

ABSTRACT

[Abstract]

[Task] To restrain a voltage decrease of an external line, to absorb regenerated power of an electric vehicle and to
5 prevent regeneration failure of an electric vehicle without increasing the size and cost of a direct-current power storage apparatus.

[Means for solution] A terminal voltage (standby voltage) of an electric double layer capacitor EDLC is set near an
10 upper limit voltage of a rated voltage range of the external line in a no-load state and a normal load state of a feeding system. When the external line voltage exceeds the upper limit of the rated voltage range, a regenerated power is absorbed by the double layer capacitor, and at the same
15 time an electric vehicle acts to prevent the terminal voltage of the electric double layer capacitor from extending its maximum voltage, with a regenerative current squeezing operation (prevention of regeneration failure). When the external line voltage becomes lower than a lower limit of
20 the rated voltage range, the apparatus holds the external line voltage so as not to decrease below the lower limit of the rated voltage range (prevention of voltage drop) with discharged power from the electric double layer capacitor with voltage decreasing operation and voltage increasing
25 operation of a step up and step down chopper.