

# 'Volt Free' MEV Boost Wiring

## - Installation Guide

**This covers models TP302A, TP302HA, TP303A, TP303HA, TP332A & TP332HA**  
(see serial number label for confirmation of unit type)

ALWAYS READ THE MANUAL PROVIDED WITH THE UNIT.

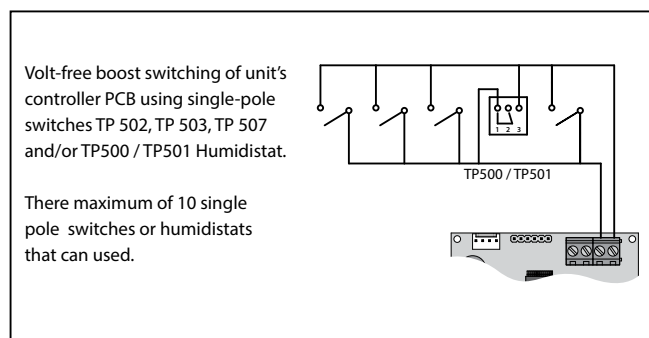
Boost triggering of these Titon MEV models is via a 'volt free' switching circuit i.e. it only requires a connection between the two terminals on the control PCB, via a Switch/Contacts. The PCB uses its own 3V DC switching voltage.

**N.B.** In the event that 230V is applied to the PCB it will normally result in unrepairable damage to the PCB and can result in unrepairable damage to the fan.

Switching is generally done by using Single way momentary or Single way latching switches, as shown in the wiring diagrams below, other switching options are available e.g. humidity, proximity sensor, CO<sub>2</sub> & air quality sensors (these must all be 'Volt Free').

Boost switches should be placed in or adjacent to each kitchen or wet room and be annotated with their function e.g. Ventilation System Boost.

## Wiring diagram



**Boost switching and External Humidistat connection ref EE 151**

**N.B.** where a Momentary switch is used the overrun timer must be set for greater than Zero mins, typically 15-20 mins. If it is set to zero it will only speed the unit up whilst the switch is pressed.

**N.B.** Models with an integral humidity sensor will automatically increase the unit speed once the pre-set parameter has been reached.

Relying on a humidity sensor alone is not sufficient, it must be remembered that humidity is not the only pollutant present within a dwelling and therefore boost will need triggering to remove other pollutant.

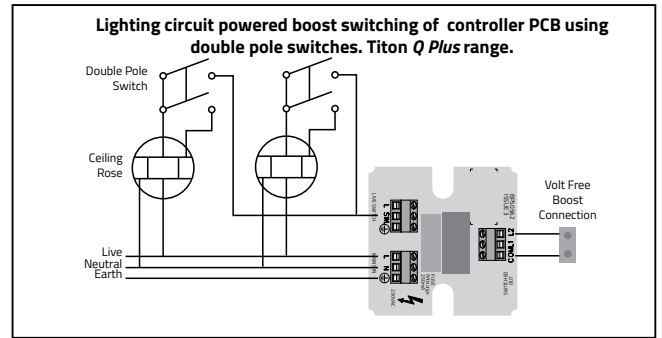
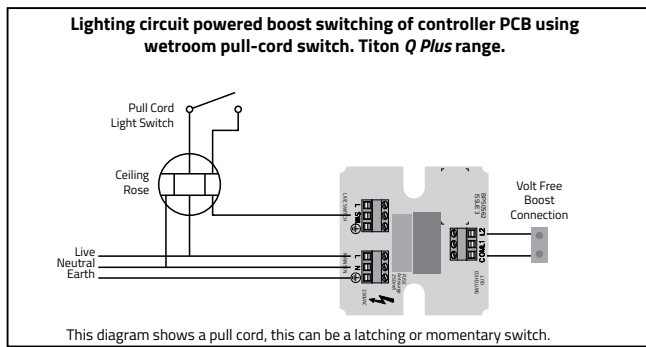
## Switching from Light Switches

It is not uncommon for customers to want to add the boost function to the bathroom (wet room) light switch.

Whilst this is possible, it does mean that the unit will boost every time the light switch is operated. If there is a noticeable difference in fan speeds and therefore in sound between Continuous and Boost this may be unpopular, especially at night when the bathroom is used and people are trying to sleep. In addition if the bathroom (wet room) does have a window there may be no need to switch the light on, therefore it will not be boosted to remove humidity and other pollutants.

## Preferred Method

We would generally recommend the using of a relay to provide segregation between the 3V DC boost circuit and the 230V AC lighting circuit. Generally wired as below, using Relay Box TP505 or similar. Relays must be fitted externally to the unit.



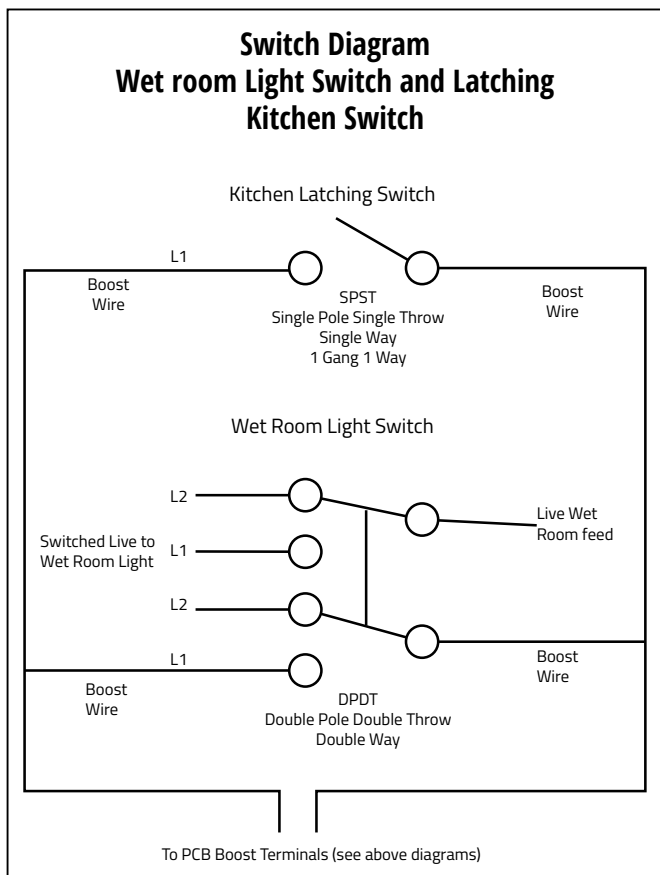
**N.B.** Switching in bathrooms must comply with Bathroom Safe Zone regulations

## Alternative Method

We have experienced some customers using a Double Pole Double Way switch, with one way being for the Bathroom (wet room) light the other being for the Boost, as shown below.

Titon are not qualified to advise how/if this can be used to comply current statutory regulations, responsibility for using this must lie with the developer/contractor.

## Typical Wiring Diagram



## Cabling

Boost cables (Extra low Voltage) should be segregated from 230V cables (Low Voltage) by a minimum of 50mm.

If boost cables and mains cables run closer, this can result in voltages being induced into the boost cables which can cause spurious boosting.

Do Not use five core cable (live, neutral, earth and two boost) to the unit

Whilst we have not encountered an issue with induced voltages where the bathroom (Wet Room) light and boost functions are combined via the light switch, we cannot rule out the possibility.

'Volt Free' cable requirements –standard lighting cable can be used, however it would be more recognisable as low voltage, if smaller cable is used e.g. Unshielded 18-24 AWG stranded copper. Avoid the use of CAT 5 or similar cable that has twisted pairs.

Where there are multiple cables feeding the unit it may be worth joining these in an external junction box and only feeding one pair of cables into the unit.