| **Test Name** | Pump Controller Timer |
| --- | --- |
| **Use Case Tested:** |  |
| **Test Description:** | This test verifies the pump controller timer switches the pump off. |
| **Pre-conditions** | * Pump Controller is plugged into a USB port. * Arduino IDE is running. * Serial monitor is open, can communicate with pump controller. * Pump is not running. * No active alarms. |
| **Post-conditions** | * Pump is not running. |
| **Notes:** | This test is conducted entirely on the feather. Look for the status messages in the serial monitor. |

|  | **TEST STEP** | **EXPECTED TEST RESULTS** |
| --- | --- | --- |
|  | Issue the ‘T’ command to the pump controller. | The pump controller logs messages to say the pump has started and a 2-minute timer has been set.  Feather LED lights up. |
|  | Wait for 2 minutes. | The pump controller logs messages saying the timer has expired and the pump has stopped.  Feather LED goes out. |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Test Data Table** | | | | | |
|  | **1** | **2** | **3** | **4** | **5** |
| [Data field 1] | [data set 1 input value for field 1] |  |  |  |  |
| [Data field 2] | [data set 1 input value for field 2] |  |  |  |  |
| [Data field 3] | [data set 1 input value for field 3] |  |  |  |  |

**Results**

10/09/2020

Passed.

Step 1.

15:55:56.741 -> Issuing a pump on message with timer value.

15:55:56.741 -> callback got data 3

15:55:56.741 -> Switched pump on.

15:55:56.741 -> Starting one-shot timer.

15:55:56.741 -> Timer in minutes: 2

15:55:56.741 -> Sending status due to state change.

15:55:56.741 -> LoRaWAN will encode and send this message: {'pumpRunning':1,'boreLowLevel':0,'softStartFail':0,'pumpOverload':0,'controllerRestart':0,'highPressure':0,'noFlow':0}

15:55:56.741 -> Sending status byte: 01

15:55:58.861 -> EV\_TXCOMPLETE (includes waiting for RX windows)

Step 2.

15:57:56.736 -> Pump run timer has expired. Turning pump off.

15:57:56.736 -> Switched pump off.

15:57:56.736 -> Sending status due to state change.

15:57:56.736 -> LoRaWAN will encode and send this message: {'pumpRunning':0,'boreLowLevel':0,'softStartFail':0,'pumpOverload':0,'controllerRestart':0,'highPressure':0,'noFlow':0}

15:57:56.736 -> Sending status byte: 00

15:57:58.864 -> EV\_TXCOMPLETE (includes waiting for RX windows)