



# Reduce THD and Improve Power Quality.

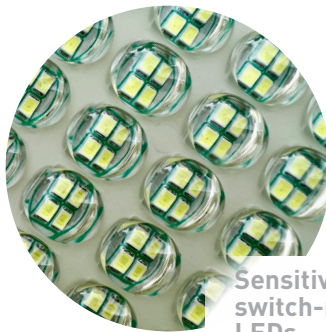


Tune® significantly reduces total harmonic distortion on hot phase wires and the neutral line. **But what does that mean for your grow facility?**



## Lower Energy Costs

Reducing THD increases your power factor, making your electrical system more efficient. This efficiency lowers your energy costs.

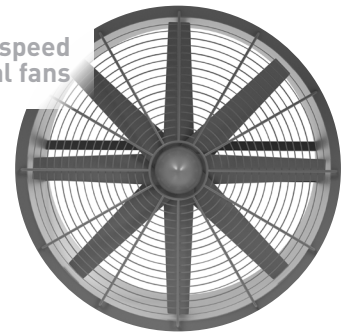


Sensitive switch-mode LEDs

## Equipment Longevity

Managing THD reduces the amount of excessive heat in your electrical system. Removing this heat extends the life of your equipment.

Variable-speed industrial fans



## Equipment Efficiency

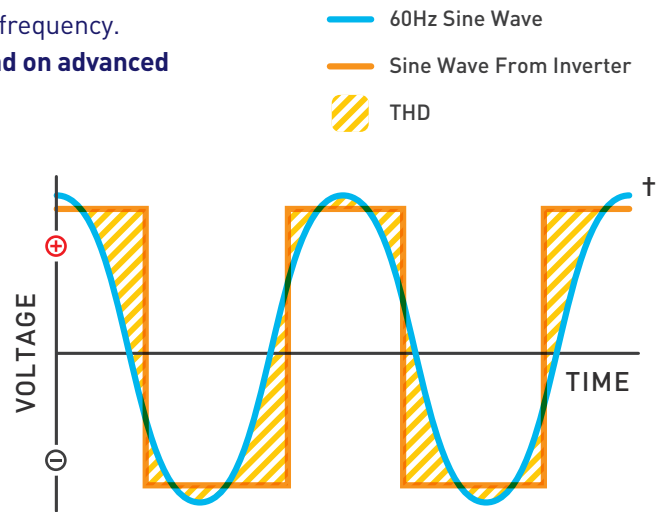
Your equipment requires less maintenance. One grower is saving \$70,000 annually by not replacing grow lamps!



# THD is Inherent in Growing.

Total Harmonic Distortion (THD) is any distortion on a sine wave.\* In electrical systems, this is any frequency other than the 60Hz fundamental frequency.

**Grow facilities create significant distortion because they depend on advanced electronics with inverters.** When inverters turn the DC (direct current) into useful AC (alternating current), they cannot produce the 60Hz frequency perfectly. The difference between the sine wave produced by the inverter and the 60Hz sine wave is the THD. While some inverters are better, none will produce a perfect 60Hz sine wave today.†



## What's So Bad About THD?

According to Gokce Capital, “When total harmonic distortion increases beyond a certain point, a host of issues can occur, including **overheating of the equipment connected to it, disruption, and higher electric bills.**”\*

### Increased Energy Costs

Unfortunately, harmonic distortion is inversely proportional to the power factor. Electrical systems with a high power factor are efficient. **A system with high harmonic distortion is equally inefficient.** This inefficiency wastes energy and increases energy costs.\*

### Damaging to Electrical Equipment

High harmonic distortion creates excessive heat that shortens the life of electronics and appliances. Especially in sensitive electrical equipment, distortion can cause malfunctions and even catastrophic failures.\*

### Learn More About THD

Check out this information post by Gokce Capital:

**Total Harmonic Distortion: 11 Things (2022) You Need to Know.**

<https://gokcecapital.com/total-harmonic-distortion/>



[www.powerbytune.com](http://www.powerbytune.com) | [fmp@powerbytune.co.uk](mailto:fmp@powerbytune.co.uk) | UK +44 208 133 9009 | ES +34 620 326 846

\*Gokce Capital. Total Harmonic Distortion: 11 Things (2022) You Need to Know. [gokcecapital.com](https://gokcecapital.com). Retrieved November 29, 2022, from <https://gokcecapital.com/total-harmonic-distortion/>  
†Solar Solution. [2021, July 19]. Inverter Efficiency and THD: Total Harmonic Distortion [Video]. YouTube. <https://www.youtube.com/watch?v=HlF8ZGQfglg>