Module Information:

**Name:** RBI Motion Logic v1d

**Author:** Hope Roth

**Summary:** This module is used to manage motion sensor logic.

Inputs/Outputs/Parameters:

Inputs:

|  |  |
| --- | --- |
| occ\_sensor\_in | The room is currently occupied. This signal should be tied to an or with the occupied\_fb of all sensors in the room. |
| occupancy\_enable | Pulse to enable occupancy\_pulse. This signal will fire if the room is currently occupied when this is enabled. This defaults to enabled when the program first runs. |
| occupancy\_disable | Pulse to disable occupancy\_pulse. |
| vacancy\_enable | Pulse to enable vacancy\_pulse. This signal will fire if the room is currently vacant when this is enabled. This defaults to enabled when the program first runs. |
| vacancy\_disable | Pulse to disable vacancy\_pulse. |
| timeout\_in\_seconds | The grace time (in seconds) that room occupancy should remain high after occ\_sensor\_in goes low. |
| timeout\_in\_tenths | The grace time (in tenths of a second) that room occupancy should remain high after occ\_sensor\_in goes low. |
| [force\_occupancy] | Pulse to force the room into occupied mode. This will clear out any running vacancy timers, latch occupied\_fb high, and pulse occupancy\_pulse. |
| [force\_vacancy] | Pulse to force the room into vacant mode. This will clear out any running vacancy timers, latch occupied\_fb low, and pulse vacancy\_pulse. |

Outputs:

|  |  |
| --- | --- |
| occupied\_fb | This will latch high if occ\_sensor\_in is high, or if the room is currently in its grace timeout period. |
| occupancy\_enable\_fb | Indicates that occupancy\_pulse is enabled. |
| occupancy\_disable\_fb | Indicates that occupancy\_pulse is disabled. |
| vacancy\_enable\_fb | Indicates that vacancy\_pulse is enabled. |
| vacancy\_disable\_fb | Indicates that vacancy\_pulse is disabled. |
| occupancy\_pulse | Pulses when the room goes occupied, if [force\_occupancy] is pushed, or if occupancy is enabled when the room is occupied. |
| vacancy\_pulse | Pulses when the room goes vacant, if [force\_vacancy] is pushed, or if vacancy is enabled after the room has timed out. |
| timeout\_fb | Indicates the current timeout period of the room. |

Parameters:

|  |  |
| --- | --- |
| timeout\_type | Indicates if the timeout of the room is in seconds, or tenths of a second. |