

How to check your PC's CPU temperature

By Brad Chacos | Senior Editor, PCWorld | NOV 5, 2019

Here's how to monitor your computer's CPU temperature, and lower it if needed.

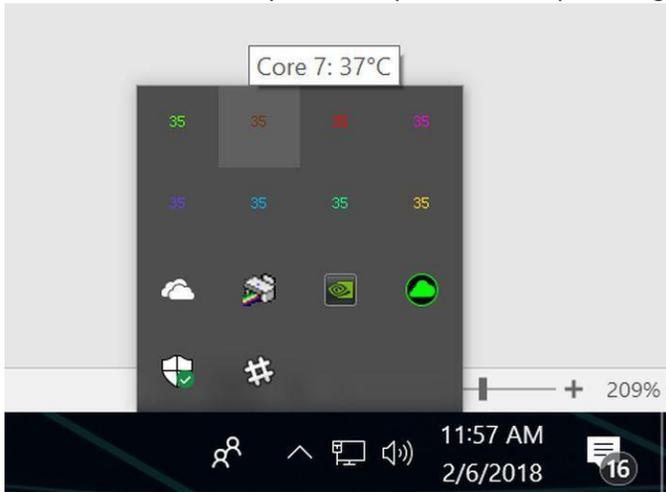
Is your computer's CPU too hot? If your PC starts spontaneously shutting down, locking up, or acting sluggish during intense tasks, overheating could be the issue. Keeping tabs on your CPU temperatures is crucial when you're overclocking your PC's processor, too—you don't want to accidentally push the performance pedal too far to the metal.

Bizarrely, Windows doesn't offer any way to check your computer's CPU temperature. You could dive into your system's BIOS to find the information, but that's a lot of hassle to find a simple sensor reading. Fortunately, several free programs exist that make it easy to see your processor's temperature.

Editor's note: This article was revised to include up-to-date processor and CPU cooler upgrade recommendations.

How to check your CPU temperature

The fastest, easiest way to check your CPU temp is using the aptly named Core Temp



(<https://www.alcpu.com/CoreTemp/>). Be mindful during installation though! Like many free programs, it tries to install bloatware unless you uncheck some boxes during setup.

Once installed, open Core Temp to see a no-frills look at the current state of your CPU, including an average temperature reading at the bottom of the window. If you want even more detail, click the Show hidden icons button in the system tray located at the right edge of your Windows taskbar. You'll see a temperature listing for every individual CPU core in your computer.

Core Temp's Settings menu allows you to tweak exactly what you'll see in the system tray, and how you'll see it, but the default configuration makes it dead-simple to see if your CPU is overheating or performing as expected.

What's the best temp for your CPU?

The maximum supported temperature varies from processor to processor. Most of the free monitoring software mentioned above lists the information as "Tj. Max." That stands for the temperature junction, or the highest operating temperature of the hardware. If you don't see the information for some reason, search the CPU World website for your CPU's model number to find the information. Every program listed above displays your processor's model number, so it's easy to find.

But that's the *maximum* temperature—the point at which your processor freaks out and shuts down to avoid damage. Running anywhere near that hot regularly is bad for the long-term life of your hardware. Instead, follow this general rule of thumb regarding CPU temperatures under load.

Under 60° C: You're running great!

60° C to 70° C: Still running fine, but getting a bit warmer. Consider cleaning the dust out of your PC if CPU temperatures continue to creep up over time.

70° C to 80° C: This is hotter than you want to run unless you're pushing an overclock. If you're not, definitely check to make sure your fans are working and there aren't dust bunnies clogging up your system's airflow.

80° C to 90° C: Now we're getting too hot for long-term comfort. Check your hardware for broken fans or dust build-up, and if you're overclocking, dial back your settings—especially the voltage if you've tweaked it. One notable exception: We sometimes see more powerful laptop processors hit the low 80s during gaming sessions when plugged in, at which point they start throttling back performance. This is expected, but if temperatures cross 85° C, be concerned.

Over 90° C: Danger, Will Robinson!

How to lower your CPU temperatures

If you're regularly encountering high CPU temperatures, there are some steps you can take to try and fix the issue.



Alex Cocilova/IDG

Roll up your sleeves.

First, clean out your PC. High CPU temperatures are often caused by years of dust and grime built up inside a PC, clogging fans and crucial air pathways. Local hardware stores usually charge outrageous prices for canned air, but you can pick up a bottle for about \$8 on Amazon. PCWorld's guide on how to clean your PC can walk you through the process. While you're at it, check to make sure that all your fans are working correctly, and that none of the vents in your PC are blocked.

Hopefully that fixes the issue. If not, more intensive steps are in order. The thermal paste that transfers heat from your CPU to its cooler might have dried out if you've had your PC for a few years. That can cause temperature spikes. Removing the old thermal paste with rubbing alcohol and applying a fresh layer can potentially help lower temperatures by a large amount. You can find small syringes of thermal paste by respected brands like Arctic and Noctua for under \$7 on Amazon. (I've been a happy Arctic Silver 5 user for years now.)



Thomas Ryan/IDG

If all *that* doesn't help, your cooling solution simply might not be capable of keeping up with your CPU's heat output, especially if you're pairing a stock cooler or a modest third-party cooler with higher-end chips—and doubly so if you're overclocking. Buying a new CPU cooler may be in order.

The Cooler Master Hyper 212 (\$30 on Amazon) is a solid, affordable air cooler. With its larger heatsink and fan, it's a solid step up over stock AMD and Intel CPU coolers. Moving up in size and price, the Noctua NH-D14 (\$75 on Amazon) is one of the most effective air coolers ever to hit the streets, but its large size might block memory access or not even fit in smaller cases.

Closed-loop liquid cooling solutions (CLCs) provide far cooler temperatures than air coolers with minimal hassle and easy installation. EVGA's 120mm unit (\$55 on Amazon) is a great entry-level CLC, but if you plan on overclocking, consider moving up to a model with larger 240mm radiator, like the straightforward-named EVGA CLC 240 (\$105 on Amazon). All that extra metal and fans can accommodate even fierce overclocks. Several brands are available, but we've been using EVGA's closed-loop cooler in PCWorld's powerful, dedicated graphics card testing system to great results.