CLAIMS

What is claimed is:

1. An electrical system, comprising:

   a diagnostic device that generates a first test signal at a first time;

   at least one energy transfer link coupled to the diagnostic device, wherein the first test signal flows through the at least one energy transfer link at the first time;

   a portable electrical load coupled to the at least one energy transfer link; and

   a monitoring device coupled to the at least one energy transfer link, wherein the monitoring device is disposed between the diagnostic device and the portable electrical load,

   wherein the monitoring device receives the first test signal, and wherein the monitoring device executes, in response to the first test signal, a test procedure on the portable electrical load,

   wherein the portable electrical load is portable relative to the diagnostic device,

   wherein the monitoring device creates a current set point in response to the first test signal.

2. The electrical system of Claim 1, wherein the diagnostic device receives a reply signal, wherein the reply signal comprises results of the test procedure on the portable electrical load.

3. The electrical system of Claim 2, wherein the reply signal further comprises an identification of the portable electrical load.

4. The electrical system of Claim 2, wherein the reply signal further comprises details of the test procedure executed on the portable electrical load.

5. The electrical system of Claim 1, wherein the portable electrical load is idle during the first time.

6. The electrical system of Claim 5, wherein the diagnostic device prevents the portable electrical load from being put in service when the results of the test procedure on the portable electrical load indicate that the portable electrical load has failed.

7. The electrical system of Claim 1, wherein the portable electrical load comprises a refrigeration unit for a reefer container.

8. The electrical system of Claim 7, further comprising:

    a reefer receptacle that detachably couples to an electrical connector of the reefer container, wherein the diagnostic device is disposed within a housing of the reefer receptacle.

9. The electrical system of Claim 1, wherein the monitoring device further receives a second test signal at a second time from the diagnostic device, wherein the monitoring device executes the test procedure on the portable electrical load in response to the second test signal.

10. The electrical system of Claim 9, wherein the portable electrical load is in service during the second time.

11. The electrical system of Claim 1, wherein the diagnostic device tracks the results of the test procedure executed on the portable electrical load over time to determine whether the portable electrical load is beginning to fail.

12. A method for testing an electrical load of a reefer container, the method comprising:

    receiving, from a diagnostic device, a test signal;

    implementing, in response to the test signal, a test procedure on the electrical load; and

    creating a current set point in response to the test signal,

    wherein the test signal, while the test procedure is being administered, transforms into a return signal that is sent to the diagnostic device, wherein the return signal comprises the results of the test procedure implemented on the electrical load,

    wherein the diagnostic device is configured to determine the condition of the electrical load using the results included in the return signal.

13. The method of Claim 12, wherein the electrical load is out of service when the test signal is received.

14. The method of Claim 13, wherein the electrical load is put into service when the diagnostic device determines, based on the results of the test procedure, that the electrical load of the reefer container is safe to operate.