



## INSTALLATION & SETUP GUIDE

# Fort Digital Pollution PM2.5, Air Quality & Smoke Alert System

LIVE Monitoring | Backup Battery | 4G LTE + Wi-Fi



**IMPORTANT** Read the safety instructions before opening the enclosure, inserting or removing the SIM card, connecting power or testing alerts.

**LIFE-SAFETY NOTICE** This system monitors airborne particulate levels and can alert on smoke-related particles. It is not a certified smoke detector or fire alarm and must not replace code-compliant life-safety equipment.

**Fort Digital Pte. Ltd.**

[www.FortDigital.com.sg](http://www.FortDigital.com.sg) | WhatsApp: +65 8151 5000 | [support@fortdigital.com.sg](mailto:support@fortdigital.com.sg)

## 1. Before You Begin

This guide explains how to position the Fort Digital particulate monitor, install a Nano-SIM, power on the Main Module, add it to the Fort Digital Sensors app, configure connectivity and alert thresholds, and commission the system.

**WARNING** Switch the Main Module OFF and disconnect its USB power cable before opening the enclosure or inserting, removing or checking the SIM card. The internal battery can keep the unit energised after USB power is removed.

### Included Components

| Qty | Component                                          | Purpose                                                |
|-----|----------------------------------------------------|--------------------------------------------------------|
| 1   | Main Module with integrated Sensirion SPS30 sensor | Particle monitoring, communications and app connection |
| 1   | Internal rechargeable NCR 18650 battery            | Temporary backup operation during power interruption   |
| 1   | USB-C charging cable                               | Connects Main Module to the 5 V adaptor                |
| 1   | 5 V USB adaptor                                    | External operating and charging power                  |
| 1   | Device QR code and PIN                             | Adds the supplied unit to the mobile app               |

Not included: Nano-SIM card, mobile data plan, Wi-Fi service and site mounting materials unless stated in the quotation.

### Select a Suitable Location

- Install indoors or in a protected, clean and dry location within the stated operating limits.
- Keep the enclosure's air openings unobstructed so the sensor samples representative ambient air.
- Place the unit away from direct rain, condensation, oil mist, corrosive vapour and explosive atmospheres.
- Avoid mounting immediately beside an air-conditioner outlet, fan, purifier, open window, steam source or aerosol spray unless that source is intentionally monitored.
- Use a stable surface, DIN rail or secure mounting method that does not block airflow or strain the USB cable.



*Keep all air inlet, outlet and casing ventilation paths clear.*

## 2. Install the SIM Card and Power On

Use an activated Nano-SIM with a working mobile-data plan if 4G LTE operation or cellular failover is required. Disable the SIM PIN lock before installation unless Fort Digital has confirmed otherwise.

### STEP 1 Remove external power

Unplug the USB-C power cable. Move the internal ON/OFF switch down to the OFF position.

### STEP 2 Open the enclosure carefully

Loosen the enclosure screws with a suitable screwdriver. Lift the cover slowly because an antenna lead is attached inside. Do not pull, twist or strain the antenna cable.

### STEP 3 Unlock the SIM holder

Slide the SIM-card holder to the left, then lift it open.

### STEP 4 Insert the Nano-SIM

Place the SIM card into the holder according to the holder shape and printed orientation. Confirm that it sits flat and correctly aligned.

### STEP 5 Lock the SIM holder

Close the holder, then slide it to the right until it locks with a click.

**SIM HOLDER** Slide left to unlock. Slide right to lock. Never insert or remove the SIM while the unit is powered.

### STEP 6 Switch on the Main Module

Move the ON/OFF switch up to the ON position. The unit can start from its internal rechargeable battery before external USB power is connected.

### STEP 7 Connect charging power

Connect the supplied USB-C cable and approved 5 V adaptor. A blue power indicator confirms that external power is present and the internal battery is charging.

### STEP 8 Close the enclosure

After confirming normal indicator activity, position the cover without trapping the antenna lead. Reinstall and tighten all screws evenly.

## Status Indicator Guide

| Indicator behaviour                                                                                                                                          | Meaning / action                                                                                          |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|
| Network indicator blinking                                                                                                                                   | The modem is detecting or communicating with the mobile network. Allow time for registration.             |
| Both network indicators remain solid                                                                                                                         | The SIM may be missing, incorrectly installed or unable to obtain service. Switch OFF before checking it. |
| Blue USB indicator on                                                                                                                                        | External USB power is connected and the internal battery is charging.                                     |
| <b>ALLOW START-UP TIME</b> After power-on, allow the sensor and network connection time to stabilise before judging the displayed readings or online status. |                                                                                                           |

### 3. Install the App and Add the Device

#### STEP 9 Install Fort Digital Sensors

Download the Fort Digital Sensors app from Google Play or the Apple App Store. You may also scan the app-download QR code below.



App download QR code

Google Play: [play.google.com/store/apps/details?id=com.fortdigital.gpstracking](https://play.google.com/store/apps/details?id=com.fortdigital.gpstracking)

Apple App Store: [apps.apple.com/ph/app/fort-digital-sensors/id6798488289](https://apps.apple.com/ph/app/fort-digital-sensors/id6798488289)

#### STEP 10 Open the app

Launch the app and select Add Device.

#### STEP 11 Scan the device QR code

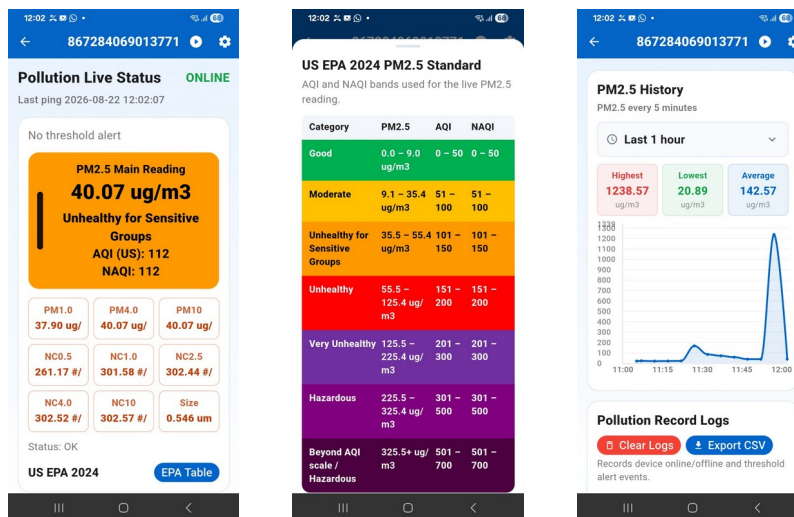
Scan the QR code printed on the Main Module or supplied with the device. Do not confuse it with the app-download QR code shown above.

#### STEP 12 Enter the device PIN

Enter the PIN supplied for the Main Module. New users should enter their email address and complete account registration when prompted.

#### STEP 13 Confirm the device appears

Open the newly added device. Confirm that it shows ONLINE and that the PM values begin updating.



Live status | PM2.5 reference | Trend history

**PHONE PERMISSIONS** Allow notifications for Fort Digital Sensors in the phone's operating-system settings. Battery optimisation or background restrictions may delay or suppress alerts on some phones.

## 4. Configure Connectivity and Alerts

### Wi-Fi and 4G LTE

#### STEP 14 Confirm 4G LTE service

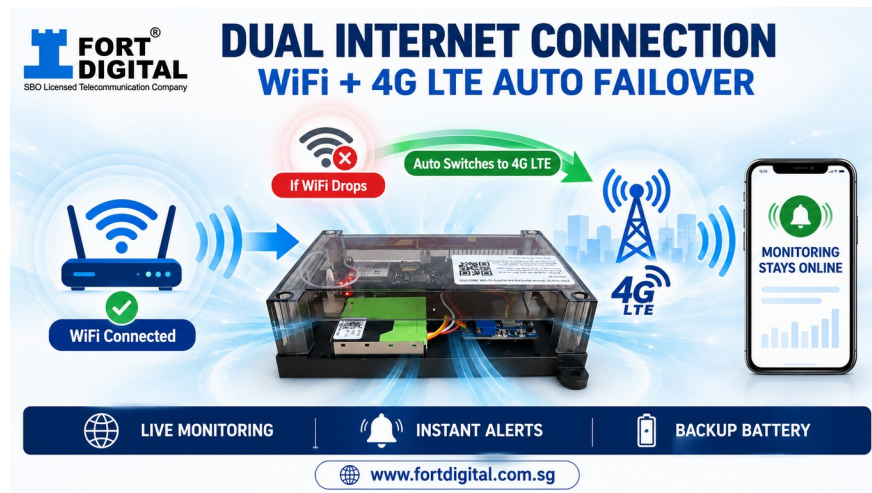
With the Nano-SIM installed, confirm that the device reports ONLINE using mobile coverage. Check the SIM data plan, coverage and APN requirements if it remains offline.

#### STEP 15 Configure Wi-Fi

Open the device Settings page and follow the Wi-Fi setup option provided with your firmware. Enter the approved network details, save them and allow the device to reconnect. Menu wording may vary by app or firmware version.

#### STEP 16 Keep LTE available as backup

Leave the activated Nano-SIM installed. If Wi-Fi becomes unavailable, the system can automatically use 4G LTE so monitoring and alerts can continue, subject to coverage and data service.



Wi-Fi connection with automatic 4G LTE failover

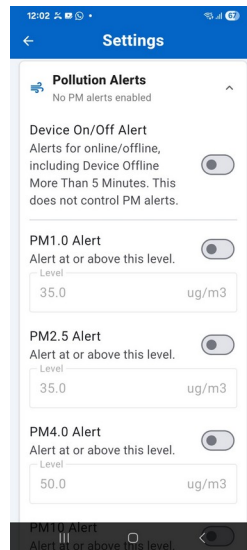
## Configure Pollution Alerts

### STEP 17 Open Pollution Alerts

Tap the device Settings icon, expand Pollution Alerts and review the available PM alert controls.

### STEP 18 Set each required threshold

Enable the required PM1.0, PM2.5, PM4.0 and/or PM10 alerts, enter the approved site threshold for each parameter, then save the settings.



*Pollution alert settings*

**IMPORTANT** The Device On/Off Alert controls connectivity notifications and does not replace the individual PM alert switches. Thresholds must be selected by the customer or a qualified environmental professional for the intended site and purpose.

## 5. Commission and Test the System

Perform the following tests at the final installation position. Keep the app open on an authorised phone and record the result of each test.

### STEP 19 Confirm live readings

Verify that the device is ONLINE and that PM1.0, PM2.5, PM4.0, PM10, particle-count and typical-size values are displayed. Allow readings to stabilise after start-up or relocation.

### STEP 20 Test a PM alert safely

Temporarily set one PM threshold below the current displayed reading and enable that alert. Confirm that the phone receives the notification, then restore the approved threshold immediately.

**DO NOT CREATE SMOKE** Do not use an open flame, burn material, discharge a fire extinguisher or spray aerosol into the sensor for routine commissioning. Such testing may create a hazard, contaminate the sensor or produce misleading results.

### STEP 21 Test Wi-Fi to LTE failover

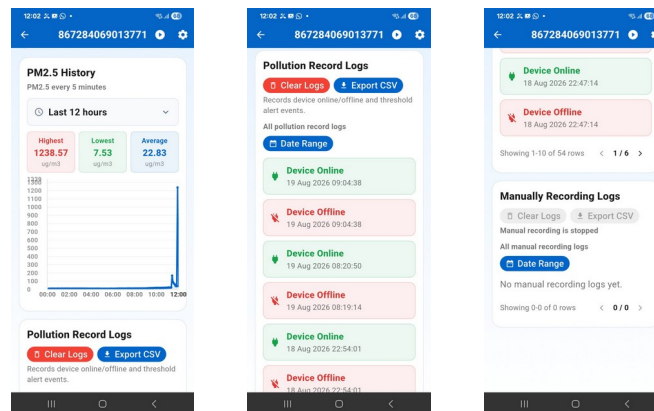
While the system is online and the SIM is active, temporarily disable the configured Wi-Fi connection without switching off the Main Module. Verify that the device remains or returns ONLINE through 4G LTE, then restore Wi-Fi.

### STEP 22 Test backup-battery operation

Unplug only the external 5 V USB power. Confirm that the Main Module remains on and continues reporting through the available network. Reconnect USB power after the test.

### STEP 23 Review history and records

Open PM2.5 History and Pollution Record Logs. Confirm that readings, online/offline events and the test threshold alert are recorded as expected.



History | Threshold and status logs | Online/offline records

## Test Record

| Test           | Expected result                    | Pass / date |
|----------------|------------------------------------|-------------|
| Live data      | Device ONLINE; readings update     |             |
| PM threshold   | Correct push alert received        |             |
| Wi-Fi failover | Device continues through 4G LTE    |             |
| Power loss     | Battery-backed reporting continues |             |
| Records        | Test events appear in history/logs |             |

## 6. Troubleshooting, Maintenance and Handover

### Troubleshooting Guide

| Problem                        | Checks and corrective action                                                                                                     |
|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Device remains offline         | Check ON/OFF switch, USB power, SIM position, data plan, APN, mobile coverage and Wi-Fi availability.                            |
| No PM readings                 | Allow start-up time; confirm air paths are clear. Restart only after switching OFF and disconnecting USB power.                  |
| No push notification           | Check phone notification permission, app login, network status, the individual PM alert switch and threshold value.              |
| LTE failover does not work     | Confirm an activated Nano-SIM, available data, correct carrier/APN settings and adequate signal coverage.                        |
| Battery operation is short     | Fully charge the unit; test again. Runtime varies with battery condition, temperature, signal strength and activity.             |
| Readings are unexpectedly high | Check for nearby smoke, dust, steam, aerosol, cooking, exhaust or blocked airflow. Relocate if the position is unrepresentative. |

### Routine Maintenance

- Keep ventilation openings clear. Wipe the enclosure exterior with a dry, soft cloth.
- Do not blow compressed air, liquid cleaner or solvent into the SPS30 sensor openings.
- Periodically test notifications, Wi-Fi/LTE failover and backup-battery operation.
- Review history for repeated offline events, unexpected drift or persistent threshold alarms.
- Inspect the adaptor, USB cable, mounting, enclosure and antenna lead; replace damaged parts promptly.
- After moving the unit, repeat the live-reading and notification checks at the new position.

### Final Commissioning Checklist

- Main Module is securely installed with all air paths unobstructed.
- SIM holder is locked, enclosure is closed and the antenna lead is not pinched.
- External USB charging power is connected and the charging indicator is on.
- Device displays ONLINE and live PM readings update normally.
- Wi-Fi and 4G LTE connectivity have been tested as applicable.
- Required PM thresholds and phone recipients are correctly configured.
- Threshold, failover and battery tests have passed and been documented.
- Customer understands that this is not a certified smoke or fire alarm.

**SUPPORT** If the device remains offline, readings do not update or alerts fail after completing the checks above, switch the unit OFF before inspecting the SIM or enclosure and contact Fort Digital support.

**SAFETY** Never rely on this product as the sole means of detecting fire, smoke or unsafe air. Maintain all required certified detectors, alarms, ventilation controls, emergency procedures and human supervision.

**Fort Digital Pte. Ltd.**

www.FortDigital.com.sg | WhatsApp: +65 8151 5000 | support@fortdigital.com.sg  
Setup Manual | Revision 1.0 | September 2026