

VISUALIZATION TOOL FOR ELECTRIC VEHICLE CHARGE AND RANGE ANALYSIS

INTRODUCTION:

- ✚ With the sudden surge in demand for electric vehicles , the EV automakers are focusing on long-range battery vehicles and investing in enhancing the EV charging infrastructure.
- ✚ EV charging solution providers are focusing on providing more innovative and reliable e-mobility charging solutions that help create a digital space linking vehicles, buidings and utilities electric vehicles
- ✚ Electric vehicles require compact EV charging solutions that ensures faster and on-demand charging and robust connectivity to support electric vehicles' current and future needs.

ELETRITIC VEHICLE CHARGING:

Level-1 EV charging (120 Volts) :

Level-1 electric vehicle charging supports 120 volts and a power cord and a control box that comes with most electric chargers do not incur an . level-1 charging is very convenient and can be done at home.

Level-1 EV chargers do not incur any installation cost and can simply be plugged in. the only drawback with level 1 chargers is that it takes approximately 16-18 hours to charge a 60-kWh vehicle



LEVEL 1

LEVEL 2 CHARGING:

Level 2 electric vehicle charging equipment supports currents up to 240V AC and requires installing electric vehicle supply equipment (EVSE) and electric wiring capable of handling higher voltage power. The time taken to charge a battery depends on its capacity and the pace at which it is charged.

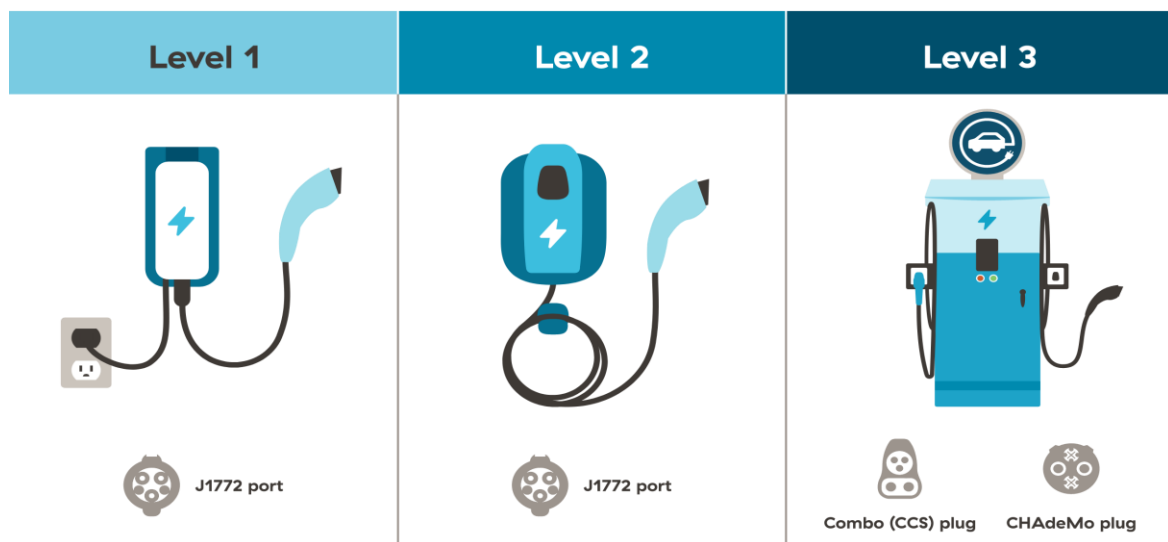
Charging through level 2 chargers is much faster than level 1; a 7KW EV charger takes 7 to 8 hrs to charge. Level 2 chargers can be used for domestic or workplace environments such as homes, apartments, small workplaces, hospitality, and retail stores.

LEVEL 3 CHARGING:

Level 3 EV charging, also called DC fast charging, can charge compatible vehicles up to 80% in as little as 30 minutes.

Level 3 chargers convert high voltage AC power into DC power for direct storage in EV batteries.

DC (level 3) EV chargers have commercial applications as they are the right fit for vehicle fleets and public transport, such as electric buses, that require fast charging and can accommodate a large number of vehicles simultaneously.



Conclusion:

The efficiency of an electric vehicle does not entirely depend on the power that it accumulates from the charging station; it also depends on external factors such as traffic, temperature, acceleration and more. A top-up charge is typically when the vehicle is charged without waiting for the battery to run empty.