

VAPE DETECTOR

SCHOOLS, HOTELS, BUSINESS

Model: FD-VAPE-WALL

User Manual Version: v1.0





INCLUDED PARTS

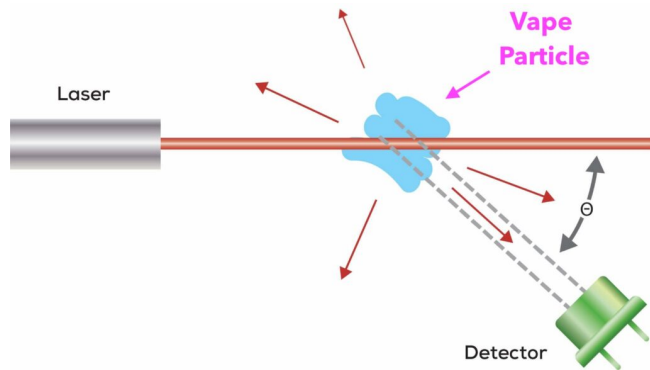
- ✓ Vape Detector with (x2) mini bolts
- ✓ Mount Plate and Screw Kit (x2 screws)
- ✓ USB Charging cable
- ✓ USB Charger
- ✓ User Manual (this document)

1. INTRODUCTION

You have purchased the Forensics Detectors Vape Detector. This is a sleek Vape Detector with advanced features such as smartphone connection and app alerts. The detector can detect smoke from vapes, e-cigarettes, weed, and many other illicit smoking sources. The Vape Detector employs laser scattering sensor technology to detect the slightest airborne particles. The Vape Detector connects to your network and phone via Wi-Fi and Bluetooth connectivity. This unit was designed for easy use and setup for schools, K-12, restrooms, businesses, hospitality toilets, bathrooms, and confined spaces to detect the slightest vapor, smoke, or aerosol particles suspended from smoking.

It is paramount to consider the following items when installing the Vape Detector for best operation:

1. **Ventilation.** If there is too much ventilation in the indoor space, the vapor and or smoke will dilute, not allowing the Vape Detector an opportunity to detect the presence of vaping.
2. **Location.** Placing the Vape Detector and locating it at the most appropriate place is paramount. Do not locate the unit next to ventilation grills, windows, dead space (vaults), behind drapes or furniture.
3. **Behavior.** Many students and individuals are catching onto methods to reduce vape smoke, such as exhaling the vapor in a toilet when flushing, vaping in a backpack, or employing personal smoke filters, such as the Smoke Buddy.



2. SENSOR – PM2.5 LASER TECHNOLOGY

The Vape Detector employs a laser scattering particulate sensor known as a PM2.5 sensor. These sensors employ very sensitive electronics and optical components to provide high fidelity and high sensitivity. These are 100x more sensitive than a typical home smoke detector.

3. QUICK SETUP

1. Unpack the Vape Detector & make sure all parts are included.
2. Connect Power using the micro USB Cable and USB charger.
3. Download and install the TUYA SMART app.
4. Connect and Install the Vape Detector within the TUYA SMART app.
5. Setup your alarm and notifications with the TUYA SMART app.
6. Undertake “mock” alarming to confirm operation then mount Vape Detector.





4. Operation (see YouTube Tutorial)

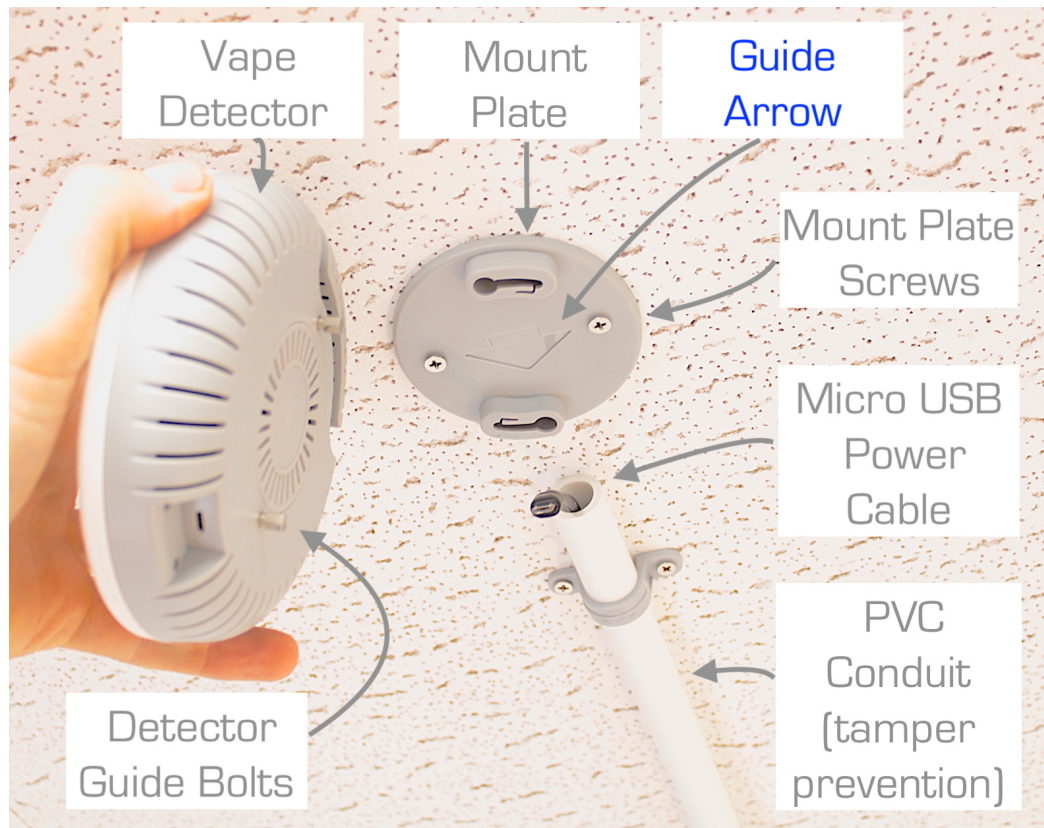
1. Turn ON the Vape Detector by plugging the USB power to it.
2. When ON, the blue LED will flash, indicating the unit is ready for Smart Phone Setup. To force it in pairing mode, press the button to trigger the LED to flash fast, indicating pairing mode.
3. Connect to the TUYA app. **See Section 7 to connect to the TUYA App.**
4. The blue LED will remain constantly ON when it is properly connected to your smartphone via the TUYA app and operating normally.
5. Confirm the Vape Detector works by blowing smoke or vape on the unit. Ensure your alarms are triggering as setup within the app. This is the best way to ensure the unit is working. Once the Vape Detector is operating and alarming on your smartphone then mount it on the wall or ceiling.
6. When the unit is turned off (power cable disconnected), and then turned back ON, the Vape Detector will automatically re-establish connection and begin operating as normal.

5. Select the Mount Location

- Avoid installation in areas where the temperature is colder than 40°F (4.4°C) or hotter than 100°F (37.8°C).
- Do not install 4 ft near vents, flues, or any forced/unforced air ventilation openings. Do not install where showers are located. (humidity and steam will trigger false alarms)
- Do not install near ceiling fans, doors, windows or areas directly exposed external air (avoid dilution effects).
- Do not install in dead air spaces, such as peaks of vaulted ceilings or gabled roofs (not efficient smoke passage way).
- Do not obstruct the vents located on the Vape Detector. Do not place the alarm where drapes, furniture or other objects block the flow of air.
- **Install as close as possible where suspected vaping is taking place (i.e. above restroom cubicles and stalls).**

6. Mounting

1. The Vape Detector is mounted to the wall or ceiling via the mount plate. First screw the two small bolts to the Vape Detector tightly. The bolts are used as guide pins when mounting the detector to the plate.
2. Establish a mount location considering items mentioned in Section 5.
3. Having established the mounting location, ensure that there is no electrical wiring or pipe work behind the mounting surface.
4. Mark the two mount hole locations on a wall using the backplate holes as a guide and drill holes in the positions marked using a 5mm drill bit.
5. Insert the plastic drywall expansion anchors.
6. Install the mount plate, align the holes, and screw the screws into the anchors. The mount plate is now firmly installed on the wall/ceiling.
7. Then mount your PVC conduit. This is recommended for tamper prevention. The plate "guide arrow" is for power input alignment.
8. Twist the detector onto the mount plate, guided by its two bolts.
9. The detector is ready for continuous operation.



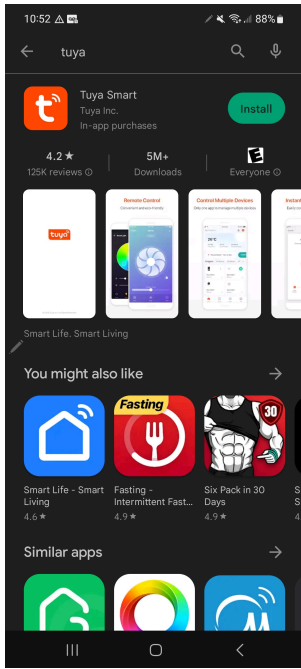
7. Smart Phone Installation (TUYA APP)

1. The Vape Detector operates using the TUYA Smart App. The TUYA SMART app is a popular 3rd party app used by many products.
2. The TUYA App is a generic IoT smartphone platform and there is a plethora of YouTube videos on how to use the software.
3. The TUYA App is **FREE** on Google Play (Android 4.3 or above) and the iPhone Store (iOS 9.0 or above).
4. To operate the Vape Detector and Smartphone both Bluetooth (setup) and Wi-Fi (on-going communication) is required.
5. During the Setup Phase, please make sure the Vape Detector and smartphone are nearby to communicate via Bluetooth AND the Wi-Fi network signal strength is reasonable.
6. The Vape Detector is a real-time detection system. It detects vape PM2.5 every 5 seconds. If the preset *“scenes”* alarm thresholds (in the TUYA app) are met, the Vape Detector will send an alarm notification.
7. Data is stored on an average hourly basis. Averaging allows better management of data and provides the user with a more accurate baseline for *“fresh air”* – helps better program alarms to avoid false positives.
8. Turn ON the Vape Detector. Make sure the blue light is flashing fast. If you are not sure, press the middle button for 2 seconds and the blue light will flash fast. This indicates the unit is in pairing mode.
9. Make sure your smartphone is connected to the Wi-Fi network that you want the Vape Detector to use. In addition, make sure your smartphone Bluetooth function is enabled ON to allow pairing.

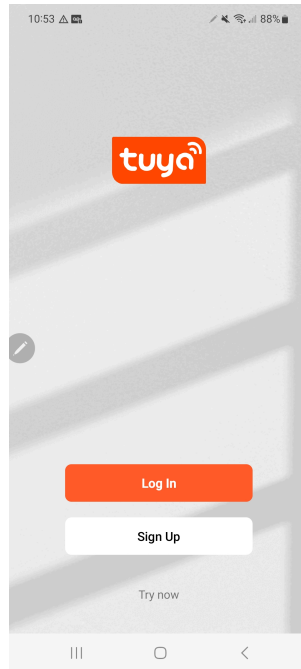
See App Tutorial Installation:

www.vapedetector.com

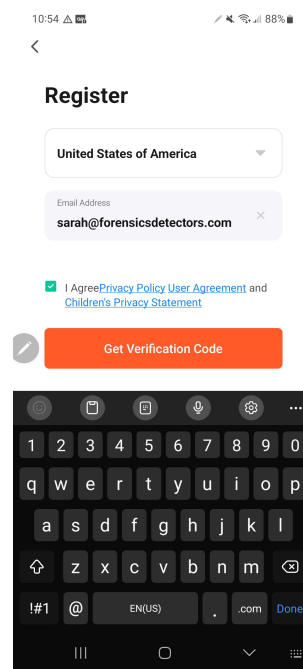




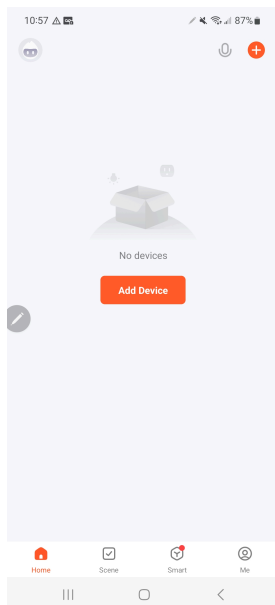
Step 1. Install TUYA App



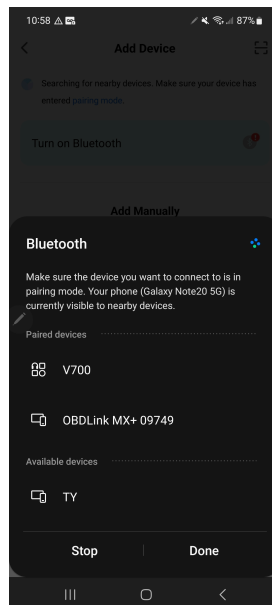
Step 2. Open the App.



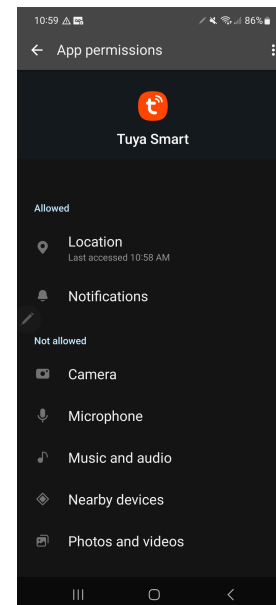
Step 3. Sign Up & Get Code



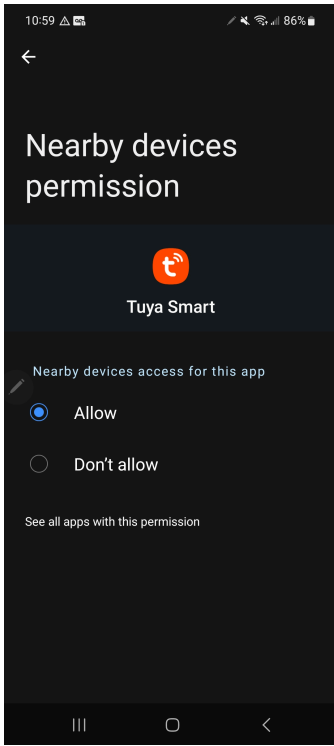
Step 4. Press "Add Device"



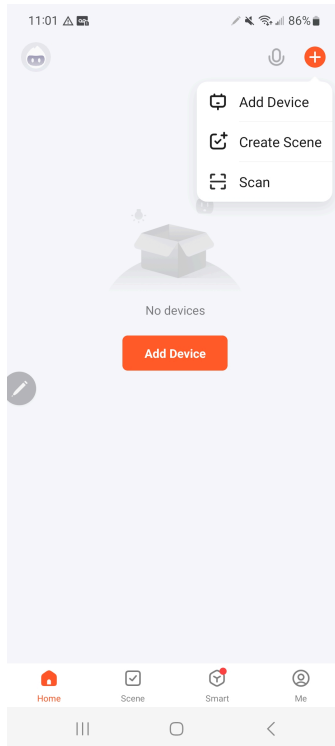
Step 5. Enable "Bluetooth"



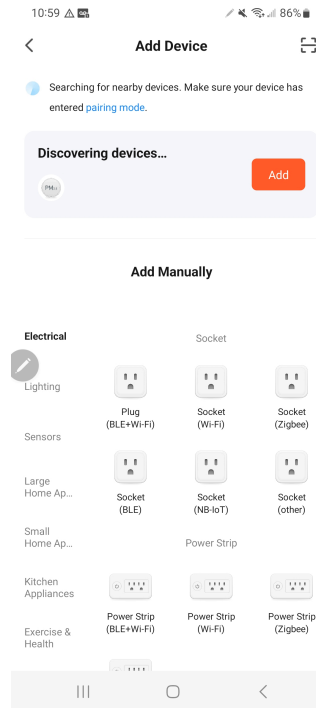
Step 6. Check TUYA Permissions and..



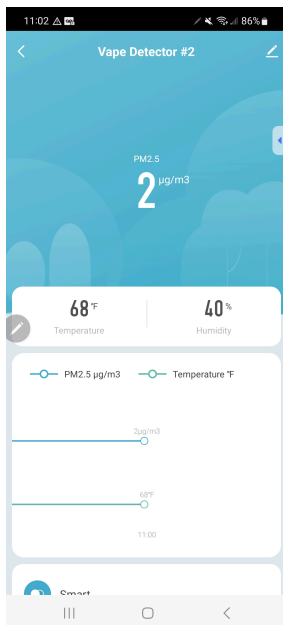
Step 7. ...Allow Nearby Devices Permission



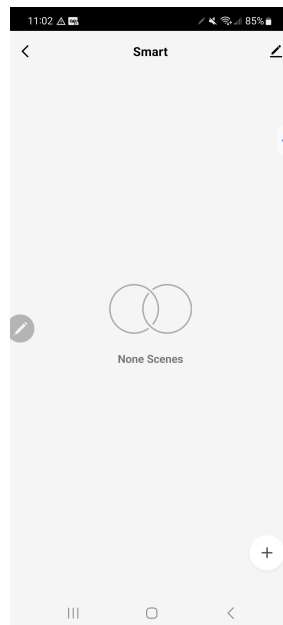
Step 8. Press "Add Device"



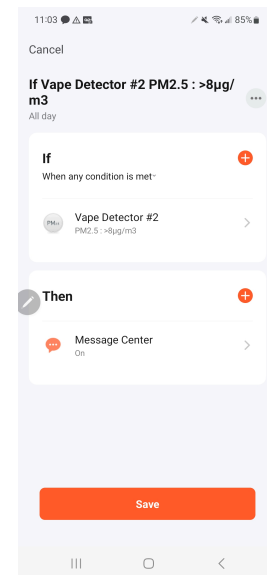
Step 9. Auto Search will find the Vape Detector PM2.5. Then press "Add"



Step 10. Successful connection - main screen.



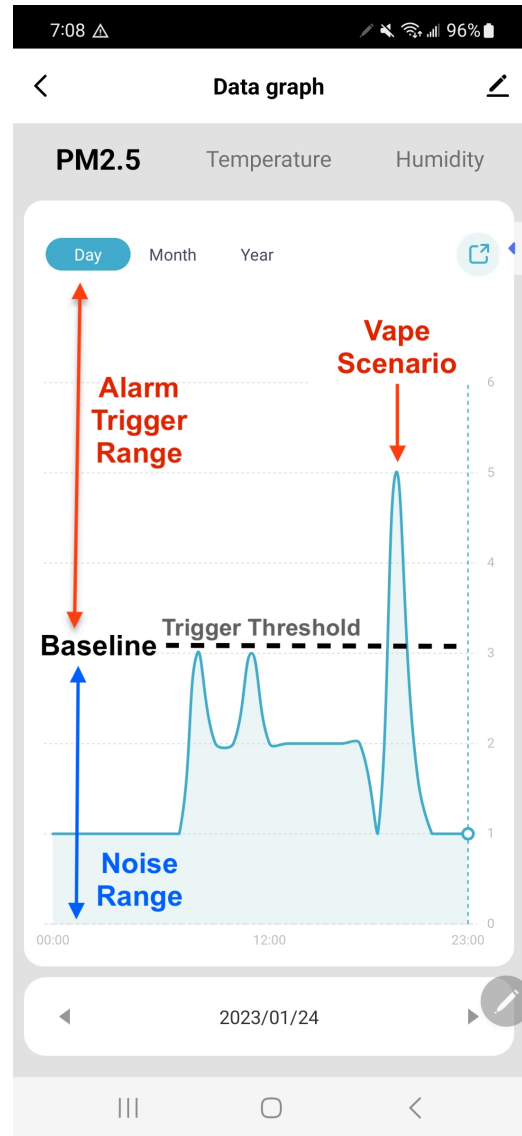
Step 11. Setup Scenes to enable Alarms. Press "+"



Step 12. Example Scene – see www.vapedetector.com for more video examples.

VAPE ALARM EXAMPLE

- ✓ Setting up the TUYA alarms and baseline threshold triggering is an important part of the process. The baseline **Trigger Threshold** will be different for different locations, based on the background noise, dust, smoke, and general air quality. We recommend at least letting it run after installation for 24 hours to establish the baseline Trigger Threshold. This level is important to determine if an actual vape scenario did occur.
- ✓ Let us take the right graph as an example. After one day of datalogging, we will see the **"Noise Range"** existing between 0 - 3 ug/m³. We also performed a "mock" vape test (recommended) and observed a peak at 5 ug/m³ (hourly average). Based on this 24-hour test example, we can be confident that anything above 4 will indicate a vape event.
- ✓ That being the case, one would program a scene as ***PM2.5 > 4 send notification.***
- ✓ **If False Alarms occur, then it indicates the Baseline Trigger Threshold should be increased.**
- ✓ Note that the TUYA app, allows for SMS texting and calling but some costs are associated with these advanced features and NOT supported by Forensics Detectors.
- ✓ See our videos on the VAPE DETECTOR installation and setup. This will help tremendously with more detail than this user manual.
- ✓ When installing the Vape Detector, think about vandalism and any methods to reduce damage (i.e. protecting the power cord by employing PVC or conduit).
- ✓ The units operate via 5V power supply charger and cable. A handyman would be a good choice to install this detector.



SPECIFICATIONS

Sensors:	PM2.5 Laser Scattering, Temperature & Humidity
PM2.5 Detection Range:	0-999 $\mu\text{g}/\text{m}^3$
PM2.5 Response Time:	5 seconds
Temperature Detection Range:	32 - 140F
Temperature Response Time:	5 seconds
Humidity Detection Range:	0 - 100% RH
Humidity Response Time:	5 seconds
Working Environment:	32 - 140F < 99% RH
Power Supply:	DC 5V DC USB Power (micro USB)
Working Humidity:	0 - 100% RH
Detector Dimensions:	5.5 x 5.5 x 1.5 inches
Detector Weight:	0.7 lb
Box Dimensions:	11 x 6 x 3 inches
Box Weight:	1lb





WARRANTY DISCLAIMERS

- This product is covered by a one-year limited warranty.
- This warranty does not cover damage resulting from accident, misuse, disassembly, abuse, or lack of reasonable care of the product, or applications not in accordance with the user manual.
- It does not cover events and conditions outside of our control, such as Acts of God (fire, severe weather etc.). It does not apply to retail stores, service centers or any distributors or agents.
- We will not recognize any changes to this warranty by third parties.
- We shall not be liable for any incidental or consequential damages caused by the breach of any express or implied warranty. Except to the extent prohibited by applicable law, any implied warranty of merchantability or fitness for a particular purpose is limited in duration for 1 year.

THIS PRODUCT CANNOT BE REPAIRED IF THE UNIT IS TAMPERED WITH IT WILL INVALIDATE THE GUARANTEE. IF THE UNIT IS FAULTY PLEASE RETURN IT TO YOUR ORIGINAL SUPPLIER WITH YOUR PROOF OF PURCHASE.

Product Designed in California, USA

Product Made in China

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