

on the as3935 detector, what is the difference between the AFE setting of indoor or outdoor, and what is the default

The AS3935 lightning detector has two main Analog Front End (AFE) gain settings: **Indoor** and **Outdoor**. Here's the difference and the default:

Indoor vs. Outdoor AFE Setting

- **Indoor:**
 - The AFE gain is set higher to increase sensitivity, allowing the sensor to better detect weaker lightning signals that may be attenuated by building materials.
 - This setting is optimized for use inside buildings, where signals are weaker and there is generally less environmental noise.
 - **Default setting:** The AS3935 defaults to Indoor mode out of the box ^{[1] [2] [3] [4] [5]}.
- **Outdoor:**
 - The AFE gain is set lower to reduce sensitivity, minimizing false positives from environmental noise and strong signals commonly found outdoors.
 - This setting is optimized for open-air environments, where lightning signals are stronger and there is more potential for interference ^{[1] [3] [4] [5]}.

Summary Table

Setting	Gain	Use Case	Default?
Indoor	Higher	Inside buildings	Yes
Outdoor	Lower	Outside/open air	No

Key Point:

If you use the AS3935 outdoors, you should change the AFE setting to Outdoor for best performance and fewer false alarms. Indoors, leave it at the default ^{[1] [2] [3] [4] [5]}.



1. https://cdn.sparkfun.com/assets/learn_tutorials/9/2/1/AS3935_Datasheet_EN_v2.pdf
2. <https://learn.sparkfun.com/tutorials/sparkfun-gwiic-as3935-lightning-detector-hookup-guide>
3. <https://www.switchdoc.com/2019/08/tutorial-skyweather-lightning-detector-tuning/>
4. [https://media.digikey.com/pdf/Data Sheets/Austriamicrosystems PDFs/AS3935.pdf](https://media.digikey.com/pdf/Data%20Sheets/Austriamicrosystems%20PDFs/AS3935.pdf)

5. <https://coffeewithrobots.com/wp-content/uploads/2023/07/AS3935.pdf>