Claims

1. A water faucet system comprising:

a sensor for detecting an object;

a processor arranged in communication with the sensor and a solenoid valve to switch the solenoid valve from a first state to a second state when the object is detected to allow flow of water through a water faucet;

the sensor and solenoid valve arranged to be powered by a primary power source;

an alert mechanism arranged in communication with the processor to output an alert in relation to a lifespan of the primary power source; and

a secondary power source arranged in communication with the processor;

wherein the processor is configured to monitor a first parameter of the primary power source and switches to the secondary power source for powering the sensor and solenoid valve when the first parameter of the primary power source reaches a pre-determined threshold.

2. The water faucet system of claim 1, further comprises a voltage comparator arranged in communication with the processor to compare a voltage of the primary power source as the first parameter with a voltage reference as the pre-determined threshold.

3. The water faucet system of claim 1, further comprising a hydropower generator for charging the primary power source when water flows through the water faucet.

4. The water faucet system of any one of claims 1 to 3, wherein the processor is further operable to monitor a second parameter of the primary power source, wherein the alert is triggered when the second parameter of the primary power source reaches a second pre-determined threshold.

5. The water faucet system of claim 4, wherein the second parameter is a number of charge and discharge cycle of the primary power source.

6. The water faucet system of any one of claims 4 or 5, wherein the alert is triggered when the sensor detects a presence of an object.

7. The water faucet system of any one of claims 4 to 6, wherein the processor is operable to switch from the primary power source to the secondary power source when the second pre-determined threshold is reached.

8. The water faucet system of any one of claims 1 to 3, wherein the processor is further operable to monitor a third parameter of the primary power source, wherein the alert is triggered when the third parameter of the primary power source reaches a third pre-determined threshold.

9. The water faucet system of claim 8, wherein the third parameter is a number of cycle of water flowing through the water faucet system.

10. The water faucet system of any one of claims 1 to 9, wherein the secondary power source is modularized.

11. The water faucet system of any one of claims 1 to 10, wherein the sensor is an infra-red sensor.

12. A method for operating a water faucet to dispense water in a water faucet system, comprising the steps of:

monitoring a first parameter of a primary power source, wherein the primary power source is used for supplying power to a solenoid valve and a sensor for controlling water flow to a water faucet;

using an alert mechanism to output an alert in relation to a lifespan of the primary power source; and

switching from the primary power source to a secondary power source when the first parameter of the primary power source reaches a pre-determined threshold.

13. The method of claim 12, further comprising the step of using a voltage comparator to compare a voltage of the primary power source as the first parameter with a voltage

reference as the pre-determined threshold before switching from the primary power source to the secondary power source.

14. The method of any one of claims 12 or 13, further comprising the step of:
monitoring a second parameter of the primary power source, wherein the alert is triggered when the second parameter of the primary power source reaches a second pre-determined threshold.

15. The method of claim 13, wherein the second parameter is a number of charge and discharge cycle of the primary power source.

16. The method of any one of claims 14 or 15, wherein the alert is triggered when the sensor detects a presence of an object.

17. The method of any one of claims 14 to 16, further comprising the step of switching from the primary power source to the secondary power source when the second pre-determined threshold is reached.

18. The method of any one of claims 12 or 13, further comprising the step of:
monitoring a third parameter of the primary power source, wherein the alert is triggered when the third parameter of the primary power source reaches a third pre-determined threshold.

19. The method of claim 18, wherein the third parameter is a number of cycle of water flowing through the water faucet system.

20. The method of any one of claims 12 to 19, wherein the secondary power source is modularized.

21. The method of any one of claims 12 to 20, wherein the sensor is an infra-red sensor.