



Free Tesla Battery Tool

Check Your Tesla's Battery Health

Free tools built for Tesla owners. Check your battery health, plan Supercharger routes, compare running costs, verify your warranty — and more.

100%

FREE

All

TESLA MODELS

8yr

WARRANTY DATA

1. Enter Wh/mi or Wh/km

2. Enter projected range

3. Enter battery %

4. Compare with factory spec



How to find your energy consumption figure



YOUR READINGS

mi

km

1



Energy consumption (Wh/km)

175

From the on-screen energy app — a recent average is fine.

2



Projected range (km)

248

The range your car is estimating right now.

3 % Current charge level (%)

59

The battery percentage shown on the display.

YOUR VEHICLE

Model

Model Y

Year

2023

Variant

Long Range Dual Motor

Original capacity

75 kWh

Odometer · optional — compares you to the fleet

36653 km

Nickel

BATTERY HEALTH

Nickel

98% state of health

73.6 kWh usable of 75 kWh when new · 1.9% capacity lost

73.6 kWh now

75 kWh when new

✓ Better than average — about 3.7% above the typical Model Y at 36,653 km.

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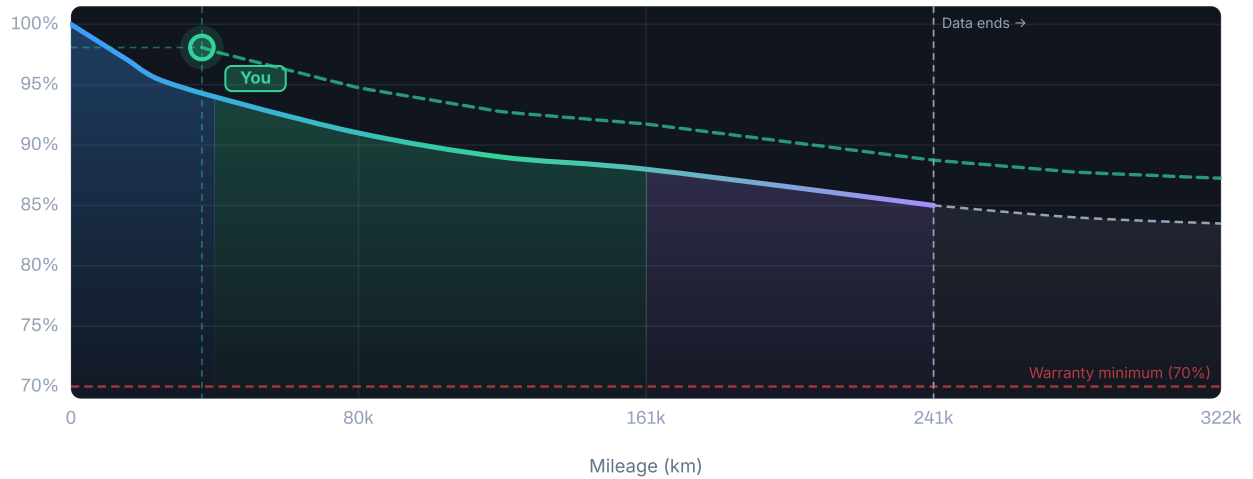
Battery degradation curve

Model Y fleet average (nickel)

miles

km

Annual km: e.g. 15 000



Typical at 36,653 km
94.3%

Your battery
98.1%

Above average
↑ 3.7%

Projected capacity

80,467 km
94.7%

160,934 km
91.7%

241,402 km
88.7%

Expected degradation --- Extrapolated - - - Your forecast - - - Warranty threshold

Aggregated owner-reported data · Recurrent · Tessie · InsideEVs

These curves are aggregated, owner-reported degradation data — not official Tesla figures. Your own result above is the number that matters.

Want to check your Tesla's warranty?

See exactly how many months and miles remain on your battery & drive unit warranty.

[Check Warranty →](#)

How healthy is your Tesla battery?

95%+

Excellent

Better than average for the age and mileage. No action needed.

90–95%

Good

Normal, healthy degradation. The vast majority of Teslas in regular use sit in this range.

80–90%

Average

Typical for higher-mileage or older vehicles. Worth monitoring; no cause for concern.

70–80%

Below average

Above-average degradation. Review your charging habits and check whether a warranty claim applies.

Below 70%

Warranty claim

Tesla's warranty guarantees 70% retention. If you're under this threshold within the warranty period, contact Tesla Service.

Results are estimates based on in-car display data. For a definitive measurement, request a battery diagnostic from Tesla Service.

What does normal Tesla battery degradation look like?

0 – 25,000 MI

~3–5%

A small 'settling' drop soon after purchase. Normal and expected.

25,000 – 100,000 MI

~5–10%

Degradation slows significantly. Most owners see very little month-to-month change.

100,000 – 200,000 MI

~10–15%

A long, gentle plateau. Tesla's fleet data puts the average at ~85–90% retention at this point.

How you charge matters most

⬆️ Speeds up

Frequent Supercharging, sitting at 100% for days, and extreme heat all accelerate wear.

⬆️ Slows down

A daily limit of 80–90%, mostly home / AC charging, and moderate temperatures.

For a full breakdown, see our [guide to maximising Tesla battery life](#).

Tesla battery warranty — what's covered?

Every Tesla comes with a battery warranty that guarantees a minimum of **70% capacity retention**. If your battery falls below this within the period, Tesla will repair or replace it. Use our [warranty checker](#) to see exactly where you stand.

MODEL	TRIM	DURATION	MILEAGE LIMIT	MIN. RETENTION
Model 3	Standard Range / RWD	8 years	100,000 mi	70%
Model 3	Long Range / Performance	8 years	120,000 mi	70%
Model Y	All trims	8 years	120,000 mi	70%
Model S	All trims	8 years	150,000 mi	70%
Model X	All trims	8 years	150,000 mi	70%
Cybertruck	All trims	8 years	150,000 mi	70%

Whichever limit comes first — years or miles. Warranty is transferable to subsequent owners. US figures; regional terms may vary.

Five habits that slow battery degradation

1

Charge to 80–90% daily

Tesla recommends 80% for everyday use. The lower your regular top-of-charge, the less stress on the cells over thousands of cycles.

2

Limit Supercharger use

DC fast charging is convenient but generates more heat inside the cells. Reserve it for road trips rather than routine top-ups.

3

Avoid storing at 100%

If the car sits unused for days, set the charge limit to 50–70%. High-SOC storage is one of the main drivers of long-term capacity loss.

4

Don't drain below 10% regularly

Occasional deep discharges are fine. Doing it habitually adds cumulative stress — the last 10% is harder on the chemistry.

5

Park in the shade in hot climates

Heat is the number-one accelerant of battery ageing. Passive cooling between drives helps more than most owners realise.

How this battery health calculator works

Enter three figures from your Tesla's Energy screen — the calculator does the rest.

**① ENERGY CONSUMPTION**
Wh/mi or Wh/km

Your average energy use per mile or km, shown on the Energy screen. Use the 30-mile average for the most stable reading.

**② PROJECTED RANGE**
Miles or km

The range Tesla projects based on your recent driving. Found next to the consumption figure on the same screen.

**③ BATTERY PERCENTAGE**
% state of charge

Your current battery level shown in the top-right corner of the Tesla screen. Take a reading above 50% for better accuracy.

What is Tesla battery degradation?

Battery degradation is the gradual reduction in a battery's ability to hold a full charge. It happens to every lithium-ion battery — the result is that an older Tesla will show a lower projected range at 100% than it did when new.

The good news: Tesla's fleet data shows batteries retain around **90% of their original capacity after 200,000 miles**. Most owners never notice a meaningful impact on day-to-day driving.

What matters is the *pattern*. A small early drop followed by a long, slow plateau is completely normal. Continued rapid decline after the first year, or a sudden large loss, is worth investigating.

**Tesla battery specs & facts**

Full capacity tables by model and year, cell chemistry, and key degradation stats

[View →](#)

Frequently Asked Questions

How does the Tesla battery health calculator work?

Enter the Wh/mi or Wh/km figure from your Tesla's Energy app, the projected range shown at your current charge level, and the battery percentage. The calculator derives your current usable capacity and — if you select your model — compares it to the factory spec.

Where do I find Wh/mi or Wh/km on my Tesla?

Open the Energy app on your Tesla's touchscreen. Select a 30-mile or 50 km window. The average consumption figure (shown in the middle-left of the screen) is the Wh/mi or Wh/km value you need.

What is a healthy battery capacity percentage?

90% or above is excellent and typical for newer vehicles. 80–90% is normal for vehicles with moderate mileage. Below 80% may indicate above-average degradation; Tesla's warranty covers batteries down to 70% capacity within the warranty period.

Does this tool check Tesla warranty by VIN?

Our calculator works without a VIN — just select your model, year, and variant to look up the factory capacity. For warranty status, use our Warranty Checker, which decodes your VIN and calculates remaining time and mileage.

Got a Tesla blog or forum?

Embed this free battery health calculator on your site with one line of code.

[Preview widget →](#)

From Energy app readings to a usable-capacity percentage

The calculator turns three numbers from your car's own screen into a capacity figure. Your Wh/mi (or Wh/km) efficiency, multiplied by the projected range shown at your current charge, tells you how much energy is actually left in the pack right now. Divide that by your battery percentage and you get your car's total **usable capacity** — the number that matters, as opposed to the larger "gross" pack size sometimes quoted in press materials, which includes a buffer the car never lets you touch.

Compare that usable-capacity result to your model and variant's original factory figure — listed in full on our [battery specs & facts](#) page — and the difference between the two is your degradation.

LFP or nickel-based? Chemistry changes what "normal" looks like

Not every Tesla battery is built the same way. Standard Range / RWD versions of the current Model 3 and Model Y use **LFP (lithium iron phosphate)** cells, while Long Range and Performance trims — along with every Model S, Model X and Cybertruck — use nickel-based (NCA/NMC) chemistry. The two age differently: LFP packs tolerate being charged to 100% regularly and tend to show a flatter, more linear degradation curve, without as pronounced an early "settling" drop. Nickel-based cells are lighter and more energy-dense per kilogram, but benefit noticeably from the 80% daily charging habit covered in our [battery management guide](#).

In practice this means comparing your result against a fleet average is most meaningful once you know which chemistry your car has — check the variant tables on the battery facts page if you're not sure.

When a low reading is actually worth worrying about

A single reading a few points below the curve above isn't unusual — a recent cold snap, an unusually hilly commute, or heavy air-conditioning use since your last charge can each shift the number by a couple of percent without meaning anything is wrong. What's genuinely worth investigating is a result that sits **consistently below 80%** regardless of mileage — that's Tesla's own warranty floor — or a capacity that has dropped sharply over a few months rather than gradually over tens of thousands of miles. In either case, the next step is checking your remaining cover on the [warranty checker](#) before booking a service-centre diagnostic.

More battery health questions

How accurate is the Tesla battery health calculator? —

It's derived directly from figures your own car reports — the Energy app's Wh/mi (or Wh/km) average, the projected range at your current charge, and the battery percentage — so it's typically accurate to within a couple of percentage points of a service-centre diagnostic. It's still an estimate rather than a lab measurement: an unusually hilly or motorway-heavy drive just before you take the reading can nudge the number a point or two, so it's worth checking again after a normal week of driving if a result looks off.

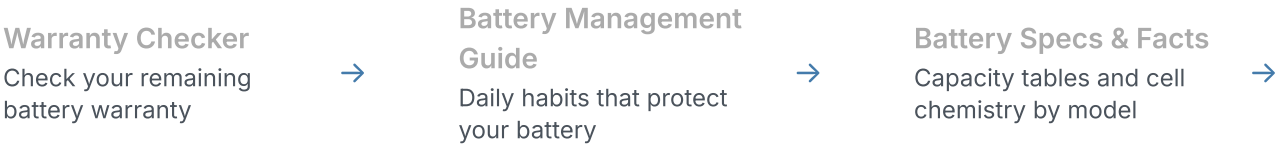
Do I need an OBD dongle or third-party app to check my Tesla's battery health? +

- Does Supercharging hurt my Tesla's battery?

+
- What battery health (SoH) is normal at 100,000 miles?

+

Explore more Tesla tools



Tools

- Battery Health Calculator
- Warranty Checker
- Cost Calculator
- Charge Calculator
- Range Estimator
- Value Estimator
- Fuel Comparison

Models

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- Model X Battery Health
- Cybertruck Battery Health

Guides

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About

Free tools built for Tesla owners. Check battery health, plan Supercharger routes, compare running costs, and more.

Own another EV too? Our sister site MyEVBuddy has the same tools for 25+ manufacturers. 

Tesla Battery Check — Everything you need for your Tesla.

Tesla Battery Check is not affiliated with, endorsed by, or connected to Tesla, Inc.

