# Module Information:

**Name:** RBI Motion Logic v1d

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**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. |
|---|---|