

GRIT Air Quality

The **GRIT Air Quality** gives you real-time visibility into the air quality of your workspace, continuously measuring particulate matter (PM), volatile organic compounds (VOCs) generated by your tools and processes, shop temperature, and relative humidity (RH). Powered by the SEN55 environmental sensor node, it detects the fine dust from cutting and sanding as well as chemical off-gassing from finishes, adhesives, and coatings.

Air Quality works in two ways to keep your shop air clean: it automatically activates your connected air filtration unit when PM or VOC levels exceed preset thresholds, and it can also trigger the air filter whenever specific tools are in use – ensuring filtration is running exactly when and where it's needed, without any manual intervention.

Anatomy of the GRIT Air Quality



1. LED status indicator light
2. SEN55 environmental sensor
3. Power jack to power Air Quality device with GRIT Power Bank (optional)
4. 12v 2a power supply
5. iR emitter (to be used with air filters with iR remote controls)
6. VHB adhesive tape for mounting unit

Installation with RF Remote

The instructions to install your Air Quality and configure its RF remote capabilities are listed below.



Step 1:

Find a location in the shop that is within 10 ft. of the air filter that GRIT Air Quality will be controlling. Mount using provided VHB tape.



Step 2:

Power the device using either the power jack/ GRIT 12v Power Bank, OR, by using the provided 12v 2a power supply.



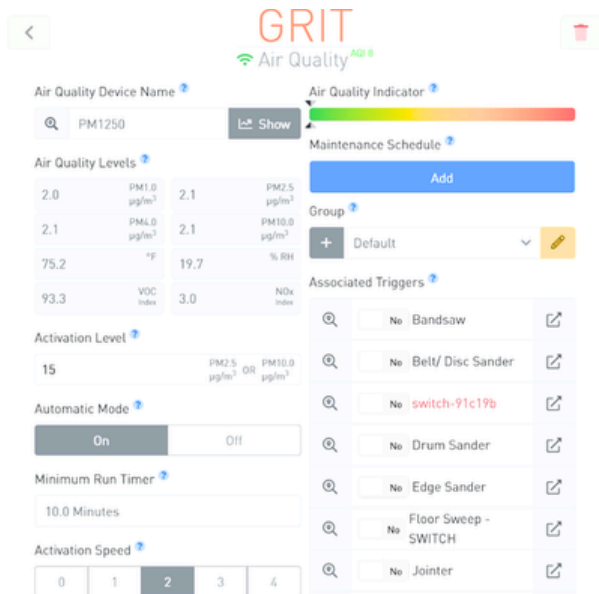
Step 3:

Once the Air Quality is receiving power, Bind the new device to your Hub.

Admin-->Settings-->Allow New Devices set to 'Yes'

or

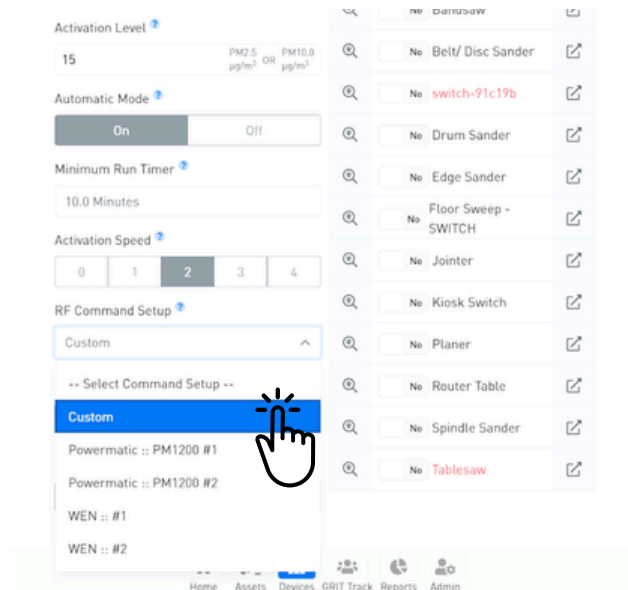
Press the center, blue Bind button on the front of the Hub for home shops



Step 4:

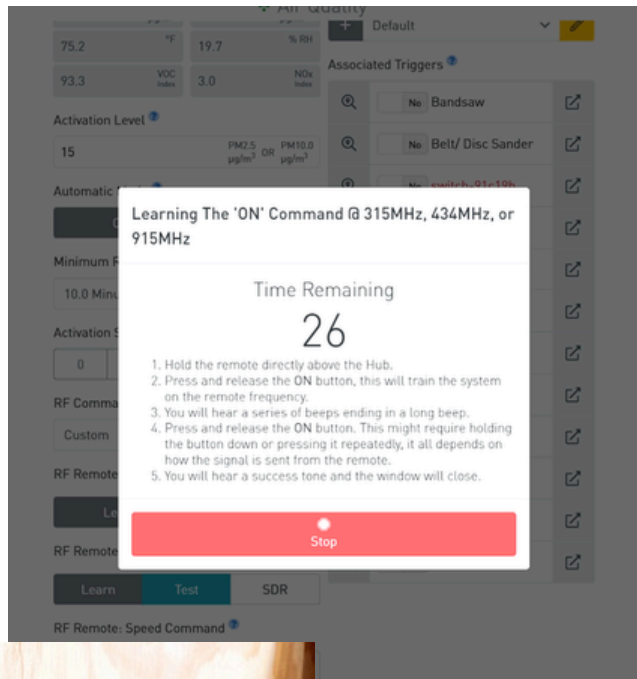
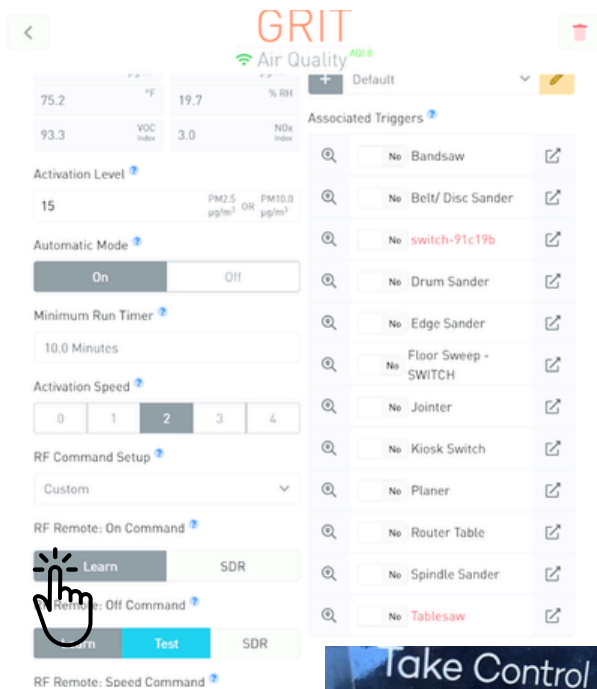
Enter the configuration screen for the Air Quality device.

Devices--> Air Quality--> *select specific air quality if more than one is bound



Step 5:

If the RF Command Setup dropdown options don't have your specific make/model listed OR if that preset does not work with your particular air filter, select 'Custom' to have the system learn your remote.

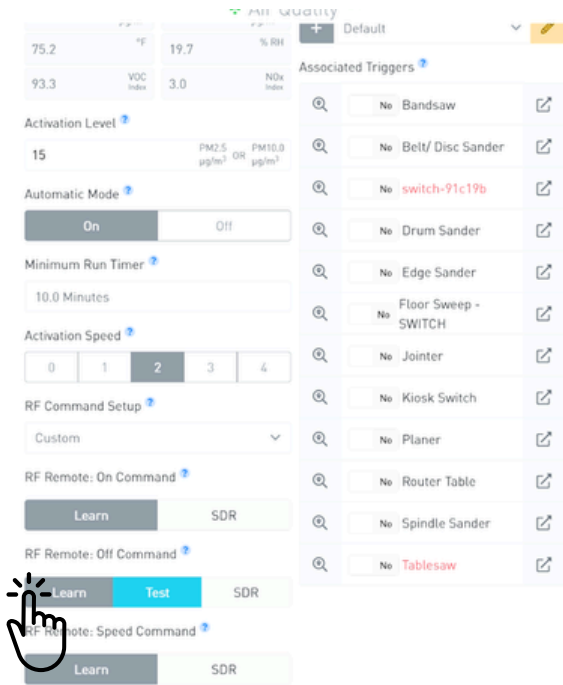


Step 7:

To have GRIT learn a custom remote, select 'Custom' from the dropdown options.

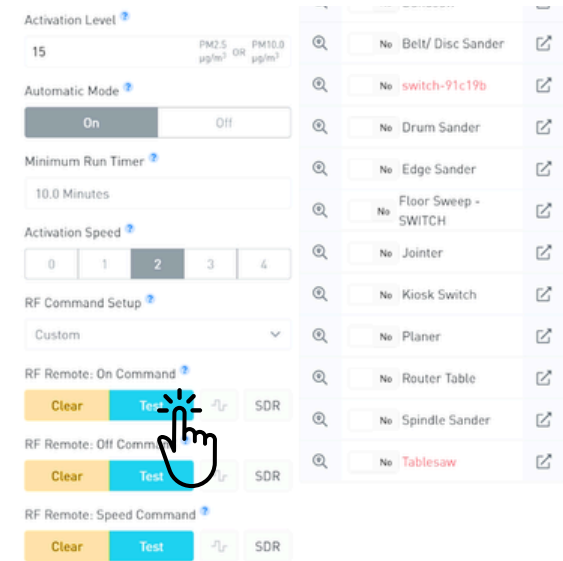
Standing in front of the GRIT Hub, with the air filter's RF remote in-hand, press 'Learn' for the 'RF On Command' in the configuration page for the Air Quality device.

A pop-up window will appear with a countdown clock to let you know when the signal has been read. Press and release the 'on' button once. Wait for the Hub to beep. Press and release the 'on' button once more. The pop-up window will disappear.



Step 8:

Repeat that process for 'RF Remote Off Command' and 'Speed Command'.



Step 9:

Once the system has learned the RF remote signal, test the commands by pressing 'Test'.

Installation with iR Remote

The instructions to install your Air Quality and configure its iR remote capabilities are listed below.



Step 1:

Mount the Air Quality within 6 feet of your air filter. The iR emitter cable connects from the bottom of the device to the iR eye on the filter, allowing the Air Quality to send commands directly to it. The 6-foot cable length determines how close the device needs to be, so choose a mounting location with that reach in mind.

Mount using provided VHB tape.



Step 2:

Power the device using either the power jack/ GRIT 12v Power Bank, OR, by using the provided 12v 2a power supply.



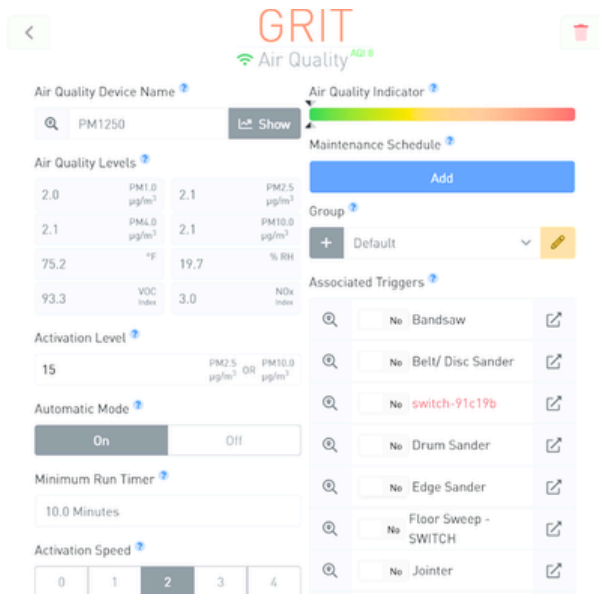
Step 3:

Once the Air Quality is receiving power, Bind the new device to your Hub.

Admin-->Settings-->Allow New Devices set to 'Yes'

or

Press the center, blue Bind button on the front of the Hub



Step 4:

Enter the configuration screen for the Air Quality device.

Devices--> Air Quality--> *select specific air quality if more than one is bound



Step 5:

Plug the iR emitter into the jack on the bottom of the Air Quality device.



Step 6:

Remove the white sticker from one of the emitter heads and stick over the receiving eye on the air filter.

Dust environments may need additional tape to keep it adhered.

Note: If your shop has multiple Air Quality devices, you may need to cut off the second emitter to avoid sending signals to other devices.

372.7 VOC Index 1.0 NOx Index

Activation Level 15 PM2.5 µg/m³ OR PM10.0 µg/m³

Automatic Mode On Off

Minimum Run Timer 10.0 Minutes

Activation Speed 0 1 2 3 4

IR Command Setup Custom

-- Select Command Setup --

Custom

DeWalt :: DWX-AF101

Jet :: 1000B

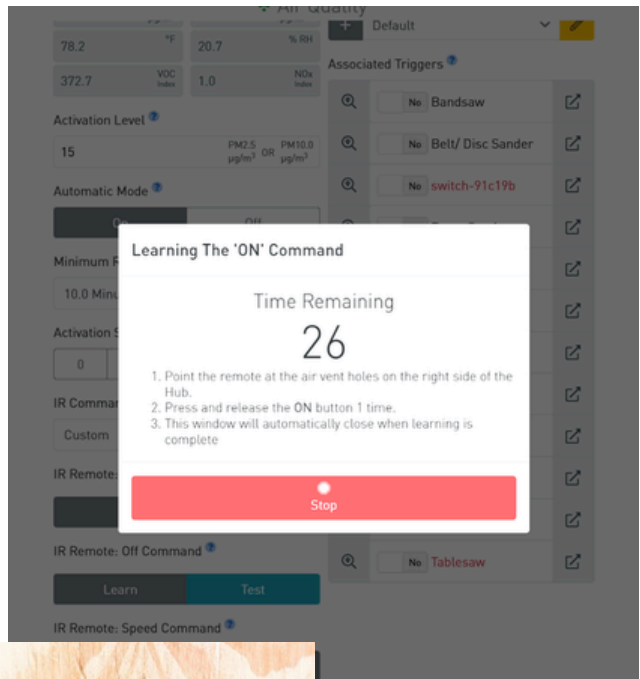
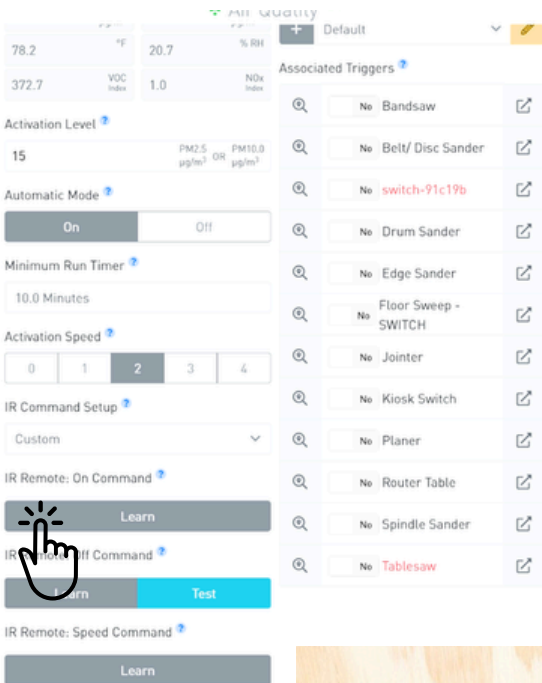
IR Remote: Speed Command

Associated Triggers

- No Bandsaw
- No Belt/ Disc Sander
- No switch-91c19b
- No Drum Sander
- No Edge Sander
- No Floor Sweep - SWITCH
- No Jointer
- No Kiosk Switch
- No Planer
- No Router Table
- No Spindle Sander
- No Tablesaw

Step 5:

If the iR Command Setup dropdown options don't have your specific make/model listed OR if that preset does not work with your particular air filter, select 'Custom' to have the system learn your remote.



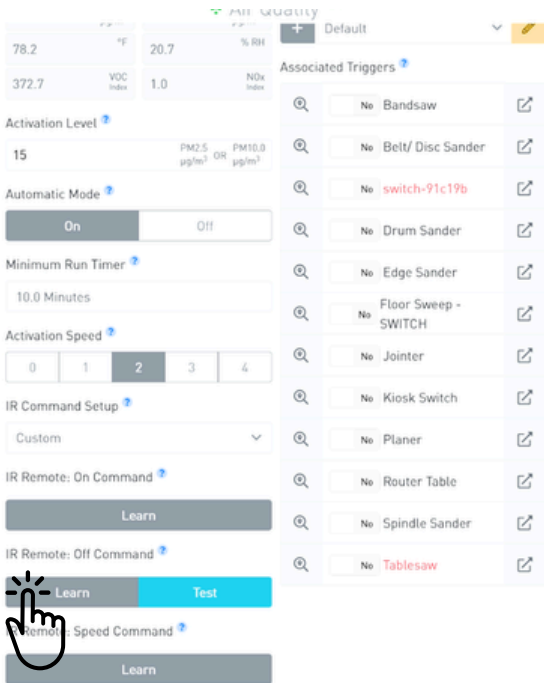
Step 7:

To have GRIT learn a custom remote, select 'Custom' from the dropdown options.

Standing next to the GRIT Hub, with the air filter's iR remote in-hand, press 'Learn' for the 'iR On Command' in the configuration page for the Air Quality device.

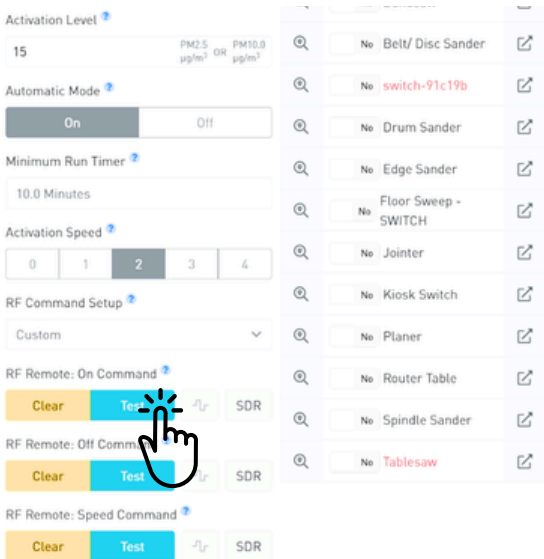
A pop-up window will appear with a countdown clock to let you know when the signal has been read. Press and release the 'on' button once while remote is pointed at the iR receiver in the Hub's air vent holes. The pop-up window will disappear.

If the pop-up doesn't disappear, press the 'on' button again.



Step 8:

Repeat that process for 'iR Remote Off Command' and 'Speed Command'.

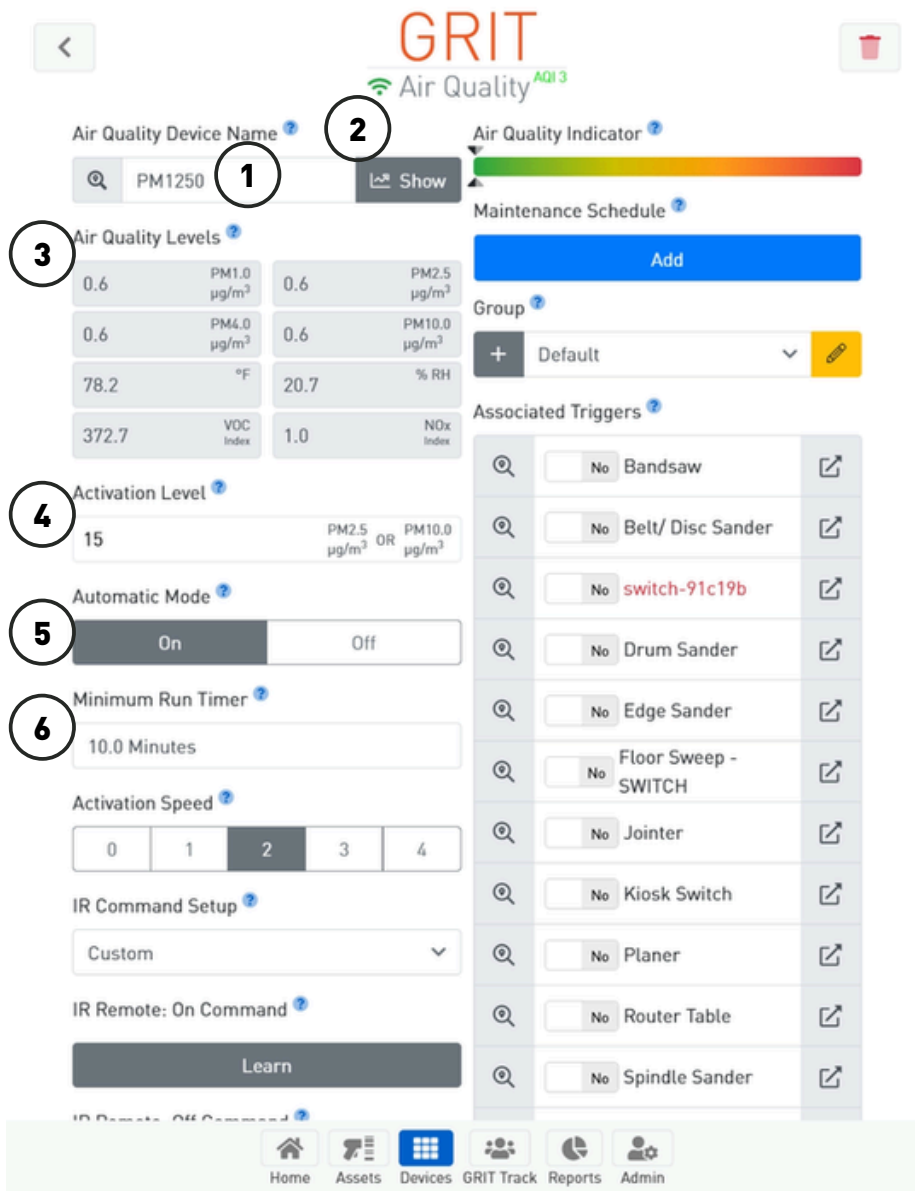


Step 9:

Once the system has learned the iR remote signals, test the commands by pressing 'Test'.

Configuration

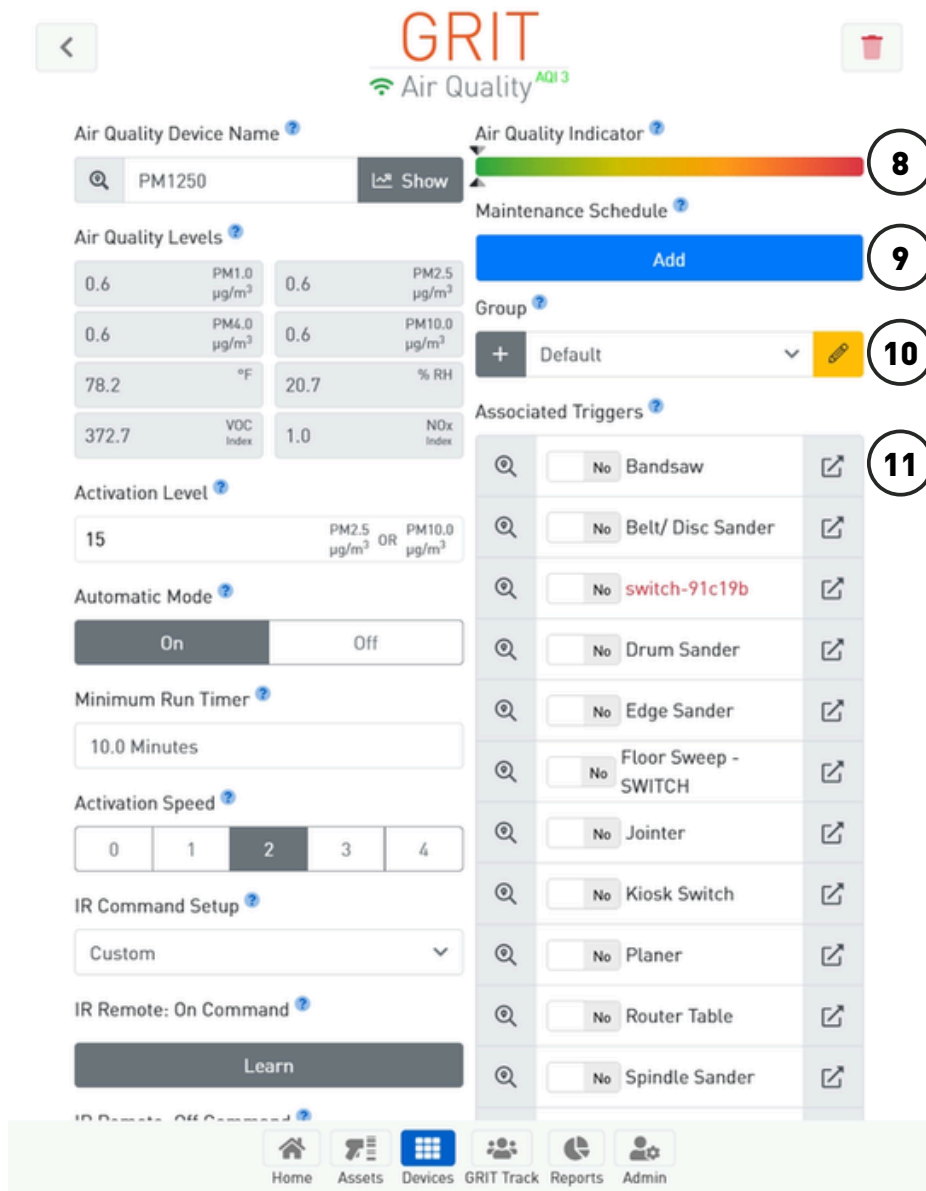
Devices-->Air Quality--> *select specific air quality to configure*



1. Editable name field
2. Real-time air quality graph
3. Current quality readings: PM, temperature, RH, VOC, NOx
4. PM Activation Level setting: at what level the air filter turns on when in Automatic Mode
5. Automatic Mode on/off toggle
6. Minimum Run Timer: set the number of minutes the air filter should run after level return to below threshold
7. Activation Speed: set the speed of the air filter when it is initially turned on by GRIT

Configuration

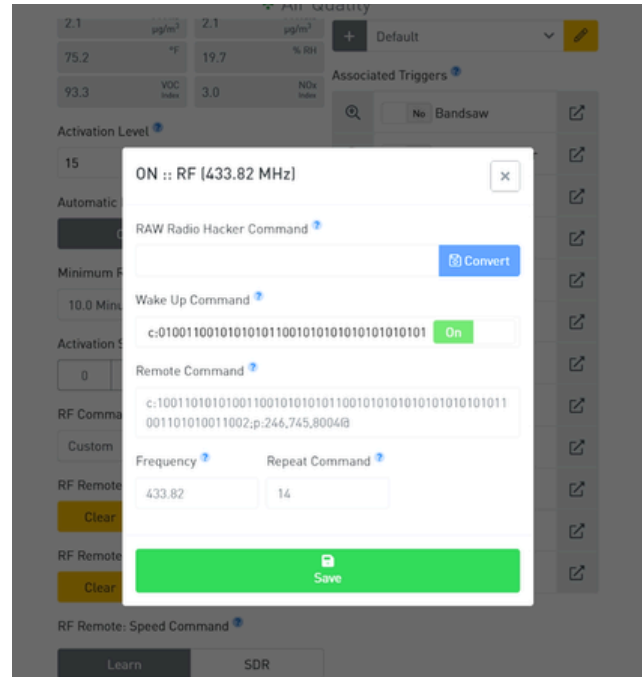
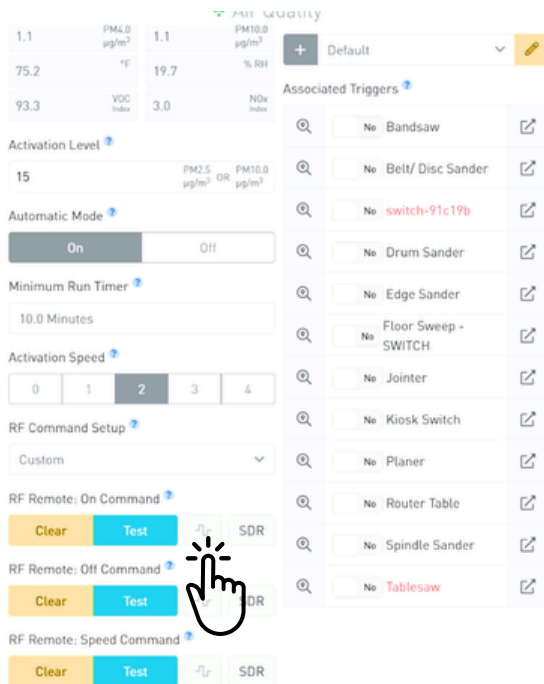
Devices-->Air Quality--> *select specific air quality to configure*



8. Air Quality visual indicator that represents the current air quality relative to the set activation level
9. Maintenance Schedule set for required maintenance based on runtime
10. Option to group devices by location
11. Select the trigger(s) that, when running, will cause the air filter to turn on

Remote Test Failed: Troubleshooting and Solutioning

Adjust the Repeat Command value



If the air filter does not respond during the 'Test', try adjusting the 'Repeat Command' value up or down to see if the system simply needs the signal repeated differently.

Waveform button-->Change value under 'Repeat Command'--> Save--> Re-Test

Clear remote learning values and repeat learning steps

The image displays two screenshots of a control interface for an air filter. The left screenshot shows the 'Associated Triggers' list with a hand icon pointing to the 'Clear' button for the 'RF Remote: On Command' section. The right screenshot shows the 'RF Remote: On Command' section with a hand icon pointing to the 'Learn' button.

The interface includes the following sections:

- Associated Triggers:** A list of triggers with search and edit icons. Triggers include: No Bandsaw, No Belt/ Disc Sander, No switch-91c19b, No Drum Sander, No Edge Sander, No Floor Sweep - SWITCH, No Jointer, No Kiosk Switch, No Planer, No Router Table, No Spindle Sander, and No Tablesaw.
- RF Remote: On Command:** A section with 'Clear' and 'Test' buttons, and a hand icon pointing to the 'Clear' button.
- RF Remote: Off Command:** A section with 'Clear' and 'Test' buttons.
- RF Remote: Speed Command:** A section with 'Clear' and 'Test' buttons.

If adjusting the Repeat Command value up/down a few times does not result in the air filter turning on/off with testing, try clearing the saved values and repeating the remote learning steps from the beginning.