

CLAIMS

1. Management device for managing the electrical energy consumption of a set of passenger transport vehicles (20), said management
5 device (10) being characterized in that it comprises:

- reception means (15) for receiving a set of consumption information representing the electrical energy consumed at a given instant by the vehicles of the set (20),

- determining means (11) for determining an overall consumption at a
10 given instant, from the set of consumption information received, and

- generation means for (11) generating a set of commands respectively provided for a subset of vehicles selected from the set of vehicles (20) according to their state of use, said commands being generated to modify the operation of at least one air conditioning system of the vehicles of the
15 subset so as to reduce the value of the determined overall consumption to a predefined value

wherein the management device is furthermore configured to select the vehicles of said subset of vehicles according to information on the temperature of at least one cabin of the vehicles.

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2. Management device according to claim 1, characterized in that it further comprises transmission means (15) for sending a request for reduction of the electrical energy consumption to the vehicles of the set (20), the consumption information being received in response to the transmission of said
25 reduction request.

3. Management device according to one of claims 1 or 2, characterized in that the selected subset of vehicles comprises vehicles in passive use or in active use.

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4. Management device according to one of claims 1 to 3, characterized in that it further comprises identification means (11) for

identifying, from among the subset of selected vehicles, a first group of vehicles comprising vehicles in a passive state of use and a second group of vehicles comprising vehicles in an active state of use and in which the information on the temperature of at least one cabin indicates that the setpoint temperature has
5 been reached.

5. Management device according to claim 4, characterized in that said generation means (11) are configured to generate a first group of commands for reduction of the activation profile of the air conditioning system
10 provided for the first group of vehicles such that the gap between the temperature of the vehicle and a setpoint temperature has a first predefined value, and a second group of commands for reduction of the activation profile of the air conditioning system provided for the second group of vehicles, such that the gap between the temperature of the vehicle and a setpoint temperature has
15 a second predefined value, the second predefined value being less than the first predefined value.

6. Management device according to one of claims 1 to 5, characterized in that said information on the temperature of at least one cabin
20 comprises a temperature measured in said at least one cabin or a parameter indicating that a setpoint temperature has been reached in said at least one cabin.

7. Management device according to one of the preceding claims,
25 characterized in that it is placed on the ground.

8. Management system for managing the electrical energy consumption of a set of passenger transport vehicles (20), characterized in that: it comprises a management device according to one of claims 1 to 7 as well as
30 local control devices respectively associated with air conditioning systems on board the passenger transport vehicles (20), each local control device being configured to measure and send consumption information to the management

device (10) that represents the electrical energy consumed at a given instant by the associated air conditioning system.

5 9. Management method for managing the electrical energy consumption of a set of passenger transport vehicles (20), said management method being characterized in that it comprises the following steps implemented in a management device (10):

- receiving (S2) a set of consumption information representing the electrical energy consumed at a given instant by the vehicles of the set (20),
- 10 - determining (S3) an overall consumption at a given instant, from the set of consumption information received, and
- generating (S61, S62) a set of commands provided respectively for a subset of vehicles selected from the vehicles of the set (20) according to their state of use and according to information on the temperature of at least one
- 15 cabin of the vehicles of the set, said commands being generated to modify the operation of the air conditioning system of the vehicles of the subset, so as to reduce the determined overall consumption value to a predefined value.

20 10. Management method according to claim 9, characterized in that it comprises transmitting (S1) to the vehicles of the set a request for reducing the electrical energy consumption, the step of receiving (S2) the set of consumption information being implemented in response to said transmission (S1) of said reduction request.

25 11. Management method according to one of claims 9 or 10, characterized in that the vehicles of the subset are selected if the vehicle is in passive use or in active use.

30 12. Management method according to one of claims 9 to 11, characterized in that it further comprises identifying (S41, S42, S5) from among the subset of selected vehicles, a first group of vehicles comprising vehicles in a passive state of use and a second group of vehicles comprising vehicles in an

active state of use and in which the information on the temperature of at least one cabin indicates that the setpoint temperature has been reached.

13. Management method according to claim 12, characterized in that
5 said generating step (S61, S62) comprises the generation of a first group of commands for reduction of the activation profile of the air conditioning system provided for the first group of vehicles such that the gap between the temperature of the vehicle and a setpoint temperature has a first predefined value, and a second group of commands for reduction of the activation profile of
10 the air conditioning system provided for the second group of vehicles, such that the gap between the temperature of the vehicle and a setpoint temperature has a second predefined value, the second predefined value being less than the first predefined value.

15 14. Management method according to one of claims 9 to 13, characterized in that said information on the temperature of at least one cabin comprises a temperature measured in at least one cabin of the vehicles of the set (20), or a parameter indicating that a setpoint temperature has been reached in at least one cabin of the vehicles of the set (20).

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15 15. Set of passenger transport vehicles, characterized in that each vehicle comprises at least one air conditioning system and an associated local control device, and in that the electricity consumption of said set of vehicles is managed by a management Device (10) in accordance with one of claims 1 to 7
25 implementing a management method in accordance with one of claims 9 to 14.