CLAIMS

~~We claim:~~

1. A controller associated with a container, the controller comprising a processor and memory associated with the processor, the controller being configured to:

determine a derived key based on global positioning system information corresponding to a location of the controller;

determine an expected communication pass key based on the derived key;

determine whether a user device is authorized based on a received communication pass key from the user device corresponding to the expected communication pass key; and

allow the user device access to at least one functionality of the controller when the user device is authorized.

2. The controller of claim 1, wherein

the global positioning system information includes a current time and a current location of the controller; and

the derived key is based on the current time and the current location.

3. The controller of claim 1, wherein

the controller is configured to generate a communication session token that has an expiration time;

the communication session token is used by the user device for communicating with the controller;

the derived key is valid for a predetermined period; and

the expiration time is before an end of the predetermined period.

4. The controller of claim 1, wherein

the at least one functionality includes setting a target temperature for at least a portion of an interior of the container.

5. The controller of claim 1, wherein the controller is configured to control a display to provide a visual indication of the derived key.

6. The controller of claim 1, wherein

at least one of the controller or the container has a serial number; and

the controller is configured to determine whether the user device is authorized based on receiving the serial number of the at least one of the controller or the container from the user device.

7. The controller of claim 1, wherein

the controller is configured to determine whether the user device is authorized based on receiving a user certificate from the user device.

8. A method of managing communications between a controller associated with a container and a user device, the method comprising:

determining a derived key based on global positioning system information corresponding to a location of the controller;

determining an expected communication pass key based on the derived key;

determining whether the user device is authorized based on a received communication pass key from the user device corresponding to the expected communication pass key; and

allowing the user device access to at least one functionality of the controller when the user device is authorized.

9. The method of claim 8, wherein

the global positioning system information includes a current time and a current location of the controller; and

the derived key is based on the current time and the current location.

10. The method of claim 8, comprising

generating a communication session token that is used by the user device for communicating with the controller, the communication session token having an expiration time;

and wherein

the derived key is valid for a predetermined period; and

the expiration time is before an end of the predetermined period.

11. The method of claim 8, wherein

the at least one functionality includes setting a target temperature for at least a portion of an interior of the container.

12. The controller of claim 8, wherein at least one of the controller or the container has a serial number and the method comprises determining whether the user device is authorized based on receiving the serial number of the at least one of the controller or the container from the user device.

13. The method of claim 8, comprising determining whether the user device is authorized based on receiving a user certificate from the user device.

14. A system, comprising:

a plurality of containers;

a plurality of controllers, each of the controllers being associated with a respective one of the containers;

a plurality of refrigerant circuits, each of the refrigerant circuits being associated with a respective one of the containers, each of the refrigerant circuits being controllable by the controller on the respective container; and

a user device configured for wireless communication with the plurality of controllers, respectively,

wherein each of the ~~controller~~ controllers is configured to determine a derived key based on global positioning system information corresponding to a location of the ~~plurality~~ respective one of the containers, determine an expected communication pass key based on the derived key, determine whether the user device is authorized based on receiving a communication pass key from the user device that corresponds to the expected communication pass key, and allow the user device access to at least one functionality of the controller when the user device is authorized.

15. The system of claim 14, wherein the global positioning system information includes a current time and a current location of the controller; and

the derived key is based on the current time and the current location.

16. The system of claim 14, wherein the at least one functionality includes setting a target temperature for at least a portion of an interior of the respective container.

17. The system of claim 14, comprising a display supported on at least one of the containers, the display being controllable by the controller of the respective container, the display providing a visual indication of the derived key.

18. The system of claim 14, wherein

each of the controllers is configured to generate a communication session token that has an expiration time;

the communication session token generated by one of the controllers is used by the user device for communicating with ~~each controller~~the one of the controllers;

the derived key is valid for a predetermined period; and

the expiration time is before and end of the predetermined period.

19. The system of claim 14, wherein

each controller is configured to determine whether the ~~use~~ user device is authorized based on receiving at least one of a serial number of the controller ~~of~~ and a serial number of the respective container associated with the controller from the user device; or

each controller is configured to determine whether the user device is authorized based on receiving a user certificate from the user device.