°C   Operating Temperature: -10 to +50°C

Max RF Output Power	Class 2 / 1mW 0dBm
Frequency Range	2402 - 2480MHz
No of Channels	79
Frequency hopping	1600Hz

Electrical Characteristics	MIN	TYPICAL	MAX	DIMENSION
Relay Rating* (at 230Vac) RLY1-4		5	12	A
Supply Current : Quiescent		60		mA
Additional Current per relay operating		25		

*The relay contacts in this unit are for functional use only and must not be used for isolation purposes