



SWITCH BOX

HANDBOOK



MODEL  
SB24016-EU-A

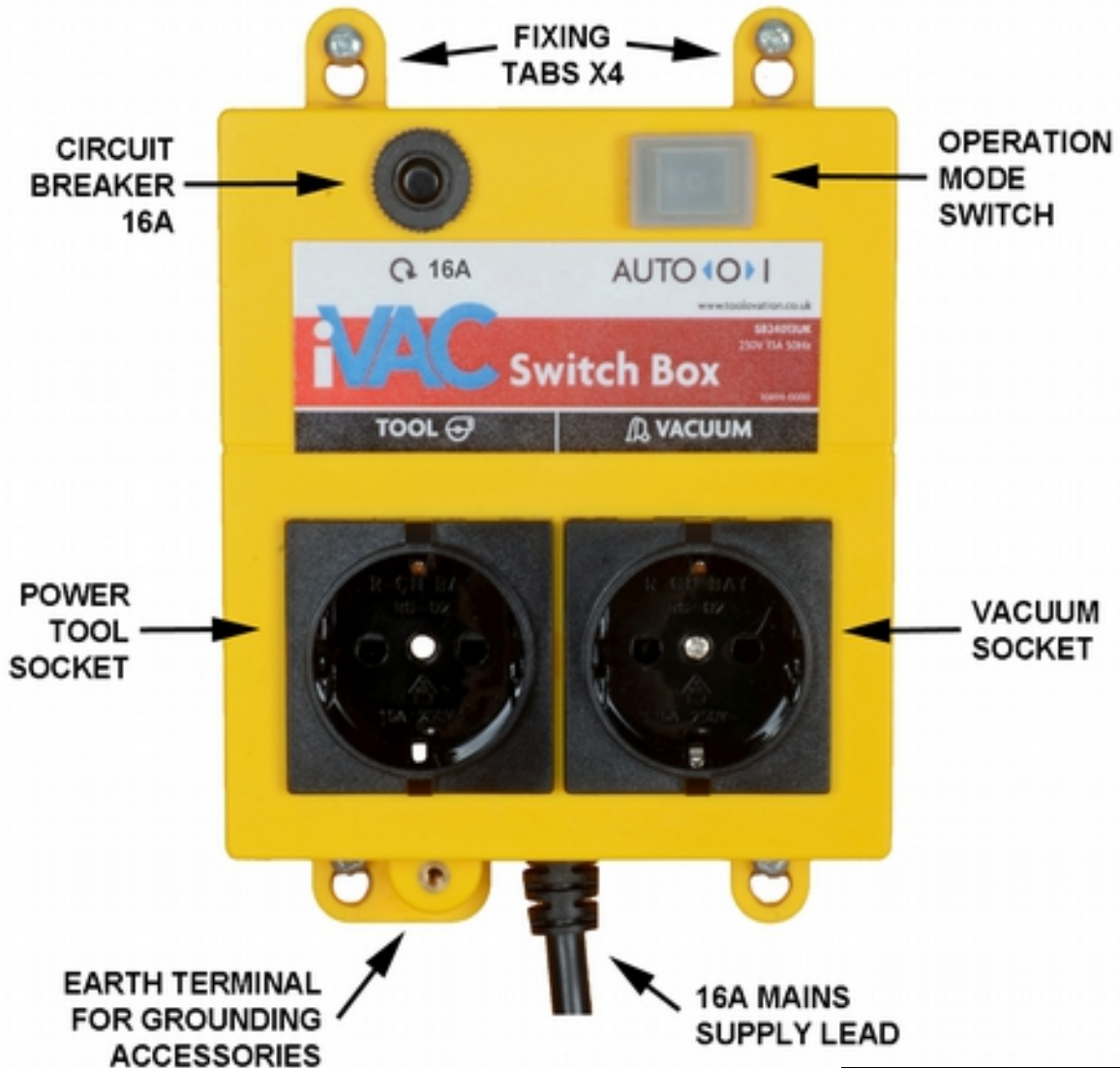
For safe operation **and** to gain the full benefit of your iVAC Switch Box - please read through this handbook **before** use.

Retain this handbook and your proof of purchase for future reference.

**This iVAC Switch Box enables the automatic and remote switching of a dust collecting vacuum.**

**This iVAC Switch Box is intended to be used with a power tool such as a router, planer, saw, grinder or sander and an associated vacuum.**

**The intelligent power sensing, electronic ON and OFF delays optimise your dust collection and reduce power consumption.**



Access panel to DIP switches on rear of box. PH1 screwdriver required.



## DESCRIPTION AND FEATURES

The two, 16A socket outlets on the Switch Box are specific and labelled TOOL & VACUUM.

The vacuum turn ON delay of 1 **or** 2 seconds (configurable – see settings on page 4) is to prevent the start up power surges of the power tool and vacuum coinciding and overloading your Switch Box and/or power source circuit breakers.

The vacuum turn OFF time of 8 **or** 16 seconds (configurable – see settings on page 4) is to clear dust and debris from your power tool, workstation and hose.

The resettable 16A circuit breaker is provided for overload and fault protection.

The 4 mounting tabs enable secure fastening to walls, benches and equipment.

The integral earth terminal is provided for bonding (grounding) accessories, for static grounding.

The Switch Box is designed to control LVHP vacuums up to 2700 watts and HVLP extractors up to 1.5 hp. Further details on page 6.

The maximum **total** load (power tool **and** the vacuum) is 3500 watts  $\approx$  16A.

## OPERATION

A vacuum plugged in to the Switch Box is controlled by 3 user selectable modes:



3 position  
MODE  
switch



As the power tool is used the vacuum will **automatically** switch **ON** and **OFF**



The vacuum is permanently **OFF** regardless of the state of the power tool.

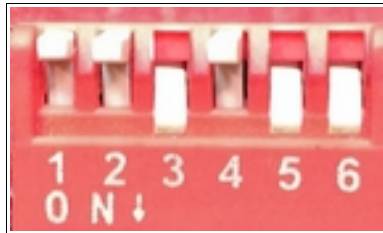


The vacuum is permanently **ON** regardless of the state of the power tool.

## SETTINGS (CONFIGURATION)

For most applications, the factory (default) settings do not need changing.

If required, the Switch Box can be configured to suit a user's specific equipment and application. There are DIP switches that can be set by the user.



DIP switches.

Factory settings shown.  
3, 5 and 6 are ON  
1, 2 and 4 are OFF

### Set the Power Tool AUTO switching threshold to Standard, Medium or High

Some power tools draw power even when the motor is not running - e.g. work lights, standby electronics, speed controllers or ancillary devices.  
N.B. - Some experimentation may be required to determine the correct setting.

<b>STANDARD</b> ≈ 150 mA ≈ 35W	<b>MEDIUM</b> ≈ 250 mA ≈ 60W	<b>HIGH</b> ≈ 500 mA ≈ 120W
<b>2 - OFF, 3 - ON, 4 - OFF</b> (factory settings)	<b>2 - OFF, 3 - OFF, 4 - ON</b>	<b>2 - ON, 3 - OFF, 4 - OFF</b>

### Set the Vacuum turn ON delay and OFF time

<b>VACUUM OFF TIME</b> Useful for long hose lengths and clean up after working	<b>VACUUM ON DELAY</b> Useful for extractors with a high start up power demand
<b>5 - OFF ≈ 16 secs</b> <b>5 - ON ≈ 8 secs</b> (factory setting is ON)	<b>6 - OFF ≈ 2 secs</b> <b>6 - ON ≈ 1 secs</b> (factory setting is ON)

DIP switch 1 is reserved for future applications – Leave OFF

When accessing the DIP switches through the rear panel – the Switch Box must be safely disconnected (isolated) from the mains supply.

## SAFETY

Misuse of your Switch Box and any equipment plugged into it can potentially lead to injury and damage.

Do not exceed the maximum **total** load of 16A ( $\approx$  3500watts)  
This is the load of the vacuum **and** power tool combined.

Overload and fault protection is provided by the 16A circuit breaker, Frequent overloading indicates a problem that requires investigation – see page 7.

Ensure the power tool and vacuum are plugged into the correct socket outlet on the Switch Box.

Do not connect any hazardous tools or equipment to the Vacuum outlet on the Switch Box.

Do not alter, modify or adapt the Switch Box.  
Do not open the Switch Box housing.

The Switch Box is suitable for indoor use, in dry environments **only**.

The Switch Box **must** only be connected to an adequately rated and earthed power source (e.g. A 16A socket outlet) that is RCD protected.

When accessing the DIP switches through the rear access panel – the Switch Box must be safely disconnected from the mains supply.

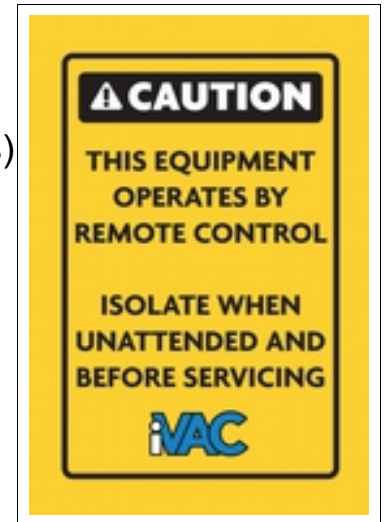
Never use the Switch Box with the rear access panel removed.

Use extension leads and power adaptors with extreme caution – they must be suitably rated, specified, earthed and uncoiled.

Inspect your Switch Box regularly - Do not use if the housing, controls, leads or connectors are damaged or worn.

We strongly recommend appropriate portable appliance testing (PAT) of the Switch Box, your power tools, vacuums, adaptors and extension leads.

Unplug (isolate) the Switch Box when unattended. e.g. night time and weekends.



Apply the supplied CAUTION label to your vacuum to warn that it can be started, remotely, by another person.



Apply the supplied 16A label to your 16A Schuko plug

## TECHNICAL DATA - SB24016-EU-A

220 - 240V 50/60 Hz AC. Maximum **total** load is 16A  $\approx$  3500watts.

Maximum **vacuum** (LVHP) power is 12A  $\approx$  2700watts.

Maximum **extractor** (HVLP) power is 1.5 hp.

Vacuum turn ON delay is configurable – 1 or 2 seconds (factory set to 1).

Vacuum turn OFF time is configurable – 8 or 16 seconds (factory set to 8).

Power tool AUTO switching threshold is configurable – Standard, Medium or High (factory set to Standard  $\approx$  35 watts  $\approx$  0.15A).

Circuit breaker is 16A type 'B', user resettable.

Suitable for continuous operation.

Housing – ABS 94V0 fire retardant.

Housing – 128mm wide. 177mm high (incl fixing tabs). 56mm deep. 580 grams.

Supply lead is  $\approx$  3 feet, fitted with a type F (Schuko) plug. 16A max rating.

Approvals – CE, RoHS.

Protection – IP20, indoor use, dry environments only - Class I, requires earth.

The Switch Box is **NOT** suitable for controlling vacuums / extractors which are NVR (No Volt Release) protected – see page 7.

NOTE: DOL motor starters include NVR protection.



Typical NVR Switch

Typical DOL Motor Starter with NVR



HVLP extractors **over 1.5 hp** could cause an overload to the Switch Box due to their high start-up power demand.

Typical LVHP (low volume – high pressure)

**Vacuum**  
(without NVR)  
**MAX 2700 watts**



Typical HVLP (high volume – low pressure)

**Extractor**  
(with NVR)  
**MAX 1.5 hp**



## **TROUBLE SHOOTING**

### **NEITHER YOUR VACUUM OR POWER TOOL ARE OPERATING**

**Cause 1 >** The 16A circuit breaker has tripped out - Your Switch has been subjected to a power overload (i.e. more than 16A  $\approx$  3500 watts) or there is a fault (i.e. a short circuit in your vacuum or power tool)

**Remedy 1A >** Reset the circuit breaker on your Switch Box - press it in to reset.

**Remedy 1B >** Check there is power present at your socket outlet - reset the power supply circuit MCBs and RCDs as required

**Cause 2 >** Your extractor may draw a very high current during start up - your Switch may have been subjected to a power overload caused during start-up

**Remedy 2 >** Try increasing the vacuum turn ON delay to 2 seconds (see settings on page 4)

### **YOUR VACUUM DOES NOT OPERATE IN AUTO MODE BUT IT DOES OPERATE IN MANUAL (I) MODE**

**Cause >** The Switch Box AUTO function is only suitable for power tools that draw 35 watts **or more** when running. You can confirm this by plugging another (more powerful) power tool into the Switch Box and operating it

**Remedy A >** Control your vacuum in the manual mode – ON or OFF (I or O)

**Remedy B >** Adjust the AUTO switching threshold to a lower setting (see settings on page 4)

### **YOUR VACUUM OPERATES CONTINUOUSLY IN AUTO MODE WHETHER YOUR POWER TOOL IS ON OR OFF**

**Cause >** The Switch Box is configured at the factory for power tools that draw less than 35 watts when on standby. Some power tools draw more than 35 watts even when not running – this is typically power used by work lights, standby electronics, speed controllers or ancillary devices. You can confirm this by plugging another power tool into the Switch Box and operating it

**Remedy A >** You can increase the power tool AUTO switching threshold by configuring the DIP switches (see settings on page 4)

**Remedy B >** Control your vacuum in the manual mode – ON or OFF (I or O)

### **YOUR EXTRACTOR SWITCHES ITSELF OFF – THE NVR ON YOUR EXTRACTOR DISCONNECTS THE MOTOR**

**Cause >** Some vacuums and most extractors are fitted with an NVR (No Volt Release) switch (also known as Magnetic Switch or DOL - see page 6). NVR switches will automatically disconnect when the supply power is switched off, this is normal operation. This Switch Box is **not** suitable for NVR protected vacuums

**Remedy >** iVAC offers other products in it's range (e.g. the iVAC Pro System) that are suitable for NVR protected vacuums and extractors.

## **GUARANTEE - SB24016-EU-A**

The iVAC Switch Box is guaranteed against defects in material and workmanship, under normal usage, for one year from the date of purchase.

This guarantee is not transferable and does not affect your statutory rights.

This guarantee **does not apply** in cases of improper use, negligence, lack of maintenance or accidental damage.

Under the terms of this guarantee a faulty Switch Box will either be repaired or replaced free of charge.

Liability is limited to the Switch Box only, no other costs will be reimbursed.

This guarantee does not confer any rights other than those expressly set out above.

## **SERVICE AND REPAIRS**

The iVAC Switch Box can be repaired and maintained in our UK workshop.

Beyond the guarantee period (one year) these repairs are chargeable.

We can provide a quote once the Switch Box has been inspected and tested.

Repair charges will always be lower than a replacement (new) Switch Box.

## **CONTACT**

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