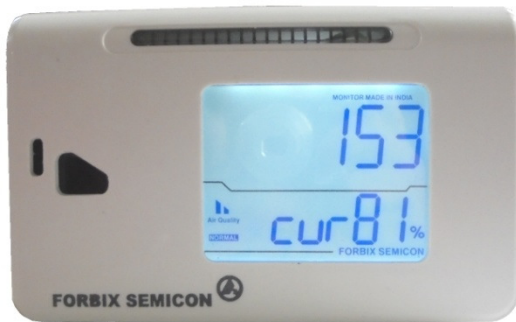


Dust Quality Monitor (DQM) for PM2.5



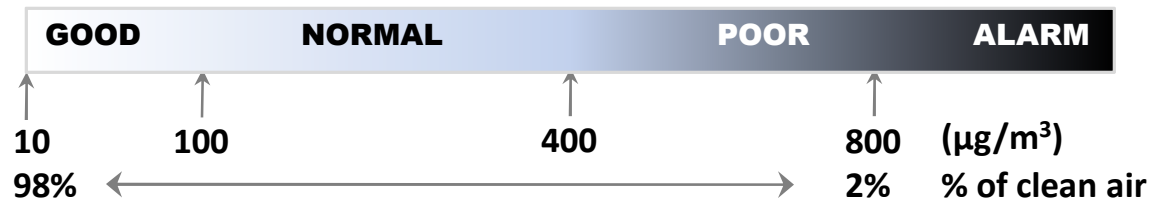
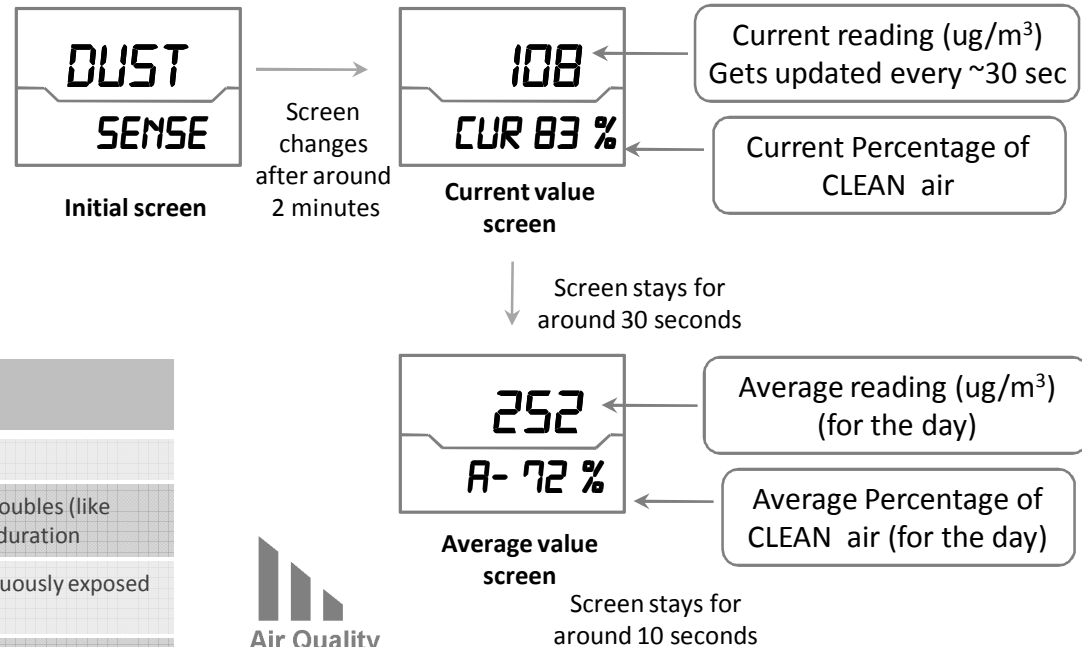
Model No. FBXDQMW

Air Quality Index	Recommended actions
Good	Breathing air quality is healthy
Normal	Air purifier is preferable. Might cause breathing troubles (like coughing, sneezing) if exposed for a prolonged duration
Poor	Not good for health. Will cause health hazard if continuously exposed under these breathing conditions
ALARM	Smoky air, not fit to breathe even for more than 10-15 minutes. Recommend to turn off the monitor in such cases

- DQM can be kept on a table or can be mounted on the wall.
- Connect the DC jack chord to the 12VDC adapter. Adapter to power up from a 110-220VAC power supply
- After power-up, the machine needs a settling time of around **15 minutes**. The readings shown during the settling time may not be accurate.

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- Keep away from direct wind / fan air / blower
- Do not drop or apply jerk. Internal optical sensor glass is fragile. DO NOT open or disassemble the device. After reassembling the machine may not satisfy specification
- Keep away from dense smoke and dusty environments. Once saturated at ALARM, sensor lens should be cleaned and restarted. Machine may show wrong readings otherwise



Frequently Asked Questions (FAQ)

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• *What is the difference between FBXDQMW and FBXDQMG models?*

Both the models are functionally the same. The background light of the LCD screen is bluish-white in FBXDQMW model and lemon-green in the FBXDQMG model

• *Which of the above models should I choose?*

If you are looking for a residential purpose to check the indoor air quality figures, either or both FBXDQMW or FBXDQMG model can be chosen. With FBXDQM machines you can not only check the present condition of your room but also correlate the figures by turning on any air purifier as well. It also gives you the averaged value for the whole day.

• *Can the machine be hand operated or on battery?*

The monitor operates on 12VDC power supply. We provide 220VDC to 12VDC converter adapter along with the package. User can use a 12V battery pack as well. The life of the battery would depend on the battery capacity. On an average, 4-6AH/12VDC rechargeable lead acid battery may last for 6-8 hrs. with LCD light on.

• *How do I use the machine?*

The best way to use the dust monitor is to keep it on a table or mantelpiece. Power on the machine and allow a settling time of around 10-15 minutes. Switch off the fan or air conditioner or air purifier and check the readings (after keeping the monitor 15 minutes on). Ignore the 1st few readings (till the settling time). Make sure not to disturb the orientation of the meter. Keeping it vertical on a table is the best way to handle it. Shaking the sensor or the monitor too often will disturb the readings

• *How do I interpret from the readings?*

The numerator shows the PM2.5 readings in $\mu\text{g}/\text{m}^3$. The denominator show either cur-xx% or A-xx%. Current readings are shown as "cur" and averaged readings are shown as "A-". It take around 20-30 samples of current readings before the machine can calculate the averaged values. xx% (2% – 98%) is the indication of the quality of clean air 2% = $\sim 800\mu\text{g}/\text{m}^3$ and 98% anything nearing 10-20 $\mu\text{g}/\text{m}^3$

• *What are the values that can I expect to see in my room?*

Usually indoors the quality of air stays in NORMAL condition, somewhere around 100-300 (strictly depending on the population, furniture and environmental conditions inside the room). Under the influence of smoke or bad ventilation or open windows near roadside the values may show up higher (indicating poor). Using a good quality air purifier, with ceiling fans or AC in off condition, the numbers should show low values and the air quality indication should move to good.

• *Does values in PM2.5 vary? What sensor is used and how accurate is it?*

Usually PM2.5 values will vary in the same room. It depends on the environmental conditions of the room as well, furniture, carpets, curtains etc. FBXDQM machines use optical sensor with an accuracy of around 70-80% under room temperature

• *Why doesn't the monitor user LASER sensors?*

Usually LASER sensors are commercially of much high price compared to optical sensors. The numbers shown by optical sensors are fair enough as gives a good idea about room conditions, with fairly equivalent accuracy. LASER sensors give a very accurate value, but as a matter of return on investment such high accurate values are of less concern for residential applications. Optical sensors can identify and inform the dust particles getting reduced after the use of an air purifier

• *I noticed the numbers are jumping, why so?*

The monitor checks for particles suspended in the air. The random (Brownian) motion of the particles, makes the sensor show values differently. It is not possible for particle density to be constant in a room (even though it is closed). The sensor is internally calibrated to nullify such changes for sudden variation. User should ignore the specific reading, if sudden change is visible on the monitor

• *What are the precautionary measures and maintenance needed?*

When subjected to rooms which are full of smoke or dust, and the reading says ALARM, the monitor should be turned OFF. After prolong use, there may be some dust accumulation on the sensor lens. Use a soft dry silk cloth or swab to gently wipe away the dust and clean the sensor. Do not use alcohol or water to clear the dust.

• *Can the unit be used for outdoors as well?*

The unit enclosure is designed for indoors. Though the machine can still be used outdoor with proper sheds and covering to avoid from direct heat/sunlight/rain etc. Ensure the sensor area is open for the environment

Dust Monitor PM2.5

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