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(54) Title: POWER DEMAND MANAGEMENT ON A LOW VOLTAGE NETWORK WITH A PLURALITY OF INTELLIGENT SOCKETS

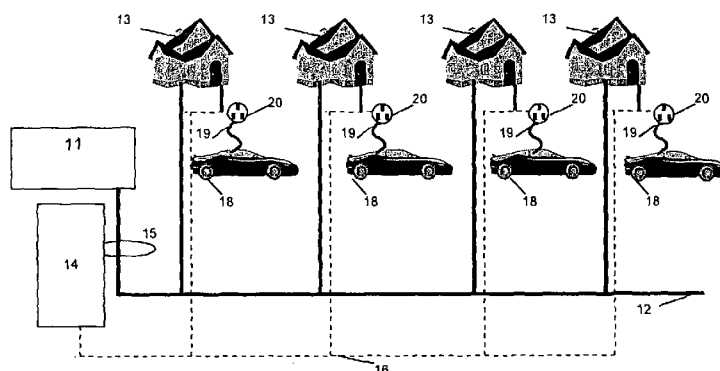


Figure 2

(57) Abstract: An electricity substation (11) receives a high voltage electricity supply and transforms it to a low voltage supply distributed to a plurality of properties (13). The substation (11) is also provided with a demand management unit (14) incorporating a load monitoring means (15) operable to measure the load on the or each low voltage supply cable (12) and each property (13) is provided with at least one intelligent socket (20) for high load appliances. The intelligent socket (20) comprises contacts (21) for making a connection with the conductors of the charging lead; a use monitor (22) operable to detect when a load (i.e. an electric vehicle) is drawn from the contacts (21); a switch (23) operable to disconnect or connect the electricity supply to the contacts; and a control unit (24). The control unit is operable to communicate with the demand management unit (14) via a suitable communications link (16). In operation, the demand management unit (14) monitors communications from each intelligent socket (20) to determine which intelligent sockets (20) are in use and the measured load on the low voltage supply cable (12). When the measured load exceeds a threshold, the demand management unit (14) enters a power rationing mode. In this mode, the demand management unit (14) sends signals to the control unit (24) of each intelligent socket (20) in use. In response to the signals the switch (23) is cyclically operated. This causes the contacts (21) (and hence the electric vehicle 18) to be cyclically disconnected and connected from the electrical supply.



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