

GENERIC · POWERTRAIN

P0E70

OBD-II DIAGNOSTIC TROUBLE CODE (DTC)

P0E70

Control Pilot Signal Frequency Too Low

P0E70 indicates that the control pilot signal frequency is lower than the vehicle's charging system expects, which is detected by the onboard charger or battery management module monitoring the pilot line. The control pilot is a pulse-width modulated signal used in electric vehicle charging to communicate available current and charging state, and a frequency below specification can prevent or interrupt charging.

SYSTEM	CODE TYPE	SEVERITY	FIX DIFFICULTY	AREA
Powertrain	Generic (all makes)	Medium	Professional	Hybrid propulsion

Symptoms you may notice

- The charging session fails to start or stops shortly after plugging in
- A warning light or charging system fault message appears on the dashboard
- The vehicle may default to a reduced charging rate or refuse to charge entirely
- In some cases, no symptoms besides the warning light if the fault is intermittent
- The charging port may show a red or amber indicator instead of green
- The infotainment screen may display a message about charging equipment or pilot signal

Common causes, most likely first

- Faulty charging station or EVSE (Electric Vehicle Supply Equipment) generating an out-of-spec pilot signal
- Damaged or corroded control pilot pin in the vehicle's charge port or on the connector
- Wiring damage or high resistance in the control pilot circuit between the charge port and the onboard charger
- Failed onboard charger module or its internal pilot signal processing circuit
- Software or calibration issue in the charging control module
- Water intrusion or contamination in the charge port assembly affecting signal integrity



How to diagnose and fix it

- 1 Verify the fault with a scan tool and check for related codes in the charging system
- 2 Inspect the charge port and connector pins for damage, corrosion, or debris, and clean if necessary
- 3 Test the control pilot signal with an oscilloscope or EVSE tester at the charge port to confirm frequency and duty cycle
- 4 Try a different known-good charging station to rule out the external equipment
- 5 Check the wiring and connectors between the charge port and onboard charger for continuity and resistance
- 6 If the pilot signal is correct at the port but the code persists, diagnose the onboard charger or charging control module
- 7 Repair or replace the faulty component, then clear codes and verify charging operation

Don't overlook the charging station itself

- A large share of P0E70 cases are caused by the external charging station or cable, not the vehicle, so always test with a different EVSE before condemning onboard components.
The control pilot frequency is generated by the charging station, and the vehicle only monitors it, so a low frequency often points to a faulty station or a damaged pilot wire rather than a vehicle module.
- Intermittent codes can be set by a loose or partially engaged connector that causes the pilot signal to drop out momentarily during charging.
- Some vehicles set this code when the 12-volt battery is weak because module voltage instability affects signal processing, so check battery health before replacing expensive parts.
After repairs, the code may remain stored until a successful charging cycle is completed, so clearing codes alone does not confirm the fix.

Can I keep driving with P0E70?

The vehicle can generally be driven normally because this fault affects charging rather than propulsion, but avoid relying on charging until the issue is resolved. Do not attempt repeated charging sessions with a known faulty station, as this may stress the onboard charger.

Tools that help

- OBD-II scan tool with EV charging system capability
- Oscilloscope or EVSE pilot signal tester
- Digital multimeter
- Insulation resistance tester
- Manufacturer service information for control pilot circuit testing



Reading P0E70

- P** Powertrain: engine, transmission and emissions.
- 0** Generic (SAE) code: it means the same thing on every OBD-II vehicle.
- E** Hybrid propulsion.
- 70** The exact fault within that area.

Often seen with

- P0E69** Control Pilot Indicator Circuit Intermittent/Erratic · **P0E71** Control Pilot Signal Frequency Too High ·
- P0E72** Hybrid/EV Battery Internal Isolation Performance · **P0E73** Coolant Bypass Valve A Control Circuit/Open
- **P0E74** Coolant Bypass Valve A Control Circuit Low

See it working

Watch the animated explainer [How a Jet Engine Works: Two-Spool Turbofan](#) on Auto Veteran to see the parts involved moving.

Full guide, related articles and animations: <https://www.autoveteran.tech/dtc-codes/p0e70/>

