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(54) Title: SYSTEMS, DEVICES, AND METHODS FOR RAIL-BASED AND OTHER ELECTRIC VEHICLES WITH MODULAR
CASCADED ENERGY SYSTEMS

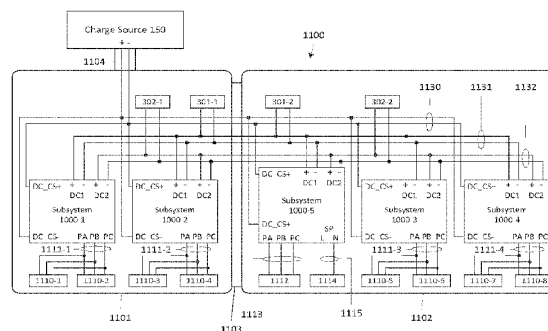


FIG. 11D

(57) Abstract: Example embodiments of systems, devices, and methods are provided for electric vehicles that are subject to intermittent charging, such as rail-based electric vehicles, having one or more modular cascaded energy systems. The one or more modular systems can be configured to supply multiphase, single phase, and/or DC power to numerous motor and auxiliary loads of the EV. If multiple systems or subsystems are present in the EV, they can be interconnected to exchange energy between them in numerous different ways, such as through lines designated for carrying power from the intermittently connected charge source or through the presence of modules interconnected between arrays of the subsystems. The subsystems can be configured as subsystems that supply power for motor loads alone, motor loads in combination with auxiliary loads, and auxiliary loads alone.

[Continued on next page]

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