



(51) International Patent Classification:

B60L 53/63 (2019.01) **B60L 55/00** (2019.01)
B60L 53/64 (2019.01) **H02J 3/42** (2006.01)
B60L 53/66 (2019.01) **H02J 9/04** (2006.01)

(21) International Application Number:

PCT/US2024/024597

(22) International Filing Date:

15 April 2024 (15.04.2024)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data:

63/495,798 13 April 2023 (13.04.2023) US

(71) Applicant: **LANDIS+GYR TECHNOLOGY, INC.**

[US/US]; 30000 Mill Creek Avenue, Suite 100, Alpharetta, Georgia 30022 (US).

(72) Inventors: **KARLGAARD, Matt**; 6436 County Road 1,

Pequot Lakes, Minnesota 56472 (US). **SHARMAN, Adrian**; 30000 Mill Creek Ave., Suite 100, Alpharetta, Georgia 30022 (US). **SHEKHAR, Shishir**; 30000 Mill Creek Ave., Suite 100, Alpharetta, Georgia 30022 (US). **DECKER, David**; 30000 Mill Creek Avenue, Suite 100, Alpharetta, Georgia 30022 (US). **MERRICKS, Nicholas P.**; 30000

Mill Creek Avenue, Suite 100, Alpharetta, Georgia 30022 (US). **SAND, Charlotte**; 30000 Mill Creek Ave., Suite 100, Alpharetta, Georgia 30022 (US). **DUDEK, Lukasz**; 30000 Mill Creek Ave., Suite 100, Alpharetta, Georgia 30022 (US). **KOTA, Amith**; 30000 Mill Creek Ave., Suite 100, Alpharetta, Georgia 30022 (US).

(74) Agent: **HARRIS, Christopher P.** et al.; 950 Main Avenue, Suite 710, Cleveland, Ohio 44113 (US).

(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, BN, BR, BW, BY, BZ, CA, CH, CL, CN, CO, CR, CU, CV, CZ, DE, DJ, DK, DM, DO, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, GT, HN, HR, HU, ID, IL, IN, IQ, IR, IS, IT, JM, JO, JP, KE, KG, KH, KN, KP, KR, KW, KZ, LA, LC, LK, LR, LS, LU, LY, MA, MD, MG, MK, MN, MU, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PA, PE, PG, PH, PL, PT, QA, RO, RS, RU, RW, SA, SC, SD, SE, SG, SK, SL, ST, SV, SY, TH, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, WS, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every

kind of regional protection available): ARIPO (BW, CV, GH, GM, KE, LR, LS, MW, MZ, NA, RW, SC, SD, SL, ST, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ,

(54) Title: V2X UTILIZING A METER

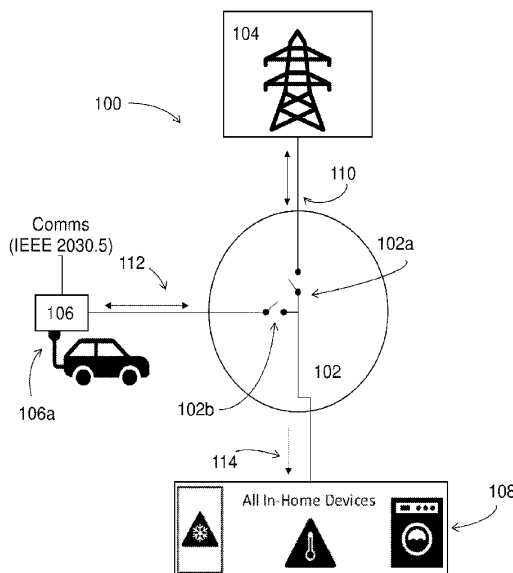


Figure 1

(57) Abstract: Systems and methods for controlling vehicle-to-everything (V2X) functionality of an electric vehicle charger via a multi-port meter. The meter may comprise a grid port configured for connecting the meter to an electric power grid, an auxiliary port configured for connecting the meter to the electric vehicle charger, a grid switch connected to the grid port and configured for connecting the grid port to the load port and an auxiliary switch configured for connecting the auxiliary port to the grid switch and the load port. The system may further comprise a bi-directional communication channel configured for communications between the system and the electric vehicle charger or an electric vehicle connected to the electric vehicle charger, and a control unit. The control unit comprises one or more processors configured for processing power grid data measured by the meter and controlling states of the grid switch and the auxiliary switch to thereby facilitate various V2X functionality.

[Continued on next page]

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, ME, MK, MT, NL, NO, PL, PT, RO, RS, SE, SI, SK, SM, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, KM, ML, MR, NE, SN, TD, TG).

Declarations under Rule 4.17:

- *as to the identity of the inventor (Rule 4.17(i))*
- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

Published:

- *with international search report (Art. 21(3))*
- *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments (Rule 48.2(h))*