EV Home Link · Wall Connector

Tesla Wall Connector monitoring for Control4

by IntelliHaus LLC · v1.1.0

Local network · no cloud | No account or subscription | Energy & cost tracking | Breaker-limit watchdog | Navigator tile | History graphs

1 Overview

Monitors a Tesla Wall Connector (Gen 3 or Universal) over the charger's local network interface. No cloud, no Tesla account, no API fees. Shows live charging power, tracks energy and cost per session, day, month and since install, and watches for the most common installation fault: a charger pulling more current than its breaker allows.

2 Features

Live charging
Power (kW), current, grid voltage, plugged-in and charging state.

Energy & cost
Session, today, this month, last month and since install, at your utility rate.

Charging history
Bar graphs of energy or cost for the last 7 days, 30 days and 12 months. Tap a bar for that day or month.

Current-limit watchdog
Alarms if the vehicle ever draws more than the breaker allows.

Config check
Flags a charger reboot or firmware update — when breaker settings can reset.

Charger health
Firmware, uptime, handle temperature, Wi-Fi signal, lifetime energy.

Navigator tile
Live page on touchscreens and the Control4 app, with charging-history bar graphs.

3 Requirements

- Tesla Wall Connector **Gen 3** or **Universal** (Gen 2 has no network interface and is not supported).
- Charger joined to the home Wi-Fi, with a **reserved (static) IP**.
- **Local network only:** the tile works on touchscreens and on phones or tablets connected to the home Wi-Fi, not away from home.
- Control4 OS 3.2 or later.
- The free **DriverCentral Cloud Driver** in the project (handles licensing, trials and automatic updates).

4 Setup

1. Add the **DriverCentral Cloud Driver** to the project if it isn't there already, and activate this driver's license (or start the trial) on DriverCentral.
2. Reserve the charger's IP address in the router's DHCP settings.
3. Add the driver and enter **Charger IP Address**. **Connection Status** changes to Online within a few seconds.
4. Set **Expected Max Current** to 80% of the charger's breaker:

Breaker	Expected Max Current
30 A	24 A
40 A	32 A
50 A	40 A
60 A	48 A

5. Set **Electricity Rate (per kWh)**: add every per-kWh line on the utility bill (supply + delivery) and leave out the fixed monthly customer charge. Adjust **Currency Symbol** and **Currency Position** if needed.
6. Add the **EV Charger** experience button to a room (the **Comfort** menu is the usual place), then Refresh Navigators.

5 Safety watchdog

Current Limit Status

Reads OK. If the vehicle draws more than Expected Max Current + 1 A for two polls in a row it latches to EXCEEDED with the amps and time, and fires **Current Limit Exceeded**. Clear it with the **Clear Current Limit Alarm** action once the charger is corrected.

Config Check

Turns UNVERIFIED when the charger reboots or its firmware changes — the moments its breaker setting has been known to reset. It clears itself after a full session stays under the limit, or with **Mark Config Verified**.

> Recommended programming: send a push notification to the homeowner *and* the dealer on **Current Limit Exceeded** and **Charger Rebooted or Updated**.

6 Programming

Events

Vehicle Plugged In | Vehicle Unplugged | Charging Started | Charging Stopped | Plugged In But Not Charging | Current Limit Exceeded | Charger Rebooted or Updated | Config Verified | Charger Offline | Charger Online | Monthly Report Ready

Variables

CHARGING | VEHICLE_CONNECTED | POWER_KW | CURRENT_A | GRID_VOLTAGE | SESSION_ENERGY_KWH | SESSION_COST | SESSION_MINUTES | TODAY_KWH | TODAY_COST | MONTH_KWH | MONTH_COST | LAST_MONTH_KWH | LAST_MONTH_COST | INSTALL_KWH | INSTALL_COST | LAST_SESSION_KWH | LAST_SESSION_COST | LAST_SESSION_SUMMARY | PEAK_CURRENT_A | CURRENT_LIMIT_OK | CONFIG_VERIFIED | CHARGER_ONLINE | FIRMWARE_VERSION | HANDLE_TEMP_C | WIFI_RSSI | STATUS_TEXT | EVSE_STATE

Actions

Refresh Now | Mark Config Verified | Clear Current Limit Alarm | Reset Since-Install Totals | Print Status to Lua Output

7 Troubleshooting

Connection Status shows OFFLINE

Check the IP is correct and reserved, and that the charger's Wi-Fi signal (shown in **Wi-Fi Signal**) is adequate. A browser on the same network should load `http://<charger-ip>/api/1/vitals`.

Tile is a blank black screen in the Control4 app

The phone is not on the home network. The tile only loads on the home Wi-Fi (see section 8). On home Wi-Fi, fully close and reopen the Control4 app.

Tile shows "Driver not responding"

Check **Web Server Status**, then open the **Web Page URL** property in a browser on the same network. Each driver instance serves its tile on its own port, so several chargers can be installed in one project.

Connection Status says "Unlicensed"

The DriverCentral Cloud Driver is missing, or no license or trial is active for this project. Check the **Cloud Status** property and the project on DriverCentral. After a reboot the driver keeps running for a few minutes while the license is confirmed.

Experience button has no icon

Run File → Refresh Navigators; if still blank, reboot the controller (Navigator caches driver icons).

Current higher than expected

The charger's breaker rating is set in its commissioning page, not in this driver. Re-commission the charger with the correct breaker size.

8 Limitations

Local network only. The Navigator tile and the charger data are served by the Control4 controller on the home network. The tile works on touchscreens and on phones and tablets connected to the home Wi-Fi. Away from home (cellular or another network) the Control4 app cannot load it and shows a blank screen. Remote access through a VPN to the home network works.

Monitoring only. The Wall Connector's local interface is read-only: charging cannot be started, stopped or current-limited from this driver. Charge control is done through the vehicle (see EV Home Link · Tesla Vehicle). The local interface is undocumented by Tesla and may change with charger firmware; updates to this driver follow any such change.

9 Properties and actions

Property	Description
Driver Version	Read-only. Installed driver version.
Cloud Status	Read-only. DriverCentral license or trial state.
Automatic Updates	Off / On. Lets DriverCentral update the driver automatically.
Charger IP Address	The Wall Connector's reserved IP address on the home network.
Poll Interval (seconds)	How often the charger is read. Default 15 (range 5–300).
Expected Max Current (A)	80% of the charger's breaker (see Setup). Used by the watchdog. Default 24 (range 6–80).
Electricity Rate (per kWh)	All per-kWh charges on the utility bill, supply plus delivery. Used for every cost figure.
Currency Symbol / Currency Position	How costs are shown, for example $ before the amount. Defaults $ / Before amount.

Debug Mode	Off, Print, Log, or Print and Log. Leave Off in normal use.
Connection Status	Read-only. Online, OFFLINE, Unlicensed or Not configured.
Current Limit Status	Read-only. OK, or EXCEEDED with the amps and time (see section 5).
Config Check	Read-only. Verified or Unverified (see section 5).
Observed Peak Current (A)	Read-only. Highest current seen, for checking against the breaker.
Live status	Read-only: Vehicle Connected, Charging, Power (kW), Current (A), Grid Voltage (V), EVSE State (raw), Last Update.
Energy and cost	Read-only: Session Energy, Session Cost, Today, This Month, Last Month, Since Install, Last Session.
Charger health	Read-only: Firmware Version, Serial Number, Charger Uptime, Handle Temp (C), Wi-Fi Signal, Charger Lifetime Energy.
Web Server Status / Web Page URL	Read-only. State and address of the Navigator tile served by this driver instance.

Actions

Action	Description
Refresh Now	Reads the charger immediately.
Mark Config Verified	Marks Config Check as verified after confirming the charger's breaker setting.
Clear Current Limit Alarm	Resets Current Limit Status to OK once the charger is corrected.
Reset Since-Install Totals	Sets the Since Install energy and cost back to zero.
Print Status to Lua Output	Writes a status summary to the Lua output window for support.

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