MicroFogger 3 Pro - User Manual (V22.1 Jan22)

Initial Preparation – IMPORTANT Please Read!

Turn MF3 "ON" using the black rocker switch <u>BEFORE</u> attaching the charging cable,

Put the included USB charging cable into a USB charger socket outlet and <u>Then</u> connect USB charging cable to the MF3.

Only use a wall socket/mains supplied type of USB charger to ensure the unit charges fully and also to prevent unintentional activation during charging.

Allow the MicroFogger to fully charge before beginning to use it. This can take up to 6 hours.

- **NOTE**: The MF3 Lite will only accept charge if it has been turned on as described above.

- Carefully unscrew the black fluid tank (see image bottom right) by turning anti-clockwise

- Double check that a coil is installed (it usually is)

- Using the 50ml bottle of fog liquid, unscrew bottle cap. Using the pipette-style tip, carefully pour fog liquid into the <mark>gap</mark> between the inner and outer walls of the reservoir. **<mark>DON'T</mark> pour into the central part (coloured RED in image)**. Don't squeeze the bottle too hard – or you'll overfill and spill the liquid!

- Keep filling the fluid tank until the liquid is at the same level as the top of the interior metal wall.

- At this stage – with fingers – check the coil (small silver cylinder) is firmly screwed into place (good finger tight!)

- Holding the reservoir tank upright, **invert** the MF3 body on to it and screw the body on to the tank (again, *good finger tight*). Turn the MF3 back to the upright position.

- Now make a cup of tea/coffee as you should **let the MF3 Lite rest upright for a minimum of 30 mins** (this ensures that the liquid properly seeps into the new heating coil). The coil may be damaged if you don't wait the 30 mins ☹.

Quick Start - Operation

- With the ON/OFF rocker switch is set to 'On' – then by pressing the main (large black) button the MF3 produces smoke.

Remember - the MicroFogger 3 is designed to be an impulse device.

Using it continuously will make the heating coil wear out faster.

It is recommended that you use bursts of no longer than 10 seconds with 10 seconds rest between bursts.

On-Board Controls & Operational Notes

Large Round Button

- Hold down to start smoke production and release to stop.
- Press once to return to the HOME screen from Advanced Settings Menu

Rocker/Toggle Switch

- Move to the I ("ON") position to turn the MF3 on for charging or for operation.

- Move to the 0 ("OFF") position to completely turn the device off (and especially for storage). In the "OFF" position there will be little or no battery drain.
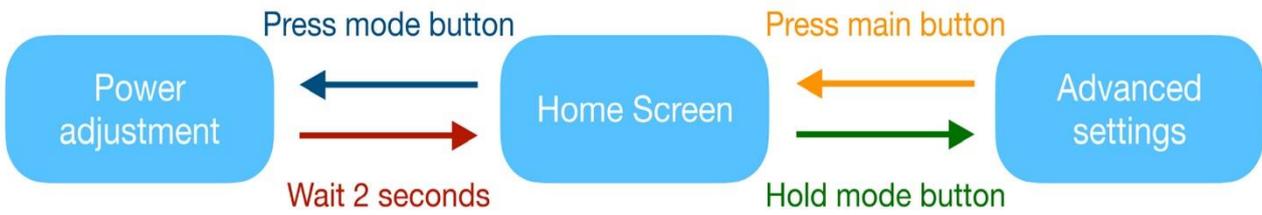
Mode Button (lower)

- Press to move between FAN SPEED and COIL POWER adjustment
- Hold down for 4 secs to enter Advanced Settings Menu
- In Advanced Settings Menu – sequentially press to cycle through menu options

Select Button (upper)

- Press sequentially to cycle through the FAN/COIL power levels on the Home Screen
- Press to cycle through individual settings adjustments in the Advanced Settings Menu
- On certain settings – HOLD to quickly cycle through number adjustments

Screen User Interface

- The on-board Screen Interface will allow you change the MicroFogger's power levels and adjust various advanced settings. The overall structure of the Menu is as shown:

INVENTYS
CONSULTANTS

INVENTYS
CONSULTANTS
LEVShop.co.uk
Supplies for LEV Testing

Power Adjustment Menu

After entering this interface by pressing the menu button, you'll be able to adjust the density of the smoke produced (coil power) by pressing the select button.

Every time you press the select button, the power level will be increased by one bar until all 8 bars are filled at which point it will loop back to 1 bar.

More bars equals to a higher power level.

Once the desired density is achieved, mode can be pressed again to begin adjusting the speed of the smoke (fan power level) in the same way as detailed above.

Throughout this process, you can hold the trigger button to see how changes to these settings impact the smoke production in real-time.
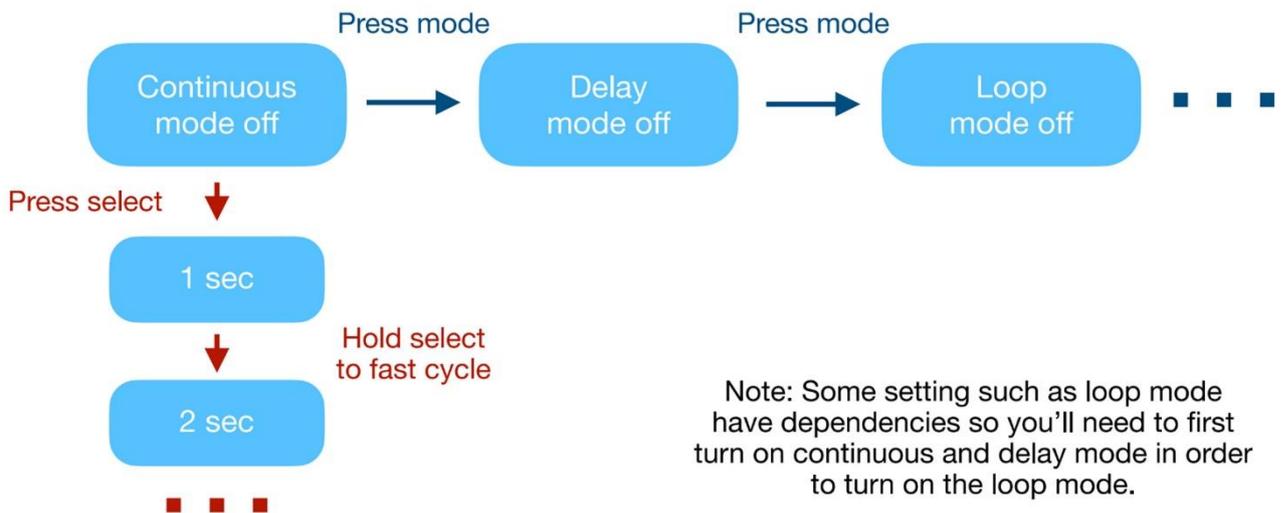
To return back to the home screen, simply don't press the mode or select buttons for 2 seconds.

Advanced Settings Menu

This interface can be entered by holding the mode button for 4 seconds while you are on the home screen.

Once you've entered, the Mode button (lower) will cycle the setting that you are adjusting and Select (upper) will cycle through the different options the setting can be adjusted to. Here is a visual representation of the menu:

Note: Some setting such as loop mode have dependencies so you'll need to first turn on continuous and delay mode in order to turn on the loop mode.

Below is brief overview of each of the settings:

Continuous Mode
Selects a duration for which the MicroFogger will stay activated after the trigger is pressed.
When in this mode, the continuous operation can be cancelled by pressing trigger again.
Usually limited to 10s but with time limits off, this is extended to 60s

Delay Mode
Selects the duration for which the MicroFogger will wait until continuous mode is activated.
Requires continuous mode to be on in order to work.
Limited to 300s

Loop Mode
Selects the number of operational loops that the MicroFogger will perform.
Requires Continuous and Delay mode to be turned "on".
Usually limited to 5 but with time limits off, this is extended to infinite loops.

RC Channel
Allows you to adjust the Remote Control channel configuration.
By default, all 4 Remote Control buttons are available pre-programmed for use for various set power levels but once a specific letter is selected, the MicroFogger will only be triggered when that button is pressed on the remote.
This allows for up to 4 independently controlled MicroFoggers.

RC Program
Allows you to bind the MicroFogger to any 433mhz frequency remote control.
Simply press "Select" button and follow the on-screen instructions.
If your Remote Control has less than 4 buttons, you can re-press the same buttons again to complete the process.

Remote ON/OFF
Allows you to turn "off" the MicroFogger's remote control functionality to avoid unintentional activation during important performances.

Time Limit ON/OFF
Toggles whether the time limit is "on" or "off".
When it is "off", the MicroFogger will not turn off after 10 seconds of continuous operation.
It will also unlock greater values in the continuous and loop mode menus.
This is an advanced feature and can be an issue if used improperly.
We recommend keeping it "off" at all times.

Charge Lock ON/OFF

Sets whether the MicroFogger can be activated via the control cable while it is charging.

Keep this setting "off" at all times unless you are <u>both</u> charging and triggering the MicroFogger simultaneously.

Turning it on may result in unintentional activation while charging.

Screen DIM/BRIGHT

Changes the brightness of the display screen.

Info Screen

Displays the software version number.

Normal Operation

- Holding down the large round "Trigger" button while the MicroFogger is turned on will begin smoke production.

- To maximize heating coil lifespan, we recommend a 10 second limit on continuous use after which point, it is advisable to wait at least another 10 seconds before the next burst to allow the fog fluid to be re-absorbed. Failure to do so will cause excessive coil wear and may make the smoke smell burnt. If you observe this, follow the instructions in the "storage and maintenance" section of this manual to replace the heating coil. In extreme cases, if you keep running the MicroFogger even after the heating coil has worn out, small burning fragments of the absorbent material may be ejected out of the nozzle.

- Although the MicroFogger can be used in any orientation provided that the tank is mostly full, we still recommend that you keep it upright (with the nozzle pointing vertically upwards) as much as possible.

  This position allows the coil to optimally absorb the liquid, even if the tank is near-empty.

  If there isn't much fog liquid remaining in the tank, avoid using the MicroFogger in any orientation other than upwards as this would have the same effect as running it without any liquid.

- If you are mounting the MicroFogger in a static position and require smoke output in a downward direction, we would recommend using our optional hose attachment or Loc-Line accessories.

- After each use, we recommend ejecting any excess fog liquid that may have re-condensed within the barrel of the MicroFogger.

- This can be done by simply "flicking" the MicroFogger while holding it to eject any excess liquid from the barrel. If indoors, make sure to 'flick' it into a sink to avoid getting drops on the floor.

  Alternatively, you can tap the MicroFogger's barrel on a surface while keeping it upside-down to encourage the liquid to drip out.

  Failure to eject excess liquid after use may result in liquid damage in the long term.

Storage & Maintenance

- To store the MF3, fully charge it and then ***turn it off** using the Rocker Switch*.

- Place it in a cool, dry place that is away from direct sunlight and any potentially flammable materials.

- Unscrew the fluid tank and heating coil. Give both a quick rinse in clean cold water to remove any fog fluid. Dry with a paper towel.

- Leave the heating coil and tank unscrewed (ie off the MF3) during storage

- We always advise if storing for a few days or more – to make sure that the tank is fully emptied to prevent the risk of leaks. The fog fluid is non-hazardous ….. but a bit 'sticky' ☹

- During normal use - a burning smell coming from the MF3 indicates that the heating coil should be replaced. Follow the steps below:

To change the coil:-

1. Unscrew the MF3 from the fluid tank while keeping the MF3 body pointed downwards (to prevent spillage).

2. Gently wipe away any smoke liquid that remains on the now-exposed metal components on the body of the MicroFogger with paper towel

3. Unscrew the heating coil (the small metal cylinder) by rotating it in an anti-clockwise direction. Usually this can be done by finger pressure alone however if the coil is excessively tight, ***gentle*** use of pliers may be needed.

4. If you notice any liquid in the airflow channel under the heating coil, wipe away as much of it as possible using a paper towel.

5. Remove a spare heating coil from its blister packaging and screw it into the slot.

6. Make sure it is (good) finger-tight – as a loose heating coil can cause the MF3 to leak or display a heating coil error.

7. Re-fill the fluid tank and as with the first-time initial setup do allow the liquid to absorb for at least 30 minutes before using the MF3.

NOTE: If during operation the MF3 does not produce any smoke but you hear a 'bubbling' sound – STOP immediately as there is excessive fog liquid inside the heating coil.

Try "flicking" the MF3 away from you to expel the liquid from the barrel. DO THIS OVER A SINK! 😉. Then try gently tapping the MF3 barrel on a flat surface to expel the liquid. If this does not work – you will need to change the heating coil.

Troubleshooting

No smoke is emitted even though the fan spins when you press the main button

Ensure the heating coil is fully tightened. If the problem persists, *carefully* insert a fine screwdriver or other rod-like object into the barrel of the MicroFogger (the hole from which smoke is emitted) while the unit Rocker Switch is turned off.

Briefly apply light pressure to the screwdriver, this will ensure that proper electrical contact is restored. Remove the screwdriver and try the unit again.

Should this error persist, replace the coil with a new one.

Fluid Tank Leaking

Ensure both the heating coil and the tank are fully screwed home (finger tight). If problem persists – ensure all white gaskets on the heating coil and the tank are properly and securely in place (and undamaged).

MicroFogger Won't Turn ON

Plug it in to charge – remember use a mains fed USB charger outlet - (**with the Rocker/Toggle Switch 'ON'**) and wait at least 4 hours until the MicroFogger recharges.

MicroFogger Won't Charge

If the MF3 is in a critically low battery state, the battery state display may not show charged state for the first 30 minutes of charging. If it still does not take/hold charge - please try using another charger and different micro-USB cable to diagnose whether it is an issue with the MF3 or not.

MicroFogger keeps charging forever (Battery Charge Indicator Does Not Increase)

If the MF3 battery level does not increase at all even where it has been charged for several hours – first make sure the Rocker Switch has been set to the "ON" during charging.

MicroFogger turns on when the USB cable is plugged into it but the other end of the cable is not in a charger!

This can occur when the Charge Lock is "OFF". Some charging cables make the MF3 recognise them as a "trigger input" (a feature that allows the MF3 to be triggered via a cable). To resolve this issue – turn the Charge Lock back to "ON".

Microfogger Activates Randomly While Charging

This can happen if you are using a computer or a power bank to chanrge the MF3. If the computer/power bank goes to 'sleep' during the charging process, the MF3 may inadvertently recognise this as a control cable signal. To prevent this from happening, only use 'wall-socket' type USB chargers.

MicroFogger produces a burning smell even with a new heating coil

There may be a very slight burning smell present in the first few second of operation with a new coil. This is normal. If the smell persists or becomes more noticeable, stop using the MF3 and allow it to rest for at least another 30 minutes before switching on again.

Ensure that the fluid tank is fully filled. In cold environments, the fog liquid becomes more viscous (thickens) and will take longer to be absorbed into the heating coil.

In these situations, place the MicroFogger in a warm area before using it.

Safety Considerations

The MicroFogger 3 (MF3) is powered by a high-performance Lithium-ion battery. This type of battery presents a potential fire risk if handled improperly. The following safety guidelines aim to prevent any issues from arising:

- Never leave the MF3 charging while unattended
- Never charge an MF3 using a computer or a battery bank
- Keep the MF3 away from any flammable materials
- Do not expose the MF3 to temperatures over 40^0C
- Never attempt to disassemble the MF3 or undertake unauthorised modifications
- Don't expose to direct sunlight for extended periods of time
- Always ensure the MF3's heating coil compartment is clear of debris
- If the MF3 sustains a significant impact through a drop or other mishap, immediately cease operation (unplug it if it is charging) and place it in a safe area outdoors and wait for at least 10 minutes.

- If the lower half of the MF3 heats up to a temperature of over 40^{0}C, immediately cease operation (unplug it if it is charging) and place it in a safe area outdoors and wait for at least 10 minutes. Do not use again until the MF3 has cooled down to normal operational temperatures.
- Never attempt to power the MF3 using a home-made charging cable.
- Always store the MF3 with the heating coil unscrewed and "*Rocker/Toggle Switch*" in the "*OFF*" position

During operation, the MF3 heats a mixture of Propylene Glycol and Glycerine in an internal metal coil to produce the smoke effect. These chemicals are often used as food additives, and both are generally recognised as safe to handle. To prevent any heat-related issues please follow these sensible guidelines:

- Never touch the fluid tank during operation as it runs hot and can cause burns
- Always allow the fluid tank to cool down before changing coils or refilling liquid
- Never aim the MF3 directly at people or animals that are within 1m of range as occasionally small droplets of fog fluid can be projected from the nozzle
- Never look directly into the MF3's nozzle while it is running

Finally, a few more sensible guidelines that should be respected:

- Never allow anyone under the age of 18 to use the MicroFogger 2
- If the smoke starts smelling burnt, immediately cease operation and replace the heating coil with a new one.
- Never leave the MF3 in a car that is exposed to direct sunlight as during hot weather this is likely to cause the plastic case to degrade and potentially soften. This could result in gaps forming around the edges of the top cover.

Potential Health Impacts

The MF3 produces smoke by heat applied evaporation of a mix of Propylene Glycol and Vegetable Glycerine. The liquid is quite 'sticky' if it gets on your skin/fingers but this can be quickly removed by rinsing with clean water.

Although the above chemicals are both generally recognized as safe and are commonly used in food additives and skin lotions, you must always follow sensible handling and usage directions:

- Do not consume the fog liquid
- If fog liquid enters the eyes, wash immediately with clean water
- Never use the MF3 near children under the age of 4 or pregnant women
- Never use the MF3 near people with pulmonary or renal heath issues
- Never deliberately inhale the smoke produced
- Do not operate the MF3 if the liquid tank is empty
- Do not "fog up" a room to a visibility of less than 3m

- Never use any fog liquid other than the proprietary liquid provided.
- If anyone in the operational area exhibits symptoms of nausea, light-headedness or other adverse health-related effects immediately cease operation and remove affected person(s) to a well-ventilated room with fresh air. Call a doctor if symptoms persist.

Vosentech LLC and Inventys Ltd (t/a LEVShop) will not accept any responsibility for property damage or bodily harm caused by the improper use of the MicroFogger 3 Pro or its accessories.

It is the user's responsibility to follow the guidelines set out in this Manual and to use good judgement - together with knowledge of the risks detailed above, to safely operate the device. If you are unwilling to accept the risks associated with using this device, immediately return it for a full refund.

Support@vosentech.com

Package Contents

The following should be included with your standard MF3 Pro.

- Dropper bottle with 50ml of fog liquid
- Replacement heating coil in blister pack
- Instruction manual or download link
- USB charging cable
- Remote Control 'keyfob'

Depending on your specific order details, some or all of the following additional items may also be included in the box.

- Additional replacement coils
- Extra bottle of fog fluid
- Hose attachment (4mm/6mm)
- Rake attachment/diffuser (straight or circular)
- Black plastic IP65 Instrument carry case
- Loc-Line accessories
- Nimbus Tank and Coil Upgrade Kit

Additional Features

The following should be included with your standard MF3 Pro.

The MF3 supports several additional features to make it easier to incorporate the effects into your own custom projects.

Please note that although these modifications are officially supported, you may void your MF3 warranty should you decide to proceed with any of these effects as there is a potential to damage the internal electronics if they are not followed carefully.

Whilst the following guides will detail each step to make the process as easy as possible, we still advise that you only attempt these modifications if you believe you have sufficient technical knowledge. **Proceed at your own risk**!

Wired Remote Control Operation

The MicroFogger can be triggered via its USB port to permit automated control or to activate the MF3 over long distances (further than the radio Remote-Control operational distance).

This can be done by simply connecting the two data pins (pins 3 and 4) of the micro USB port together. To access these pins, you can strip the end off a data transferring micro USB cable and then plug it into the MicroFogger.   WE can provide short cables to use for this purpose as an optional extra.

Typically, when exposed, these wires will be green and white, but the colour can depend on the exact type of cable used.

For triggering it is normally the **white** and **green** wires that are used. You can now solder these wires to a relay or switch of your choice **but take care not to let the red and black wires touch!**
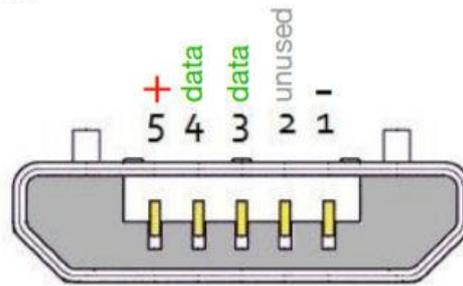
If you only see two wires after stripping the USB cable, that means that it is a power-only USB cable rather than a data+power one so it won't work as a signal cannot be sent through it.

In more advanced projects, you can connect the relay to a micro-controller such as a Raspberry Pi or an Arduino to allow for precise timing or environment-dependent triggering when paired with additional sensors.

Please note that the 10 second continuous use cut-off is still in place even when the MF3 is activated through the USB port.

Warning! Incorrect wiring or accidental contact between any wires other than the data ones can lead to irreversible damage to the MF3 which will not be covered by the warranty.

Pin 5 = +ve

Pin 4 = data

Pin 3 = data

Pin 2 = unused

Pin 1 = -ve

MicroFogger 2 female micro USB type B port top view

Support and FAQs

Can the MicroFogger trigger smoke alarms?

Yes! Ionization and photoelectric smoke alarms may be activated. Traditional heat-activated smoke alarms and sprinklers will not be affected.

Is it possible to change the smoke colour?

Unfortunately, not. The MF3 produces smoke by heat evaporation of a fog liquid. It can only be white and adding a dye to the liquid will not change the smoke colour.

The only way to simulate coloured smoke using the MF3 would be to use external lighting (eg lasers).

Can I breathe in the smoke?

The liquid is a food additive and under normal operations, the fog produced is considered to be non-toxic. However, we do not recommend breathing in the smoke.

The smoke can only become potentially harmful to inhale if the safety precautions regarding the replacement of worn-out heating coils are not followed

What is the fog liquid?

The liquid consists of a high purity vegetable glycerine and propylene glycol mixture and is sometimes used as a food additive. The same liquid is also found in cigarette replacement vaping units.

Can I use liquids from other smoke machines?

Liquids from other fog machines are usually far less viscous (thinner) than our composition so if used in the MicroFogger, they are unlikely to produce any smoke.

We can only guarantee the safety and performance of the fog liquid that we sell so if you decide to experiment with other compositions, this would at your own risk.

How long does the smoke linger in the air?

Depending on atmospheric conditions, the smoke can remain in the air for up to an hour after being released. The main factor affecting persistence is whether or not there is any air movement, drafts as these will greatly accelerate smoke dispersion.

Do original MicroFogger heating coils work with the MicroFogger 3?

Absolutely, we've kept the heating coils the same so that you can use any that you have previously purchased from us.

What obstacles can the remote control signal go through?

It really depends on the exact situation but in general, as a rough guideline, you will be able to control the MicroFogger though several thin plaster walls. Similarly, if you decide to put it into cardboard or fabric enclosure, you shouldn't encounter any issues. On the other hand, metal barrier such as car doors will usually block the signal although we have even had luck with activating the MicroFogger while it was inside a car hood!

Can I control the MicroFogger 2 via a wired remote?

Yes, the usb charging port also doubles as a signal input which allows you to trigger the MicroFogger using a switch, relay or micro controller of your choice.

You'll need our control cable accessory to access this functionality.

….. And Finally

If you believe that your Microfogger is faulty, **please check the Troubleshooting section** of this manual.

If your problem persists, please reach out to us at the email address below.

If it is a specific question about your order, please include your Invoice/Order number which can be found on your printed invoice.

Spares and replacements available can be viewed on the manufacturer's website here:- Repairs and replacements – Vosentech