FARADITE

MOTION SENSOR 360 - CRESNET MANUAL

M360-W-CRES
M360-B-CRES
M360-PI-CRES

V1

Contents

Introduction

The Motion Sensor 360 Cresnet® range is a sensing solution designed for seamless integration with **Crestron** and **Crestron Home®** systems, delivering discreet automation with minimal visual impact.

All SKU's feature a motion sensor, brightness sensor and a temperature sensor*

All SKU's support advanced control such as forced occupancy and vacancy modes, particularly useful when used alongside keypads. The behaviour of the forced vacancy / forced occupancy can be changed with multiple settings. It is designed for discrete installation supporting automation across lighting, heating, AV, and more.

Key Features

- PIR motion detection for lighting, HVAC, and AV automation.
- Control lighting, scenes, and wider system automation.
- Seamless integration with Crestron and Crestron Home® via Cresnet®.
- Integrated temperature sensor*.
- Integrated brightness sensor.
- Two channel control of a fan and a light with separate timeouts.

*Temperature sensor not available when used within Crestron Home®

There are two form factors available in the Motion Sensor 360 range.

M360-PI-CRES Designed to be mudded / plastered into the ceiling, the sensor sits 100% flush with the ceiling. But the center "tech" module can be easily removed for servicing.

M360-W-CRES / M360-B-CRES Designed for fast installation directly into a hole cut in the ceiling, springs hold the sensor in place.

The following sections show the joins that are available in SIMPL windows. All the joins (other than temperature related joins) are available in **Crestron home** as variables, events, or commands. Currently

only the Fan / Light timeout can be set in the “Gear" icon, but all other “settings” can be adjusted using commands in a sequence triggered on the processor startup event.

Light Control Joins

Join Name	Behaviour
LIGHT INPUTS	
Light_Force_Occupied Digital Input - #1	Forces the occupied state, even if there is no motion detected. The digital output < **Raw_Occupancy** > will pulse when < **Light_Force_Occupied** > goes High/1 and <**Light_Room_Occupied**> will be high for the duration of the set timeout assuming no further motion is detected in the room. The < **Light_Force_Occupied_Mode** > can be used to define more advanced behaviour such as longer timeouts. Twilight mode is not used when the state is forced into the occupied state using < **Light_Force_Occupied** >. **High/1** = Force the state of occupancy **Low/0** = No effect **The default (on device power-up) is Low/0 =** No effect.
Light_Force_Vacant Digital Input - #2	Forces the vacant state. By default the sensor will reactivate after an exit period of 20 seconds. The < **Light_Force_Vacant_Mode** > can be used to define more advanced behaviour. **High/1** = Force the state of vacancy **Low/0** = No effect **The default (on device power-up) is Low/0** = No effect
Light_Disable_Motion Digital Input - #3	Disables the motion sensor **High/1** = Disable motion sensor **Low/0** =Enable motion sensor **The default (on device power-up) is: Low/0** =Enable motion sensor
Light_Enable_Twilight_Mode Digital Input - #4	Enables twilight mode, when motion is detected the room only becomes occupied if the light level in the room is lower than <**Light_Twilight_Lux Threshold**>, this prevents the room becoming occupied if there is already enough light in the room. If the room is forced into the occupied state using the <**Light_Force_Occupied**> input then the lux threshold is not evaluated. **High/1** = Enabled **Low/0** = Disabled **The default (on device power-up) is Low/0** = Disabled
Light_Timeout Analog Input - #1	Sets the light timeout in seconds. **Min:** 1d seconds **Max**: 43200 seconds (12 hours) **Default (on device power-up)**: 300 seconds Out of the range values are ignored.
Light_Moiton_Mode Analog Input - #2	Sets the behaviour of the motion triggered automation for light control: **0,STANDARD** - OCCUPIED WHEN MOTION IS DETECTED AND VACANT AFTER TIMEOUT

	1,LONG PRESENCE - OCCUPIED AFTER AT LEAST 20S OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **2,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 30S OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **3,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 40S OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **4,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 50S OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **5,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 1 MIN OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **6,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 90S OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **7,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 2 MIN OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **8,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 3 MIN OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **9,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 4 MIN OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **10,SHORT PRESENCE** - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 60S THEN TIMEOUT REDUCES TO 60S **11,SHORT PRESENCE** - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 60S THEN TIMEOUT REDUCES TO 10% OF TIMEOUT VALUE **12,SHORT PRESENCE** - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 20S THEN TIMEOUT REDUCES TO 20% OF TIMEOUT VALUE **13,SHORT PRESENCE** - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 20S THEN TIMEOUT REDUCES TO 30% OF TIMEOUT VALUE **14,SHORT PRESENCE** - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 20S THEN TIMEOUT REDUCES TO 40% OF TIMEOUT VALUE **15,SHORT PRESENCE** - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 20S THEN TIMEOUT REDUCES TO 50% OF TIMEOUT VALUE **Default (on device power-up):** 0,STANDARD - OCCUPIED WHEN MOTION IS DETECTED AND VACANT AFTER TIMEOUT Out of the range values are ignored.
Light_Force_Occupied_Mode Analog Input - #3	Defines the behaviour of the <**Light_Force_Occupied**> input. By setting to 1 or higher the timeout can be extend when the room is forced to be occupied using a keypad. **0,DEFAULT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (STANDARD)

	1,EXTEND TIMEOUT - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 10% LONGER THAN NORMAL) **2,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 25% LONGER THAN NORMAL) **3,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 50% LONGER THAN NORMAL) **4,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 75% LONGER THAN NORMAL) **5,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 100% LONGER THAN NORMAL) **6,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 200% LONGER THAN NORMAL) **7,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 300% LONGER THAN NORMAL) **8,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 400% LONGER THAN NORMAL) **9,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 500% LONGER THAN NORMAL) **10,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 1000% LONGER THAN NORMAL) **Default (on device power-up):** 0,DEFAULT - FORCES ROOM TO BE OCCUPIED - TIMEOUT (STANDARD) Out of the range values are ignored.
Light_Force_Vacant_Mode Analog Input - #4	Defines the behaviour of the <Light_Force_Vacant> input: The sensor has 2 main methods to handle the room being forced into vacant using a keypad. **Method 1: Exit Period** - The motion sensor reactivates after a set period, this avoids the case where you turn the light off using a keypad and then the act of walking out the room turns the light back on. **Method 2: Unoccupied** - The motion sensor reactivates after the room has been vacated for a period of time, this is useful for meeting rooms where you might want to turn the lights ON / OFF automatically but then sometimes you might want to turn them OFF for a presentation but only reactivate the sensor once the room is fully vacated for a period of time i.e. we are confident that the meeting has finished. **0,DEFAULT** - EXIT PERIOD - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 20 SECONDS **1,EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 5 SECONDS **2,EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 10 SECONDS **3,EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR

	REACTIVATES AFTER EXIT PERIOD OF 30 SECONDS **4,EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 1 MINUTE **5,EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 2 MINUTES **6,NO EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES STRAIGHT AWAY **7,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 10 SEC **8,UNOCCUPIED** -FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 20 SEC **9,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 30 SEC **10,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 40 SEC **11,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 50 SEC **12,UNOCCUPIED** -FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 1 MIN **13,UNOCCUPIED** -FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 2 MIN **14,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 3 MIN **15,UNOCCUPIED** -FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 10 MIN **16,UNOCCUPIED** -FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 20 MIN **17,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 30 MIN **18,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 40 MIN **19,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 50 MIN **20,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 1 HOUR **21,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 2 HOURS **22,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 3 HOURS **23,UNOCCUPIED** -FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 4 HOURS

	24,UNOCCUPIED - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 5 HOURS **Default (on device power-up)**: 0,DEFAULT - EXIT PERIOD - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 20 SECONDS Out of the range values are ignored.
Light_Twilight_Lux_Threshold Analog Input - #5	Set the lux threshold in lux for the twilight function, only used if < **Light_Enable_Twilight_Mode** > is High/1. **Min:** 1d lux **Max:** 3000d lux **Default (on device power-up):** 300d lux Out of the range values are ignored.
LIGHT OUTPUTS	
Light_Room_Occupied Digital Output - #1	When room is set to occupied:: < **Light_Room_Vacant** > will change to 0 THEN <**Light_Room_Occupied**> will change to 1. The logic is make before break. Indicates when the room is occupied. **High/1** = Room Occupied **Low/0**= Room Vacant. **Default (on device power-up):** Low/0= Room Vacant.
Light_Force_Vacant Digital Output- #2	When room is set to vacant: < **Light_Room_Occupied** > will change to 0 THEN < **Light_Room_Vacant** > will change to 1. The logic is make before break Indicates when the room is vacant. **High/1** = Room Vacant **Low/0** = Room Occupied **The default (on device power-up):** High/1 = Room Vacant
Light_Motion_Disabled Digital Output- #3	Output goes high if the motion sensor is disabled. **High/1** = Motion sensor disabled **Low/0** = Motion sensor enabled **Default (on device power-up):** Low/0 = Motion sensor enabled
Light_Twilight_Mode_Enabled Digital Output - #4	Output goes high if twilight mode is enabled. **High/1** = Twilight mode enabled **Low/0** = Twilight mode disabled **Default (on device power-up)**: Low/0 = Twilight mode disabled
Light_Grace_Occ_Detected Digital Output- #5	This join is pulsed high if movement is detected within 15s after an automatic timeout (It won't be triggered after being forced into vacancy using <**Light_Force_Vacant**>). Once triggered it won't trigger again until there has been another automatic timeout. <**Light_Grace_Occ_Detected**> is most commonly used when a vacancy-only sensor is required. In this situation, the <**Light_Room_Vacant** > will be used to turn the lights OFF and the

	<**Light_Grace_Occ_Detected**> will be used to turn ON the lights, while <**Light_Room_Occupied**> will remain unused. **High/1** = Occupancy event detected within 15s of timeout **Low/0** = No occupancy event detected within 15s of timeout **Default (on device power-up):** Low/0 = No occupancy event detected within 15s of timeout.

Fan Control Joins

Join Name	Behaviour
FAN INPUTS	
Fan_Force_Occupied Digital Input - #11	Forces the occupied state, even if there is no motion detected. The digital output < Raw_Occupancy > will pulse when < **Fan_Force_Occupied** > goes High/1 and <**Fan_Room_Occupied**> will be high for the duration of the set timeout assuming no further motion is detected in the room. The <**Fan_Force_Occupied_Mode** > can be used to define more advanced behaviour such as longer timeouts. **High/1** = Force the state of occupancy **Low/0** = No effect **Default (on device power-up):** Low/0 = No effect
Fan_Force_Vacant Digital Input - #12	Forces the vacant state. By default the sensor will reactivate after an exit period of 20 seconds. The < **Fan_Force_Vacant_Mode** > can be used to define more advanced behaviour. **High/1** = Force the state of vacancy **Low/0** = No effect **Default (on device power-up)**: Low/0 = No effect
Fan_Disable_Motion Digital Input - #13	Disables the motion sensor. **High/1** = Disable motion sensor **Low/0** =Enable motion sensor **Default (on device power-up)**: Low/0 =Enable motion sensor
Fan_Timeout Analog Input - #11	Sets the fan timeout in seconds. **Min:** 1d seconds **Max:** 43200 seconds (12 hours) **Default (on device power-up)**: 300 seconds Out of the range values are ignored.
Fan_Motion_Mode Analog Input - #12	Sets the behaviour of the motion automation for fan control: **0,STANDARD** - OCCUPIED WHEN MOTION IS DETECTED AND VACANT AFTER TIMEOUT **1,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 20S OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **2,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 30S OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **3,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 40S OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **4,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 50S OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **5,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 1 MIN OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT

	6,LONG PRESENCE - OCCUPIED AFTER AT LEAST 90S OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **7,LONG PRESENC**E - OCCUPIED AFTER AT LEAST 2 MIN OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **8,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 3 MIN OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **9,LONG PRESENCE** - OCCUPIED AFTER AT LEAST 4 MIN OF PRESENCE IN THE ROOM AND VACANT AFTER TIMEOUT **10,SHORT PRESENC**E - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 60S THEN TIMEOUT REDUCES TO 60S **11,SHORT PRESENCE** - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 60S THEN TIMEOUT REDUCES TO 10% OF TIMEOUT VALUE **12,SHORT PRESENCE** - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 20S THEN TIMEOUT REDUCES TO 20% OF TIMEOUT VALUE **13,SHORT PRESENCE** - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 20S THEN TIMEOUT REDUCES TO 30% OF TIMEOUT VALUE **14,SHORT PRESENCE** - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 20S THEN TIMEOUT REDUCES TO 40% OF TIMEOUT VALUE **15,SHORT PRESENCE** - SAME AS "STANDARD" BUT IF PRESENCE DURATION IS LESS THAN 20S THEN TIMEOUT REDUCES TO 50% OF TIMEOUT VALUE **Default (on device power-up):** 0,STANDARD - OCCUPIED WHEN MOTION IS DETECTED AND VACANT AFTER TIMEOUT Out of the range values are ignored.
Fan_Force_Occupied_Mode Analog Input - #13	Defines the behaviour of the <**Fan_Force_Occupied**> input. By setting to 1 or higher the timeout can be extend when the room is forced to be occupied using a keypad. **0,DEFAULT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (STANDARD) **1,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 10% LONGER THAN NORMAL) **2,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 25% LONGER THAN NORMAL) **3,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 50% LONGER THAN NORMAL) **4,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 75% LONGER THAN NORMAL) **5,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 100% LONGER THAN NORMAL)

	6,EXTEND TIMEOUT - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 200% LONGER THAN NORMAL) **7,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 300% LONGER THAN NORMAL) **8,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 400% LONGER THAN NORMAL) **9,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 500% LONGER THAN NORMAL) **10,EXTEND TIMEOUT** - FORCES ROOM TO BE OCCUPIED - TIMEOUT (TIMEOUT 1000% LONGER THAN NORMAL) **Default (on device power-up):** 0,DEFAULT - FORCES ROOM TO BE OCCUPIED - TIMEOUT (STANDARD) Out of the range values are ignored.
Fan_Force_Vacant_Mode Analog Input - #14	Defines the behaviour of the <**Fan_Force_Vacant**> input. The sensor has 2 main methods to handle the room being forced into vacant using a keypad. **Method 1:** Exit Period - The motion sensor reactivates after a set period, this avoids the case where you turn the light off using a keypad and then the act of walking out the room turns the light back on. **Method 2:** Unoccupied - The motion sensor reactivates after the room has been vacated for a period of time, this is useful for meeting rooms where you might want to turn the lights ON / OFF automatically but then sometimes you might want to turn them OFF for a presentation but only reactivate the sensor once the room is fully vacated for a period of time i.e. we are confident that the meeting has finished. **0,DEFAULT - EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 20 SECONDS **1,EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 5 SECONDS **2,EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 10 SECONDS **3,EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 30 SECONDS **4,EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 1 MINUTE **5,EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 2 MINUTES **6,NO EXIT PERIOD** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES STRAIGHT AWAY **7,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 10 SEC **8,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR

	REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 20 SEC **9,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 30 SEC **10,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 40 SEC **11,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 50 SEC **12,UNOCCUPIED** -FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 1 MIN **13,UNOCCUPIED** -FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 2 MIN **14,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 3 MIN **15,UNOCCUPIED** -FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 10 MIN **16,UNOCCUPIED** -FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 20 MIN **17,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 30 MIN **18,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 40 MIN **19,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 50 MIN **20,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 1 HOUR **21,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 2 HOURS **22,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 3 HOURS **23,UNOCCUPIED** -FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 4 HOURS **24,UNOCCUPIED** - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES ONCE THE ROOM HAS BEEN UNOCCUPIED FOR 5 HOURS **Default (on device power-up):** 0,DEFAULT - EXIT PERIOD - FORCES ROOM TO BE VACANT AND SENSOR REACTIVATES AFTER EXIT PERIOD OF 20 SECONDS Out of the range values are ignored.
FAN OUTPUTS	
Fan_Room_Occupied Digital Output- #11	Indicates when the room is occupied. **High/1** = Room Occupied **Low/0**= Room Vacant.

	Default (on device power-up): Low/0= Room Vacant.
Fan_Room_Vacant Digital Output - #12	Indicates when the room is vacant. **High/1** = Room Vacant **Low/0** = Room Occupied **Default (on device power-up):** High/1 = Room Vacant
Fan_Motion_Disabled Digital Output - #13	Output goes high if the motion sensor is disabled. **High/1** = Motion sensor disabled **Low/0** = Motion sensor enabled **Default (on device power-up)**: Low/0 = Motion sensor enabled
Fan_Grace_Occ_Detected Digital Output - #14	This join is pulsed high if movement is detected within 15s after an automatic timeout (It wont be triggered after being forced into vacancy using <**Fan_Force_Vacant**>). Once triggered it won't trigger again until there has been another automatic timeout. <**Fan_Grace_Occ_Detecte**d> is most commonly used when a vacancy-only sensor is required. In this situation, the <**Fan_Room_Vacant**> will be used to turn the lights OFF and the <**Fan_Grace_Occ_Detected**> will be used to turn ON the lights, while <**Fan_Room_Occupie**d> will remain unused. **High/1** = Occupancy event detected within 15s of timeout **Low/0** = No occupancy event detected within 15s of timeout **Default (on device power-up):** Low/0 = No occupancy event detected within 15s of timeout.

General Joins

Join Name	Behaviour
GENERAL INPUTS	
Enable_Raw_Occupancy Digital Input - #21	Enables <**Raw_Occupancy**>, digital output. The <**Raw_Occupancy**> output goes high as motion is detected and low ~2 seconds after motion has stopped being detected. It can be used as an input into custom motion based logic, but should only be enabled if needed as it will result in increased traffic on the Cresnet bus. **High/1** = Enable raw occupancy digital output **Low/0** = Disable raw occupancy digital output **Default (on device power-up):** Low/0 = Disabled
Enable_LED_Flash Digital Input - #22	Enable the red feedback LEDs. The red LED turns on when motion is detected (Should only be used for walk testing as it affects the brightness sensor). **High/1** = Enabled **Low/0** = Disabled **Default (on device power-up)**; Low/0 = Disabled
Motion_Sensor_Sensitivity Analog Input - #21	Sets sensitivity of motion sensor. **0**, STANDARD_SENSITIVITY **1**,LOWER_SENSITIVITY

	2 ,LOWEST_SENSITIVITY **Default (on device power-up):** 0,STANDARD_SENSITIVITY
GENERAL OUTPUTS	
Raw_Occupancy Digital Output - #21	Output goes high if sensors detect motion. **High/1** = Motion detected **Low/0** = No motion detected **Default (on device power-up):** Low/0 = No motion detected
LED_Flash_Enabled Digital Output - #22	Indicates if feedback LEDs are enabled or disabled. **High/1** = Feedback LEDs enabled **Low/0** = Feedback LEDs disabled. **Default (on device power-up):** Low/0 = Feedback LEDs disabled.

Brightness Control Joins

Join Name	Behaviour
BRIGHTNESS INPUTS	
Brightness_Resend_Method Analog Input - #31	Sets method for sending the brightness sensor updates. **0,**DISABLED **1**,CHANGE_OF_VALUE **2,**CYCLICAL **3**,CYCLICAL_AND_CHANGE_OF_VALUE **Default (on device power-up)**: 0 DISABLED Out of the range values are ignored.
Brightness_Resend_Delta Analog Input - #32	Sets the delta change in brightness required to send a brightness sensor update; only relevant if <**Brightness_Resend_Method**> is set to "**CHANGE_OF_VALUE**" or "**CYCLICAL_AND_CHANGE_OF_VALUE**" **Min:** 10d lux **Max:** 500d lux **Default (on device power-up):** 20d lux Out of the range values are ignored.
Brightness_Resend_Period Analog Input - #33	Sets the period in seconds between brightness sensor updates, only relevant if <**Brightness_Resend_Method**> is set to **"CYCLICAL**" or "**CYCLICAL_AND_CHANGE_OF_VALUE**" **Min:** 5d **Max:** 3600d **Default (on device power-up):** 60d Out of the range values are ignored.
BRIGHTNESS OUTPUTS	
Brightness Analog Output- #34	Room brightness measured by the sensor's built-in sensor in lux. **Min:** 0 LUX

	Max: 3000 LUX

Temperature Control Joins

Join Name	Behaviour
TEMPERATURE INPUTS	
Temperature_Resend_Method Analog Input - #41	Sets method for sending the temperature sensor updates. **0,**DISABLED **1**,CHANGE_OF_VALUE **2**,CYCLICAL **3**,CYCLICAL_AND_CHANGE_OF_VALUE **Default (on device power-up)**: 0 DISABLED Out of the range values are ignored.
Temperature_C_OR_F Analog Input - #42	Sets the temperature sensor scale. **0,**CELSIUS **1,** FAHRENHEIT **Default (on device power-up):** 0, CELSIUS Out of the range values are ignored.
Temperature_Resend_Delta Analog Input - #43	Sets the delta change in temperature required to send a temperature sensor update; only relevant if <**Temperature_Resend_Method**> is set to "**CHANGE_OF_VALU**E" or "**CYCLICAL_AND_CHANGE_OF_VALUE**" **Min:** 2d (0.2 C/F) **Max:** 100d (10 C/F) **Default (on device power-up)**: 5d (0.5 C/F) Out of the range values are ignored.
Temperature_Resend_Period Analog Input - #44	Sets the period in seconds between temperature sensor updates, only relevant if <**Temperature_Resend_Method**> is set to "**CYCLICAL**" or "**CYCLICAL_AND_CHANGE_OF_VALUE**" **Min:** 5d **Max:** 3600d **Default (on device power-up):** 60d Out of the range values are ignored.
TEMPERATURE OUTPUTS	
Temperature Analog Output- #45	Room temperature measured by the keypads built-in sensor in °C or °F depending on the <**Temperature_C_OR_F**> input Range of 0d to 1500d translates to a temperature of 0.0°C/F to 150°C/F **Min:** 0d **Max:** 1500d