# 1.0 Window lifter requirements: H

1.1- Window lifter is the module responsible to control the window movement.  **C**

1.2 - Window lifter is controlled by two switches that indicate the direction of the window movement. **F**

## 2.0 Window behavior:

2.1 - For this purpose the window has to be emulated using a 10 led bar. **F**

2.2- The color of this led bar has to be RED. **NF.**

2.3-The movement of the window has to be simulated turning on/off the LEDS creating the animation of the window movement. **F**

2.4- The time between each transition shall be 400 msec. **F**

2.5 Window movement graphical description: **F**

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CLOSED OPEN

2.6- There are two possible window movements: **F**

-Up

-Down

2.7. - Each window movement has to be indicated trough a led color. Depending on movement each led has to be turn on.  **F**

|  |  |
| --- | --- |
| Movement | LED indicator color |
| UP | BLUE |
| Down | GREEN |

**F**

## 3.0 Button Behavior: H

3.1.-In order to consider a validate button press; the button has to be pressed at least 10 msec. **F**

3.2.-The module has to be able to detect fail button press. In that case the button press or button combination has to be considered as invalid. **F**

3.3 In case than a valid button press is detected the module has to follow the next behavior depending on the button pressed. **C**

|  |  |  |
| --- | --- | --- |
| Button Press | Time | Action |
| 3.4.- UP | >500 msec | The window shall UP until get totally CLOSED while the button keep press. **F** |
| 3.5.- DOWN | >500 msec | The window shall DOWN until get totally OPEN while the button keep press. **F** |
| 3.6.- UP | <500 msec | The window shall UP until get totally CLOSED automatically. (Function one touch) **F** |
| 3.7.- DOWN | <500 msec | The window shall DOWN until get totally OPEN automatically. (Function one touch) **F** |

## 4.0 Anti pinch functionality: H

4.1 Anti pinch is a feature than prevents accidents between window and some human body parts like arms, hands, head…. **C**

4.2. - In this case the signal than indicates to the module the detection of a pinch will be a push button. **F**

4.3. - Anti pinch button press has to follow the same characteristics than UP and DOWN buttons for valid press. **F**

4.4.-This signal just can be considered as valid when the movement is UP. **F**

4.5. - If this signal is valid then the module has to stop the UP Movement and then DOWN the window until the window get totally OPEN. **F**

4.6.-After window is totally OPEN the module has to ignore during 5 seconds all button press. **F**

4.7.-After this time the module has to recognize every button press. **F**