

Grid Display Driver

The Grid Display Driver accompanies the EnergyFlow for Tesla driver. Together they enable Control4 to integrate with Tesla energy products.

Configuration

Prerequisites

- 1. Configure the EnergyFlow for Tesla driver.

Initial configuration

- 1. Add this display driver to the project.
- 2. Go to **Connections** and find the EnergyFlow for Tesla driver.
- 3. Connect this driver to one of the `Grid State Out` bindings.

When properly configured, you can view the current Grid state in the readonly properties, including current power in watts and last updated time.

Properties

- `Cloud Status` Indicates if the license is activated, expired, or if updates are available.
- `Automatic Updates` If 'On', automatically install updates when they become available.
- `Driver Version` Numeric version of the driver.
- `Debug Mode` When 'On', print debug messages to the 'Lua' tab, and also log to the Control4 debug log.
- `Last Updated` The date and time when the Grid state was last updated. This is the last time the EnergyFlow for Tesla driver sent an update. If this is not updating, ensure the Grid Display driver is properly bound to the EnergyFlow for Tesla Grid State Out connection.
- `Grid Status` Indicates whether on grid ("Active") or off grid ("Inactive").
- `Grid Power (Watts)` The current power consumption from the grid. Negative values mean power is exporting to the grid. Positive values mean powering the home.

Programming

Events

Events will fire once when the conditions are met. For example, if current grid usage is 0 and then the grid starts importing, `Starts importing power` event will be triggered. It will not be triggered again until the grid stops importing and begins importing again. Still, it is possible for grid state to change rapidly and events may fire multiple times per day.

Depending on how you program with the events you may need to debounce alerts. Users likely do not want a push notification 20 times per day as grid usage changes. However, there are other programming cases where you may want to know each and every time grid state changes.

- `Starts importing power`
- `Stops importing power`
- `Stops importing or exporting power`
- `Goes off grid`
- `Reconnects to grid`

Conditionals

Conditionals allow you to create advanced programming logic based on grid state. Available conditionals include:

- `Status is [On Grid/Off Grid]` - Check whether the system is connected to or disconnected from the electrical grid
- `Importing from the Grid` - True when actively drawing power from the grid
- `Exporting to the Grid` - True when actively sending power back to the grid
- `Grid Power in Watts [LOGIC] [VALUE]` - Compare grid power usage using logical operators with a numeric value from -30000 to 30000 watts (negative values indicate export, positive indicate import)

Example uses: Automate devices based on grid connection status, trigger alerts when exporting significant solar power, or create energy management rules based on import/export thresholds.

Variables

- `GRID_POWER_WATTS`