



- (51) International Patent Classification:
B60L 11/18 (2006.01)
- (21) International Application Number:
PCT/GB2012/050702
- (22) International Filing Date:
29 March 2012 (29.03.2012)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
1107015.8 27 April 2011 (27.04.2011) GB
- (71) Applicant (for all designated States except US): **EA TECHNOLOGY LIMITED** [GB/GB]; Capenhurst Technology Park, Capenhurst, Chester, Cheshire CH1 6ES (GB).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): **SINCLAIR, John Sean** [GB/GB]; 9 Beaufort Close, Bramley, Hampshire RG26 5DT (GB).
- (74) Agent: **WILSON GUNN**; 5th Floor, Blackfriars House, The Parsonage, Manchester, Greater Manchester M3 2JA (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AO, AT, AU, AZ, BA, BB, BG, BH, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LY, MA, MD, ME, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SC, SD, SE, SG, SK, SL, SM, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AL, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HR, HU, IE, IS, IT, LT, LU, LV, MC, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report (Rule 48.2(g))

(54) Title: ELECTRIC POWER DEMAND MANAGEMENT

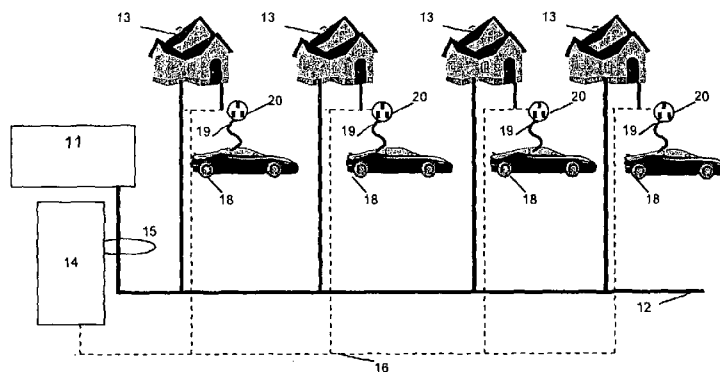


Figure 2

(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.