# Window lifter requirements:

Window lifter is the module responsible to control the window movement.

Window lifter is controlled by two switches that indicate the direction of the window movement.

## Window behavior:

R1.- For this purpose the window has to be emulated using a 10 led bar.

R2.- The color of this led bar has to be RED.

R3.- The movement of the window has to be simulated turning on/off the LEDS creating the animation of the window movement.

R4.- The time between each transition shall be 400 msec.

Window movement graphical description:

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CLOSED OPEN

R5.- There are two possible window movements:

-Up

-Down

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

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

## Button Behavior:

R6.- In order to consider a validate button press; the button has to be pressed at least 10 msec.

R7.- 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.

R8.- In case than a valid button press is detected the module has to follow the next behavior depending on the button pressed.

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

## Anti pinch functionality:

R9.-Anti pinch is a feature than prevents accidents between window and some human body parts like arms, hands, head….

R10.-In this case the signal than indicates to the module the detection of a pinch will be a push button.

C3.-Anti pinch button press has to follow the same characteristics than UP and DOWN buttons for valid press.

R11.-This signal just can be considered as valid when the movement is UP.

C4.-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.

R12.-After window is totally OPEN the module has to ignore during 5 seconds all button press.

R13.-After this time the module has to recognize every button press.