



## NC8000 Series Local Power Management

### Overview

Local power management allows control of how much electricity each charging station can use when multiple charging stations are connected to the same electrical panel same and the panel does not have enough available power to run all chargers at full capacity simultaneously. This helps reduce installation costs, maximizes how many chargers can be installed on a single panel and makes charging multiple cars a much

faster, more efficient, and a more cost-effective proposition.

The [NovaCHARGE NC8000 series](#) local power sharing configuration shares the available power across a larger number of chargers by reducing the total amount of energy dispensed to the panel's capacity, while also allowing those chargers to dispense maximum power when available. The maximum panel capacity and number of chargers is programmed into the mandatory gateway charging unit (see requirements below), which then automatically directs and limits power dynamically based on the total vehicle load.

### Requirements

- All chargers in the local power-shared bank must be wired to the same panel.
- Each charger must have its own breaker sufficient for the maximum charger capacity (e.g., a 40A breaker for a 32A charger).

## Requirements (continued)

- The main breaker on the panel must be equal to or larger than the charger breaker size (i.e, if the chargers use 40A breakers, the panel main breaker must be at least 40A but should be as large as possible for optimal results).
- The total number of chargers cannot exceed 20 (to manage more than 20 chargers in a bank, ask your NovaCHARGE representative about ChargeUP's Dynamic Cloud Power Management).
- One of the chargers in the bank must be a gateway unit, while the remainder must be clients.
- NovaCHARGE must be provided with the panel capacity and desired charger configuration to properly program the gateway charging unit for local power sharing.

## Example

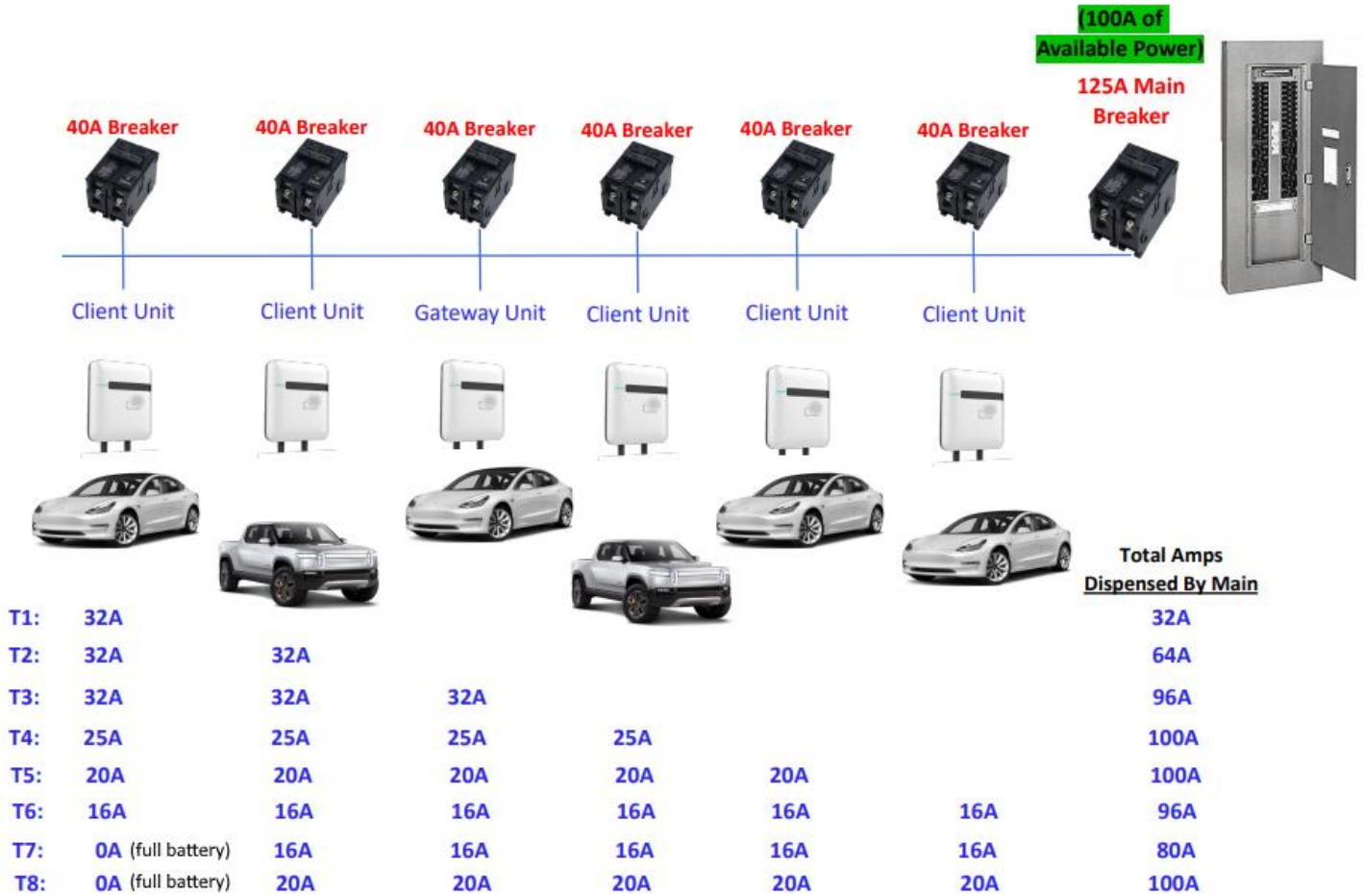
If the panel capacity is limited to 100A (with a 125A main breaker) and six 32A chargers are wired to that panel, one of those chargers must be a gateway and the remainder must be clients. Each charger will get its own 40A breaker. However, each charger running at full capacity would require 192A of capacity, so rather than hard limiting each charger 1/6 of the available power (16A each), power sharing is enabled to dynamically control the amount of power used and dispensed by each charger based on the vehicle load.

Up to three cars can charge simultaneously at the full 32A capacity of the chargers. If a fourth vehicle begins charging, the amount dispensed by each charger drops to 25A (total of 100A to match panel capacity). With 5 cars simultaneously charging the amount dispensed by each charger drops to 20A each, and with 6 cars it drops to 16A. If a car's battery reaches the full state, that charger stops dispensing and the amount dispensed by the other chargers will increase to share the available power between only the active chargers.

If the panel capacity is increased at some point in the future, or if chargers are added or removed, NovaCHARGE can assist with reprogramming the gateway to increase the total power available for local power sharing.

**The above example is depicted in the image on the next page.**

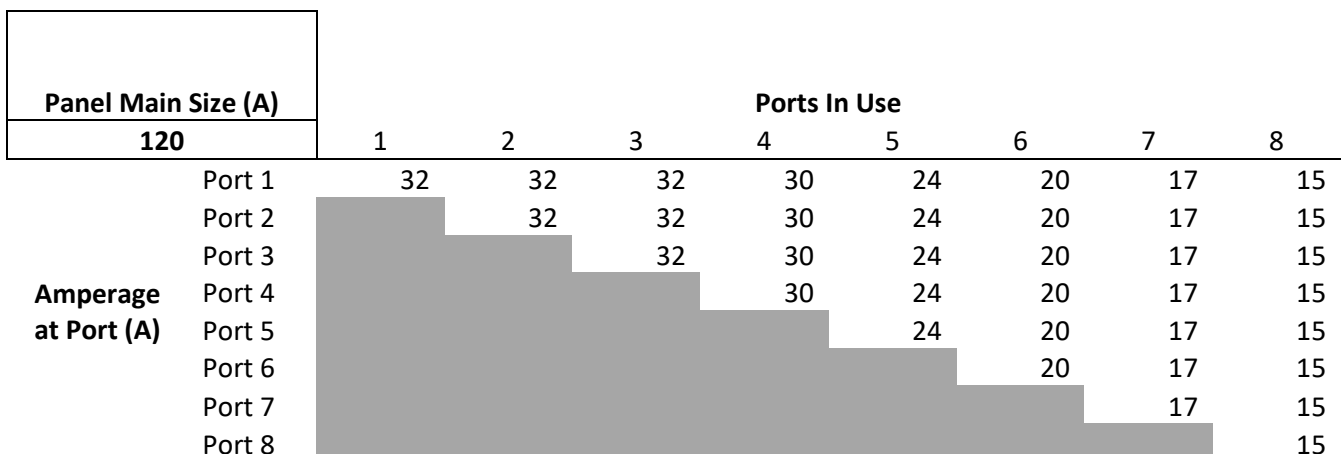
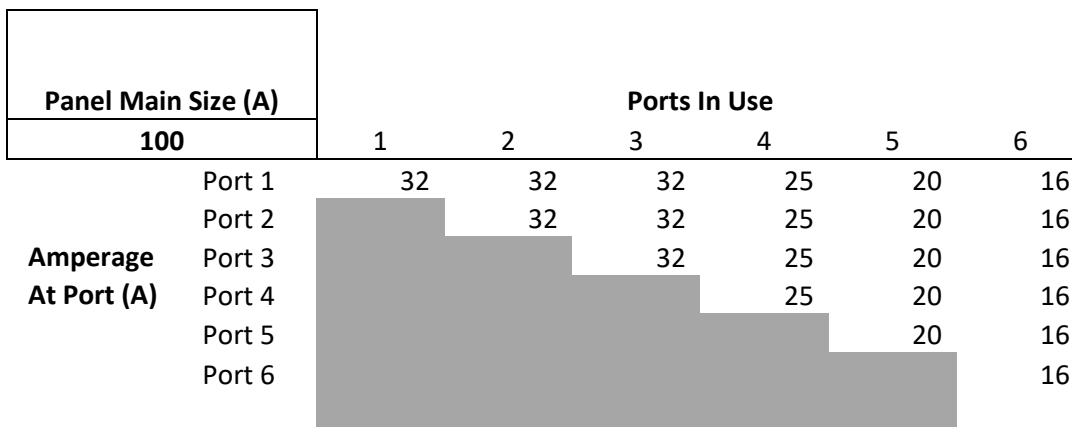
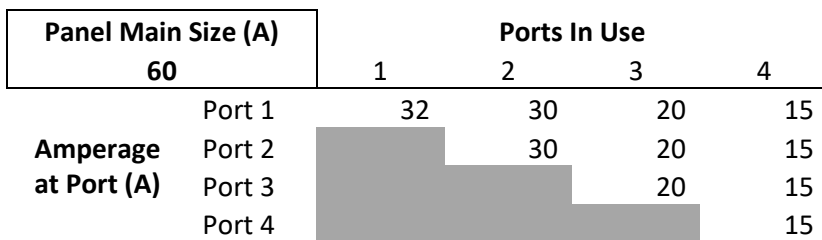
Example depicted below:



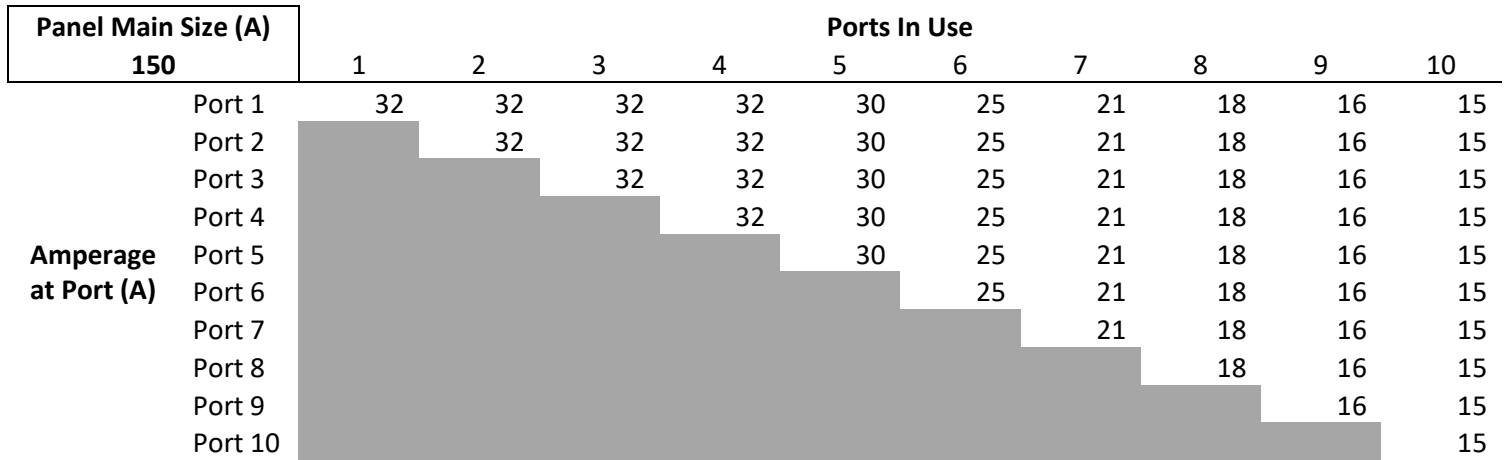
Power Distribution Charts are depicted on the following pages.

## Power distribution charts

The following charts illustrate a few possible combinations of main panel size and charger distribution. Additional configurations are possible. Care should be taken to avoid loading too many chargers on a main panel with low overall capacity. While the power can be shared between up to 20 chargers connected to the panel, allowing the power dispensed per charger to drop below the 10A-15A range when all chargers are in use is not recommended in most circumstances, as it results in a slow charge that may dissatisfy customers.



Power Distribution Charts (continued)



Interested in learning more?  
Let's Talk.



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