CLAIMS:

1. A multi-port meter for controlling loads, the meter comprising:

a grid port configured for connecting the meter to an electric power grid;

one or more auxiliary ports each configured for connecting the meter to a respective distributed energy resource (DER);

a load port configured for connecting the meter to a premises load;

a grid switch connected to the grid port and configured for connecting the grid port to the load port;

one or more auxiliary switches, each of the one or more auxiliary switches connected to an auxiliary port of the one or more auxiliary ports and configured for connecting the auxiliary port to the grid port and the load port; and

a processing unit configured for processing power grid data measured by the meter and controlling states of the grid switch and the one or more auxiliary switches;

wherein the meter is configured to:

detect a consumption event; and

open at least one of the one or more auxiliary switches in response to the consumption event.

2. The meter of claim 1, wherein detecting the demand response comprises:

detecting a consumption level; and

determining that there is a consumption event if the detected consumption level is greater than a threshold consumption level.

3. The meter of claim 1, wherein the multi-port meter is an N-port meter comprising a plurality of auxiliary ports and a plurality of auxiliary switches.

4. The meter of claim 3, the meter is configured to open all of the auxiliary switches in response to the consumption event.

5. The meter of claim 3, wherein the meter is configured to prevent all of the auxiliary switches from being closed simultaneously.

6. The meter of claim 3, wherein the plurality of auxiliary switches comprises a first auxiliary switch and a second auxiliary switch associated with first and second auxiliary ports respectively, wherein when the first auxiliary switch is closed the meter is configured to close

the second auxiliary switch only if the first auxiliary port is connected to a generating device and a power flow through the first auxiliary port exceeds a second threshold value.

7. The meter of claim 6, wherein the first auxiliary port is operatively connected to a first DER, and wherein the first DER is a solar inverter.

8. The meter of claim 2, wherein the consumption level is a consumption level through the grid port, and the meter is configured to:

determine the consumption level based on one or more of a power transferred through the grid port, a current through the grid port, or a voltage at the grid port; and

compare the detected consumption level to a threshold consumption level.

9. The meter of claim 1, wherein detecting the consumption event comprises receiving an indication to implement a demand response program.

10. A method for controlling loads of an electricity meter, the method comprising:

operatively connecting a grid port of a multi-port meter to an electric power grid;

operatively connecting a load port of the multi-port meter to a premises load;

operatively connecting one or more auxiliary ports of the multi-port meter to respective distributed energy resources (DERs);

detecting a consumption event; and

opening at least one of the one or more auxiliary switches connected to the one or more auxiliary ports in response to the consumption event, each of the one or more auxiliary switches configured to connect a respective auxiliary port to the grid port and the load port.

11. The method of claim 10, wherein detecting a consumption event comprises:

detecting a consumption level; and

determining that there is a consumption event if the detected consumption level is greater than a threshold consumption level.

12. The method of claim 10, wherein the multi-port meter is an N-port meter comprising a plurality of auxiliary ports and a plurality of auxiliary switches, and wherein the method comprises opening all of the auxiliary switches in response to the consumption event.

13. The method of claim 10, wherein the multi-port meter is an N-port meter comprising a plurality of auxiliary ports and a plurality of auxiliary switches, and wherein the method comprises preventing all of the auxiliary switches from being closed simultaneously, and wherein optionally the plurality of auxiliary switches comprises a first auxiliary switch and a second auxiliary switch associated with first and second auxiliary ports respectively, wherein the method comprises:

closing the first auxiliary switch; and

closing the second auxiliary switch only if the first auxiliary port is connected to a generating device and a power flow through the first auxiliary port exceeds a second threshold value.

14. A system for controlling loads of an electricity meter, the system comprising:

a multi-port meter comprising:

a grid port configured for connecting the meter to an electric power grid;

one or more auxiliary ports each configured for connecting the meter to a respective distributed energy resource (DER);

a load port configured for connecting the meter to a premises load;

a grid switch connected to the grid port and configured for connecting the grid port to the load port;

one or more auxiliary switches, each of the one or more auxiliary switches connected to an auxiliary port of the one or more auxiliary ports and configured for connecting the auxiliary port to the grid port and the load port;

one or more processors; and

a non-transitory computer readable medium comprising instructions that, when read by the one or more processors, cause the one or more processors to carry out the following steps:

detect a consumption event through the grid port;

open at least one of the one or more auxiliary switches in response to detecting a consumption event.

15. The system of claim 14, wherein detecting a consumption event comprises:

detecting a consumption level through the grid port;

comparing the detected consumption level to a threshold consumption level; and

determining that there is a consumption event if the detected consumption level is greater than the threshold consumption level, and optionally wherein the the consumption level is a consumption level through the grid port, the non-transitory computer readable

medium comprising instructions that, when read by the one or more processors, cause the one or more processors to:

determine the consumption level based on one or more of a power transferred through the grid port, a current through the grid port, or a voltage at the grid port; and

compare the detected consumption level to a threshold consumption level; and/or

wherein detecting a consumption event comprises receiving a set of instructions that cause the one or more processors to implement a demand response program.