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(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). **DECKER, David**;
30000 Mill Creek Avenue, Suite 100, Alpharetta, Georgia
30022 (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). **MERRICKS, Nicholas P.**; 30000
Mill Creek Avenue, Suite 100, Alpharetta, Georgia 30022
(US).

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

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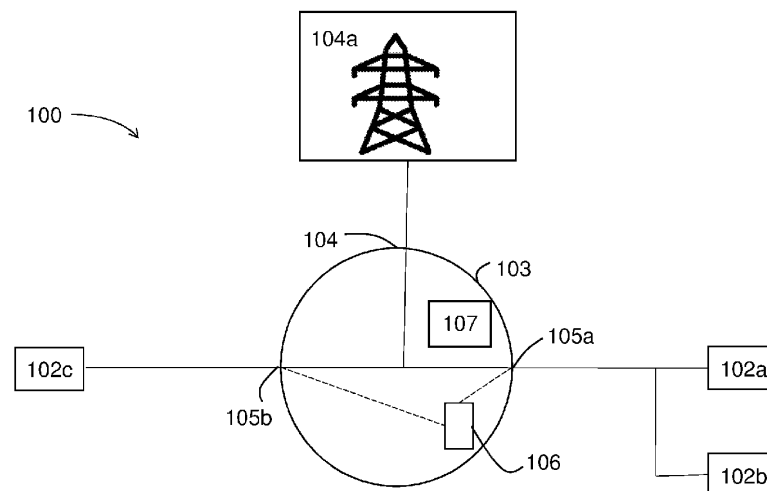


Figure 1

(57) **Abstract:** A system for disaggregating electrical data from a plurality of distributed energy resource (DER) devices of a premises. The system comprises a multi-port electric meter with a grid port configured for connecting the multi-port electric meter to an electric power grid and at least one DER circuit port configured for connecting the multi-port electric meter to a circuit having two or more DER devices thereon. The system also comprises a data collector configured to collect data from a plurality of data channels, at least one data channel comprising an electrical data channel and corresponding to a respective one of the plurality DER circuit ports, and at least one channel comprising a non-electrical data channel. The system further comprises a processor configured to input the collected data from the plurality of data channels into classifier to classify the sampled electrical data into one or more classes and estimate an electrical usage and/or generation value of one or more of the DER devices based on the output classification of the classifier.

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