

CLAIMS

1. A method for managing power of a plurality of apparatuses in a facility, each of the apparatuses, which consume electric power, being electrically connected to a plurality
5 of power sources through at least one distribution device comprising a central processing unit and switching elements interfacing between said apparatuses and said power sources,
each of the power sources having a predetermined yield curve,
said switching elements, operated real-time via control circuits being configured to
10 distribute, at the beginning of operation, the electrical energy required to operate said apparatuses according to a predetermined nominal allocation,
said method implemented by computer means comprising, during an operating phase, the following steps:
 - determining a load plan for charging by said central unit on the basis of at
15 least one subscribed power for each of the apparatuses and a distribution algorithm;
 - a dynamic stirring of said apparatuses of the power sources formed by said switching elements on the basis of said load plan transmitted by said central unit to each of the control circuits.
- 20 2. The method of claim 1 comprising a continuous measurement of the power consumption of each apparatus, and wherein the determination of said load plan by said central unit is further performed on the basis of said measured consumption.
- 25 3. The method of claim 2, wherein the switching elements measure the power consumption of each apparatus that each respectively feeds by magnetically coupling.
4. A method according to any preceding claim, comprising continuously monitoring the status of each of the power sources for detecting the failure of at least one of the
30 supply sources, wherein the determination of said load plan by said central unit is further performed on the basis of said statuses.
5. The method of claim 4, wherein, when monitoring the status of each of the power sources, a power source is considered to be in a failure status when the latter delivers

a voltage outside a range between a lower failure threshold and a higher failure threshold.

5 6. The method of claim 5, wherein the lower failure threshold and/or the upper failure threshold are configurable voltage values.

10 7. A method according to any preceding claim, wherein the determination of a load plan with said central unit is carried out further on the basis of a predetermined allocation algorithm taking into consideration the performance curves of each of the sources so as to adjust the nominal allocation of said power sources to each of the apparatuses while maximizing efficiency.

15 8. A method according to any preceding claim, comprising an initialisation phase at which the nominal load plan is determined in a designation step on the basis of an electric power subscribed to beforehand by a subscriber, said subscribed electric power being associated with a predetermined level of quality of service.

20 9. A method according to any one of the preceding claims, comprising an interruption of the power supply to an apparatus by said associated source upon detection of abnormal consumption by said apparatus, e.g., strictly greater than 150% of the subscribed power.

25 10. A computer program comprising instructions adapted for executing the steps of the method according to any one of claims 1 to 9 when said computer program is executed by at least one processor.

30 11. A recording medium readable by a computer on which is recorded a computer program comprising instructions for executing the steps of the method according to any one of claims 1 to 9.

12. Management system of the electrical supply of a plurality of apparatuses in a facility, wherein each of the apparatuses, which consume electrical energy, is electrically connected to a plurality of power sources through at least one distribution device, wherein each of the power sources has a specific yield curve, and

wherein said at least one distribution device comprises switching elements, making the interface between said apparatus and said power sources configured to distribute, at the beginning of operation, the electrical energy required to operate the apparatuses according to a predetermined nominal allocation,

5 characterized in that said at least one distribution device comprises:

- a central processing unit configured to determine a charging scheme on the basis of at least one subscribed power for each of the apparatuses and a distribution algorithm;

- control circuitry configured to operate, in real time on the basis of said load plan transmitted by said central unit said switching elements, so as to produce a dynamic switching of said apparatuses on the supply sources.

13. A system according to claim 12 comprising computer means configured for the implementation of the method steps according to any one of claims 2 to 9.

14. A system according to claim 12 or 13, wherein the switching elements comprise a semiconductor of the IGBT type and/or an electronic component of the TRIAC-type.

15. A system according to one of claims 12 to 14, wherein said at least one distribution device is configured to deliver respectively single-phase, three-phase and/or four-phase.

16. A data processing center type facility, or datacenter, comprising:

- a plurality of electric power sources;
- a plurality of a server rack type computer apparatuses; and
- A system of the power management according to one of claims 12 to 15.