EV Home Link

Tesla vehicle integration for Control4

by IntelliHaus LLC · v1.4.1

Official Tesla Fleet API | Navigator tile, home or away | Charge limit · lock · map | Charge · range · climate · presence | Live telemetry | Commands | No subscription

1 Overview

EV Home Link brings a homeowner's Tesla into Control4: battery, range, charging, climate, locks and home/away presence on a Navigator tile, with events, variables and commands for programming. From the tile, the homeowner can start and stop charging, set the charge limit, turn climate on or off, and lock or unlock the car, and can optionally see the car's distance from home or its position on a map. The car streams its state live to the EV Home Link service, so updates arrive within seconds and the car is never woken just to be read. Commands are signed by the service; there is no Tesla developer account, key, proxy or subscription to set up on site. One driver instance per vehicle.

2 Requirements

- Control4 OS 3.2 or later, with internet access from the controller.
- The DriverCentral Cloud Driver in the project, which activates the license or trial.
- A Tesla account in Tesla's North America / Asia-Pacific region: United States, Canada, Mexico, Australia, New Zealand and other Asia-Pacific markets except China. Europe is not supported yet.
- The owner's Tesla account login (used once, in a browser).
- The owner's phone with the Tesla app, near the car, to approve the virtual key (once).
- Live telemetry needs recent vehicle software. Some older Model S/X do not support it; the driver then polls Tesla automatically.

3 Setup

1. Make sure the DriverCentral Cloud Driver is in the project and activated, then add EV Home Link to a room. A trial starts automatically; **Cloud Status** shows the license state.
2. Copy the **Authorization URL** property into a browser, sign in as the vehicle owner and approve access.
3. The confirmation page shows a short code. Paste it into **Authorization Code** and run the **Exchange Code** action within a few minutes. **Account Status** changes to Authorized.
4. Pick the car in the **Vehicle** list. With one car on the account it is selected automatically. If the list is empty, run **Refresh Vehicle List**.

5. **Pair the virtual key.** On the owner's phone, open the **Virtual Key Pairing URL**, choose the car and approve. If the car asks, tap the key card on the console. This step enables both live telemetry and commands.
6. Watch **Telemetry Status**. The driver enrolls the car by itself: *Enrolling*, then *Enrolled – waiting*, then *Streaming* the next time the car is awake. Opening the Tesla app wakes it. If the key was paired after step 4, run **Enroll Telemetry**.
7. With the car parked at home, run **Set Home To Current Location** to enable Arrived Home / Left Home.
8. Add the **EV Home Link** experience button to the rooms that should show the tile.
9. Optional: set **Show Location on Tile**. **Off** (default) shows Home / Away only; **Distance** adds miles from home while the car is away; **Map** adds a map with the car's position. Ask the homeowner first, since every touchscreen and phone with the tile will see it.

> The vehicle owner can remove access at any time from the Tesla app (third-party apps and the car's key list). The driver reports this as **Authorization Lost**.

4 Telemetry Status messages

MESSAGE	MEANING AND WHAT TO DO
Streaming – car connected	Normal. Live data, updated every 30 s.
Streaming – car asleep	Normal. The car is asleep; the tile shows its last values and updates as soon as it wakes.
Enrolling car…	The driver is sending the telemetry configuration to the car. Wait a minute.
Enrolled – waiting for first data	The car accepts the configuration the next time it is awake. Open the Tesla app or get in the car. Data usually starts within a few minutes. The driver polls Tesla meanwhile.
Not streaming: virtual key is not on this car	Pair the key (Setup step 5), then run **Enroll Telemetry**.
Not streaming: software too old	Update the car's software, then run **Enroll Telemetry**. The driver polls Tesla until then.
Not streaming: does not support Fleet Telemetry	Some older Model S/X. Nothing to fix; the driver keeps polling Tesla for this car.
Not streaming: maximum number of telemetry configs	Other apps already use the car's telemetry slots. Remove one of them in the Tesla app, then run **Enroll Telemetry**.
EV Home Link server unreachable	The controller cannot reach the service. Check the controller's internet connection. The driver polls Tesla meanwhile and switches back automatically.
Tesla token rejected	Authorization was revoked or expired. Repeat Setup steps 2–3.

Server can't see this car on the account	The car was removed from the owner's Tesla account, or a different account was authorized. Re-authorize with the account that owns the car.
Paused: no DriverCentral license	The trial ended or no license is assigned to this project. Assign a license in the DriverCentral portal; the driver resumes within an hour, or immediately after **Check Drivers** on the Cloud Driver.
Off – polling Tesla	**Data Source** is set to Polling. Set it to Auto to use live telemetry.

Check Telemetry Config asks Tesla whether the car has received the configuration and shows the answer in **Last Command Result**.

5 Commands

Start Charging, Stop Charging, Set Charge Limit, Set Charging Amps, Climate On, Climate Off, Lock and Unlock are available in programming; the tile has charging, climate and lock buttons and a charge limit control (50–100%). Unlock on the tile needs a second tap to confirm. Commands need the virtual key (Setup step 5). A sleeping car is woken first when **Allow Wake For Commands** is Yes. **Last Command Result** shows each outcome, and a failure fires **Command Failed**.

If a command fails

• *public key has not been paired*: pair the virtual key (Setup step 5).
• *vehicle did not wake*: the car has no connection, often a garage without LTE. Connecting the car to home Wi-Fi fixes this.
• *vehicle asleep and wake disabled*: set **Allow Wake For Commands** to Yes.

6 Programming

Events

Charging Started | Charging Stopped | Charging Complete | Plugged In | Unplugged | Arrived Home | Left Home | Vehicle Woke Up | Vehicle Went To Sleep | Battery Low | Locked | Unlocked | Climate Started | Climate Stopped | Software Update Available | Authorization Lost | Command Failed

Variables

BATTERY_LEVEL | RANGE_MILES | CHARGE_LIMIT | CHARGING | PLUGGED_IN | CHARGING_STATE | CHARGER_POWER_KW | CHARGER_AMPS | MINUTES_TO_FULL | AT_HOME | DISTANCE_FROM_HOME_M | LOCKED | CLIMATE_ON | INSIDE_TEMP_F | OUTSIDE_TEMP_F | SPEED_MPH | ODOMETER | SOFTWARE_VERSION | VEHICLE_STATE | ONLINE | STATUS_TEXT | TELEMETRY_ACTIVE | LAST_COMMAND_OK

Examples

• When *Arrived Home*: turn on the garage lights.
• When the security system arms Away: *Lock*.

• Weekdays at 7:00 if *AT_HOME* is true: *Climate On*.
• When *Battery Low*: send a push notification.

7 Data and Tesla costs

Data Source: **Auto** (recommended) uses live telemetry and falls back to polling Tesla when the car can't stream or the service is unreachable. **Telemetry** never polls Tesla. **Polling** uses polling only.

While polling, the driver never wakes the car to read it: asleep it checks a lightweight status endpoint only, and awake it reads full data every 7 minutes (every 5 while charging). **API Calls Today** counts Tesla API calls; with telemetry it should barely move.

8 Account Status messages

MESSAGE	MEANING AND WHAT TO DO
Exchange failed	The code expired or was already used. Open the Authorization URL again and paste the new code promptly.
AUTHORIZATION LOST	The owner revoked access or changed their Tesla password. Repeat Setup steps 2–3.
HTTP 403: token lacks scopes	Some permissions were unchecked on Tesla's consent page. Authorize again and approve all of them.

9 Notes

• One driver instance per vehicle; add another instance for each additional car.
• The tile is hosted by the EV Home Link service, so it works on home Wi-Fi and away from home, buttons included. The driver sets the tile's link by itself. If the controller loses its connection to the service, the tile switches to the controller's own copy (home network only) and switches back when the connection returns. While the controller is offline, the tile shows **Home system offline** with the last known values and no buttons.
• After updating the driver, fully close and reopen the Control4 app (or reboot the touchscreen) so the tile loads the new page. Until then Navigator may keep showing the previous version's tile.
• A vehicle shown as **offline** has no connection to Tesla, usually asleep without Wi-Fi. Connecting the car to home Wi-Fi keeps it reachable.
• By default the tile shows Home / Away only. Distance and map are opt-in with **Show Location on Tile**; the map needs internet on the touchscreen or phone and uses OpenStreetMap.
• EV Home Link keeps only each car's latest values and the tile's latest status on its service. No location history or trip data is stored. Each tile has its own private link; the Tesla sign-in it uses for tile buttons is held in memory only and never stored.

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