ELECTRIC VEHICLE CHARGERS

Understanding the basics of EV chargers

EV Battery Life

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An EV battery typically ranges from 40 to 100 kilowatt hours (kWh) and up to 200 kwh for pickup trucks and SUVs. The average energy consumption of EVs on the market is about 2.6-3.8 miles/kWh depending on the car's efficiency. For example, a 40 kWh car with a 3.8 mi/kWh efficiency provides a range of 150 miles on a full charge. Larger batteries provide a longer driving range and take more time to recharge. Select the suitable EV battery size for your car based on its range during winter in Colorado as the range can drop in cold temperatures by 20-30%. To maximize battery life:

- Keep charge between 20% and 80%
- Drive regularly

Level 2 Charger Installation

It's the preferred option for many EV owners who drive frequently to use a Level 2 charger. Chargers are available in various amperage ratings, with 32, 40, and 48 amps being the most common. These chargers require a dedicated 240-volt circuit and need to be accommodated by a larger spare circuit breaker in your electrical panel. If your electric panel is not meeting current code requirements or is limited on spare amp capacity, electric upgrade costs may range from $2,000-7,000 depending on the panel size. Always work with a certified electrician and the city's permit department.

Most Level 2 chargers come with a smartphone app for easy control. The chargers should be programmable to Xcel's time-of-use tariff structure to save you costs and be eligible for rebates. The charger installation improves the value of your home to future buyers. Golden's current building codes require accommodations for electric vehicle chargers in all new buildings.

The Basics of EV Chargers

LEVEL 1
Residential. Standard 20-amp, 110-volt wall outlet. No install cost to car owner. 7-8 mi/hr.

LEVEL 2
Residential and Commercial. Up to 80-amp, 240-volt connection also used by electric dryers and stovetops. $700-$800 for charger, $700-$1,000 for install (if no electric panel upgrades are needed.).

LEVEL 3
Commercial. Public fast charging station. 100-amp, 480-volt. 3-15 mi/min.

Example of Level 2 Charger

When driving 10,000 miles in an EV, the average annual savings are $723.68, compared to a gasoline car. Scan the QR code to view the breakdown of these savings.