

GENERIC · NETWORK

U3003

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

U3003

Battery Voltage

U3003 is a generic body/control module code indicating that a module has detected battery voltage outside its expected operating range, either too low or too high. The computer that set the code compared its supply voltage to a calibrated threshold and flagged the circuit as unreliable, which can affect how that module and its related systems behave.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Network	Generic (all makes)	Medium	Intermediate	Network wiring and bus faults

Symptoms you may notice

- Illumination of the battery/charging warning light or a generic powertrain/body warning lamp
- Intermittent electrical glitches such as flickering interior lights, radio resets, or false warnings from other modules
- Hard starting or a slow crank, especially in cold weather, if the battery is genuinely weak
- Multiple unrelated warning lights appearing at once because several modules share the same voltage supply
- No noticeable symptoms besides the warning light when the fault is a brief voltage dip stored in memory
- Accessories or modules shutting down unexpectedly, such as power windows, climate control, or infotainment

Common causes, most likely first

- 1 A failing or deeply discharged 12-volt battery that cannot hold voltage under load
- 2 Loose, corroded, or damaged battery terminal connections or ground straps
- 3 A weak alternator or charging system that cannot maintain proper voltage while running
- 4 Excessive voltage spikes from a faulty voltage regulator inside the alternator
- 5 Damaged wiring or poor connectors in the power feed or ground circuit to the affected module
- 6 A module with an internal voltage-sensing fault that misreports actual battery voltage
- 7 Parasitic draw that drains the battery overnight and leaves voltage low at startup



How to diagnose and fix it

- 1 Perform a visual inspection of the battery terminals, cables, and ground straps for corrosion, looseness, or damage
- 2 Measure battery voltage at rest with a digital multimeter; a healthy fully charged battery should read about 12.6 volts
- 3 Load-test the battery and check the charging system output, looking for 13.5 to 14.5 volts at idle with accessories off
- 4 Check for excessive AC ripple voltage from the alternator, which indicates a failing diode or regulator
- 5 Inspect and wiggle-test the power and ground wiring at the module that set the code, looking for voltage drops under load
- 6 Clear the code and monitor live voltage data from the affected module to confirm the reading matches actual battery voltage
- 7 If voltage supply and grounds are proven good, test or replace the module that is reporting the out-of-range voltage

Voltage codes are rarely just the battery

- A U3003 can be stored by a brief voltage dip during engine cranking, so a perfectly healthy battery may still trigger it if the starter draws excessive current.
- Many technicians replace the battery first and still see U3003 return because a corroded ground strap or a failing alternator regulator was the real source of the voltage excursion.
- Modules on the same power feed can set U3003 together, which often points to a shared fuse, relay, or ground rather than multiple failed modules.
- High voltage from a failing alternator regulator can set U3003 just as easily as low voltage, and this condition can damage sensitive electronics if left unchecked.
- A module that reports voltage outside the range while a multimeter at the battery shows normal voltage has an internal sensing fault, not a charging system problem.

Can I keep driving with U3003?

You can usually drive a short distance to a repair shop if the battery warning light is not on and the engine starts normally, but avoid long trips or heavy electrical loads. If the battery light is illuminated, the engine cranks slowly, or multiple warning lights are flashing, stop and address the charging system before driving further.



Tools that help

- Digital multimeter
- Battery load tester
- OBD-II scan tool with live data capability
- Basic hand tools for terminal and cable inspection
- Battery terminal cleaner and protective spray

Reading U3003

- U** Network: communication between the vehicle's control modules.
- 3** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- 0** Network wiring and bus faults.
- 03** The exact fault within that area.

Often seen with

P0562 System Voltage Low · **P0563** System Voltage High · **U3000** Control Module · **U3001** Control Module Improper Shutdown Performance

See it working

Watch the animated explainer [How Hydraulic Brakes Work: Pedal to Caliper](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/u3003/>

