



MultiSensor 8

(ZWA066)



REVISION RECORD		
Version	Date	Brief description of changes
0.1	2025.12.12	First revision.
0.2	2025.12.19	Update Relative Humidity and Mold Detection

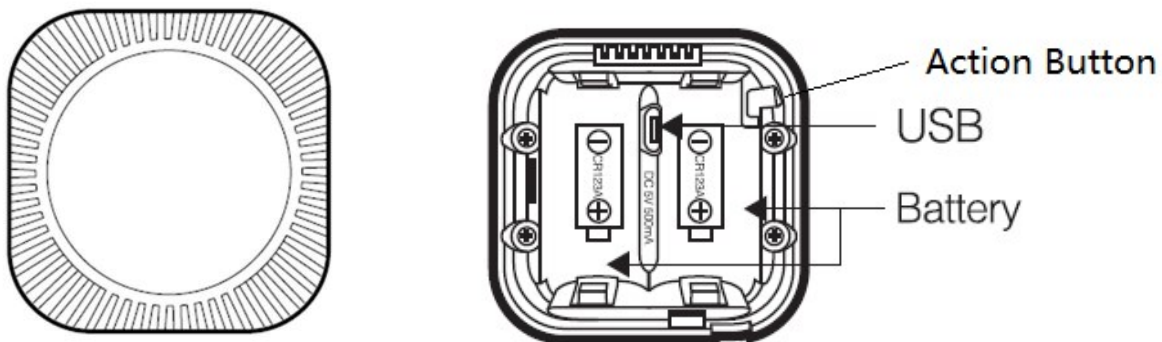
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1 OVERVIEW

Aeotec MultiSensor 8 adopts Z-Wave® technology and is an intelligent wireless sensor device that integrates motion, temperature, humidity, light and acceleration sensors. The product supports battery or USB power supply. The installation methods include ceiling installation and wall mounted installation, and the sensitivity of motion sensor is also adjustable.

This product supports Security 2 Command Class. While a Security S2 enabled Controller is needed in order to fully use the security feature. This product can be operated in any Z-Wave network with other Z-Wave/ Z-Wave Plus® certified devices from other manufacturers. All mains operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network. This product also supports SmartStart.



Terminology	Description
Action button	Used for networking ,resetting and protect the device.
Led (Red, Green, Blue)	Used for indicating the current state of the product.
Battery	Power supply
USB	Power supply

2 SPECIFICATIONS

2.1 Structural

Parameter	Value
Product Identifier	ZWA066
Dimensions	Φ55 x 35mm
Color	White
Usage	For indoor use.
Operating Temperature	32~104°F (0~40°C)
Relative Humidity	8%~80%

2.2 Hardware

Parameter	Value
Z-Wave Module	EFR32ZG23
Z-Wave TX Power	Max: 14dBm
Z-Wave Classic Antenna Distance	30m (Indoor) / 150m (Outdoor)
Z-Wave Long Range Antenna Distance	40m (Indoor) / 400m (Outdoor)
Buttons	Action Button x1
Indicator Light Color	Red, Green, Blue
Temperature Sensor	-20 to 85°C (+- 1°C)
Relative Humidity Sensor	0 to 100% RH +- 3%
Dew Point Temperature	-20 to 85°C (+- 1°C) $T_d = T - (100 - RH) / 5$ (Td=Dew Point, T=Temperature, RH=Relative Humidity)
Mold Detection	When humidity greater than or equal to 60% + configuration 30, it will trigger mold danger.
Lighting Sensor	0-30000lux
Tamper/Acceleration sensor	3 axis accelerometer, 0.2m/s ² resolution
Motion Sensor	12m @0°direction, 10m@±60°direction
Power Type	USB or 2*CR123A

USB Power Supply:

Parameter	Value
Work Current	12mA
Standby Current	6mA

Battery Supply:

Parameter	Value
Work Current	12mA
Standby Current	34uA

2.3 Software

Parameter	Value
Wireless Technology	Z-Wave
Certification Type	Z-Wave Plus v2 Certification
Z-Wave SDK Version	7.23.2
Z-Wave Library Type	Enhanced 232 Slave

Z-Wave Role Type	Always On Slave(USB Power Supply), Reporting Sleeping Slave(Battery Supply).
Generic Product Type	GENERIC_TYPE_SENSOR_NOTIFICATION [0x07]
Specific Product Type	SPECIFIC_TYPE_NOTIFICATION_SENSOR [0x01]
Security Class	Non-Security, S2 Unauthenticated, and S2 Authenticated
SmartStart Compatible	Support. After powering on, SmartStart is auto activated.
Over The Air (OTA)	Support. Firmware can be updated via RF.
Multi Channel Product	No
Association	Support. Refer to Section 4.7 Association Group Info.
Factory Reset	Support. Refer to Section 3.7 How to factory reset.
Power-down Memory	Support. All command settings will stay unchanged even power down.
Control other product	Support. Control other Z-Wave product directly via Group 2 when pir is triggered. Control other Z-Wave product directly via Association Group when heat alarm and weather alarm is triggered.

3 QUICK START

3.1 Important safety information

Please read this manual carefully. Failure to follow the recommendations in this manual may be dangerous or may violate the law. The manufacturer, importer, distributor and seller shall not be liable for any loss or damage resulting from failure to comply with the instructions in this manual or any other material. Use this equipment only for its intended purpose. Follow the disposal instructions. Do not dispose of electronic equipment or batteries in a fire or near open heat sources.

3.2 How to install the product

1. Don't install MultiSensor 8 in areas of artificial temperature change such as near air conditioners, humidifiers, and heaters, and avoid positioning it directly opposite a window or direct sunlight. Doing so would impact the accuracy of the sensors.
2. If powering it with batteries, do not install MultiSensor 8 in a location where the temperature can drop below 0°C / 32°F.
3. Only install your sensor indoors, MultiSensor 8 has a 12 meter detection range.
4. Make sure that you connect your MultiSensor 8 to your hub before finalizing installation.

3.3 How to add the product

The following will step you through adding the product to your Z-Wave network.

1. Open the battery cover.
2. Remove the battery protection.
3. Press the action button twice quickly.

If your Z-Wave gateway supports SmartStart: scan the QR code on device using the gateway's app. Your sensor will join your Z-Wave network automatically.

3.4 How to remove the product

1. Open the battery cover.
2. Press the action button twice quickly.

3.5 About SmartStart

SmartStart enabled products can be added into a Z-Wave network by scanning the Z-Wave QR Code present on the product with a controller providing SmartStart inclusion. No further action is required and the SmartStart product will be added automatically within 10 minutes of being switched on in the network vicinity. You can find the QR code on the back of the product, like this:



PIN: 05065

The DSK information will be like this: **05065**-41336-16018-47313-50335-02212-29424-38760

3.6 About Product

This product can be operated in any Z-Wave network with other Z-Wave certified devices from other manufacturers. All mains operated nodes within the network will act as repeaters regardless of vendor to increase reliability of the network.

3.7 How to factory reset

Reset procedure allows to restore the product back to its factory settings, which means all information about the Z-Wave controller and user configuration will be deleted.

1. Make sure the product is powered.
2. Press and hold the button for at least 12s, and then Factory Reset is performed. The product will issue a Device Reset Locally Command via its Lifeline to notify the Lifeline destination that the product has been reset to its factory default state. And it will perform the reset operation regardless of whether or not the delivery of the Device Reset Locally Notification is successful.

Note:

If you press and hold the button, 5 to 12 seconds, the Green LED will fast flash, and then Green LED light 2 seconds until the factory settings are restored.

Resetting the product is not the recommended way of removing the product from the Z-Wave network. Use reset procedure only if the primary controller is missing or inoperable. Certain product removal can be achieved by the procedure of removing described in "How to remove the product".

3.8 Safety Warning for Batteries

The product contains batteries. Please remove the batteries when the device is not used. Do not mix batteries of different charging level or different brands.

3.9 Long Range

ZWA066-A (US_LR) can be included using Z-Wave Long Range.
ZWA066-C (EU_LR) can be included using Z-Wave Long Range.

3.10 About Z-Wave Role Type

1. When include to the network using USB power, the role type of the product is Always On. Changing to battery power will keep the role type in its network, which is also a Always On Slave.
2. When powered by battery and include to the network, the role type of the product is Reporting Sleeping. Changing to USB power supply will keep the role type in its network, which is also Reporting Sleeping Slave.

Mark: After switching the power supply mode within the network, it needs to be excluded and re included to the network before it can take effect.

3.11 About Tamper

Vibration products can trigger tamper notification report.

4 SOFTWARE FUNCTION DEFINITION

4.1 User Behavior Interaction

The following brightness levels are all 100% unless otherwise specified.

User behavior / status	Out of the Z-Wave network	In the Z-Wave network
Power OFF	N/A	N/A
Power ON	1, The red and green led will on for 1 second, indicating self inspection. 2, The green led breathing 3 times and then turn off, indication out the Z-Wave network. 3, Send Inclusion Requests for SmartStart Learn Mode.	1, The red and green led will on for 1 second, indicating self inspection 2, LED will light up green for 1 seconds and turn off, indicating in the Z-Wave network. 3, Send Wake Up Notification. 4, Send all sensor data LED will become flash green once, and device will wake up for 15 seconds.
Click Z-Wave button once	1, Exit Classic Inclusion Learn Mode: If during the Classic Inclusion Learn Mode, the Classic Learn Mode will exit. LED will turn off. 2, Indicate network status The green led breathing 3 times and then turn off.	1, Exit Classic Inclusion Learn Mode: If during the Classic Inclusion Learn Mode, the Classic Learn Mode will exit. LED will turn off. 2, Send Wake Up Notification green led will on for 1 second, and device will wake up for 15 seconds(if received wakeup no more information, will go to sleep immediately).
Click Z-Wave button twice	1. Send Node Info for Adding. LED will blink green for 30s until it is added into the network. If Adding succeeds, LED will light up green for 2 seconds If Adding fails, LED will turn off. Device will auto-reset and then activate SmartStart Learn Mode again. 2.Exit Classic Inclusion Learn Mode: If Z-Wave button is clicked again during the Classic Inclusion Learn Mode, the Classic Learn Mode will exit. LED will turn off. Device will auto-reset and then activate SmartStart Learn Mode again.	1. Send Node Info for Removing. LED will blink green for 30 seconds until it is removed from the network. If Removing succeeds, LED will light up green for 2 seconds and become breathing light 3 times. If Removing fails, LED will light up red for 1 seconds and turn off 2.Exit Classic exclusion Learn Mode: If Z-Wave button is clicked again during the Classic exclusion Learn Mode, the Classic Learn Mode will exit. LED will turn off.
Press and hold Z-Wave button for (0, 1s]	LED: OFF	LED: OFF
hold Z-Wave button for (1, 3s]	Green light on 10%	Green light on 10%

hold Z-Wave button for (3, 5s]	Green light on 100%	Green light on 100%, Release and enter sensor reporting mode, Send battery report, multilevel sensor report(Temperature/Humidity/ Dew Point Temperature)
Press and hold Z-Wave button for (5, 12s]	Green Led will accelerate Flash.	Green Led will accelerate Flash.
Press and hold Z-Wave button for >12s	Factory Reset And Restart Green Led will become constantly light for 1 second, and become breathing light indicates the reset is success.	Factory Reset AND Restart. Green Led will become constantly light for 1 second, and become breathing light. The device will issue a Device Reset Locally Command via its Lifeline to notify the Lifeline destination that the device has been reset to its factory default state. And it will perform the reset operation regardless of whether or not the delivery of the Device Reset Locally Notification is successful.

4.2 Supported Command Classes

Command Class	Version	Securely 2 added	
		Non-secure CC List	Secure CC List
ZWAVEPLUS_INFO	2	Support	Support
ASSOCIATION	2		Support
MULTI_CHANNEL_ASSOCIATION	3		Support
ASSOCIATION_GRP_INFO	3		Support
TRANSPORT_SERVICE	2	Support	Support
VERSION	3		Support
MANUFACTURER_SPECIFIC	2		Support
DEVICE_RESET_LOCALLY	1		Support
INDICATOR	3		Support
POWERLEVEL	1		Support
BATTERY	1		Support
SENSOR_BINARY	2		Support
CONFIGURATION	4		Support
SECURITY_2	1	Support	Support
NOTIFICATION	8		Support
WAKE_UP	2		Support
SUPERVISION	1	Support	Support
FIRMWARE_UPDATE_MD	5		Support
MULTILEVEL SENSER	11		Support

4.3 Basic Command Class mapping

Basic Command Class is not mapped to any of the supported command classes.

4.4 Z-Wave Plus Info

Parameter	Value
Z-Wave Plus Version	0x02

Role Type	USB Supply: 5 (ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_END_NODE_ALWAYS_ON) Battery Supply: 6 (ZWAVEPLUS_INFO_REPORT_ROLE_TYPE_SLAVE_SLEEPING_REPORTING)
Node Type	0x00 [ZWAVEPLUS_INFO_REPORT_NODE_TYPE_ZWAVEPLUS_NODE]
Installer Icon Type	0x0C07 [ICON_TYPE_SPECIFIC_SENSOR_NOTIFICATION_HOME_SECURITY]
User Icon Type	0x0C07 [ICON_TYPE_SPECIFIC_SENSOR_NOTIFICATION_HOME_SECURITY]

Mark:

1. When include to the network using USB power, the role type of the product is Always On. Changing to battery power will keep the role type in its network, which is also a Always On Slave.
2. When powered by battery and include to the network, the role type of the product is Reporting Sleeping. Changing to USB power supply will keep the role type in its network, which is also Reporting Sleeping Slave.
3. After switching the power supply mode within the network, it needs to be excluded and re included to the network before it can take effect.

4.5 Manufacturer Specific

Parameter	Value
Manufacturer ID 1	0x03
Manufacturer ID 2	0x71
Product Type ID 1	0x00 [EU], 0x01 [US], 0x02 [AU]
Product Type ID 2	0x02 [PRODUCT_TYPE_ID_SENSOR]
Product ID 1	0x00
Product ID 2	0x42 (66)

4.6 Version

Parameter	Value
Z-Wave Protocol Library Type	0x03
Z-Wave Protocol Version	0x07
Z-Wave Protocol Sub Version	0x17
Firmware 0 Version	0x01 [Z-Wave Chip Firmware Version]
Firmware 0 Sub Version	0x00 [Z-Wave Chip Firmware Sub Version]
Hardware Version	0x42 (66)
Number of firmware targets	0x00

4.7 Association Group Info

Root product

ID	Name	Node count	Profile	Function
1	Lifeline	5	General: Lifeline (0x0001)	Device Reset Locally Notification: Issued when Factory Reset is performed. Battery Report: Issued when battery becomes low. Sensor Binary Report: See Param1 for more information. Notification Report See Notification Chapter for more information Multilevel Sensor Report Issued when timed report, threshold report, limit report. Configuration Report: Issued when parameter 13 changed.
2	Motion	5	Notification: home Security (0x7107)	Basic Set: Control devices when motion trigger or untriggert
3	Over Heat	5	Sensor: Temperature(0x3101)	Basic Set

				Issued when the temperature detected is higher than set value by Configuration parameter 14.
4	Under Heat	5	Sensor: Temperature(0x3101)	Basic Set Issued when the temperature detected is lower than set value by Configuration parameter 15.
5	Over Humidity	5	Sensor: Humidity(0x3105)	Basic Set Issued when the humidity detected is higher than set value by Configuration parameter 16.
6	Under Humidity	5	Sensor: Humidity(0x3105)	Basic Set Issued when the humidity detected is lower than set value by Configuration parameter 16.
7	Over Light	5	Sensor: Illuminance (0x3103)	Basic Set Issued when the Light detected is higher than set value by Configuration parameter 18.
8	Under Light	5	Sensor: Illuminance (0x3103)	Basic Set Issued when the Light detected is lower than set value by Configuration parameter 19.
9	Mold danger	5	Notification: Weather alarm(0x7110)	Basic Set: Control devices when Mold danger (When humidity greater than or equal to 60% + configuration 30, it will trigger mold danger.)
10	Temperature	5	Sensor: Temperature(0x3101)	Multilevel Sensor Report Issued when timed report, threshold report.
11	Tamper	5	Notification: home Security (0x7107)	Basic Set: Control devices when tamper trigger or untriggert

4.8 Notification

Notification Type		Notification Events		Description
Home Security	0x07	Motion detection	0x08	Motion detection
		Tampering, product cover removed	0x03	Tamper trigger
		State idle	0x00	Going to idle
Power Management	0x08	State Idle	0x00	Issued when replace new battery that battery power more than 90%.
		Power has been applied	0x01	Power has been applied
		AC mains disconnected	0x02	Supply by battery
		AC mains re-connected	0x03	Supply by USB
		Replace battery now	0x0B	Issued when battery level is less than the value of configuration parameter 26
Heat Alarm	0x04	State Idle	0x00	Issued when overheat or under heat alarm removed.
		Overheat detected	0x02	Issued when detect temperature is higher than set value by Configuration parameter 14.
		Under heat detected	0x06	Issued when detect temperature is lower than set value by Configuration parameter 15.
Weather Alarm	0x10	State Idle	0x00	Issued when Moisture Alarm removed.
		Moisture Alarm	0x02	When humidity greater than or equal to 60% + configuration 30, it will trigger mold danger.

4.9 Binary Sensor

Sensor Type		Sensor Value	Description
Motion	0x0C	0x00/0xFF	Motion State
GENERAL	0x01	0x00/0xFF	Mold danger

4.10 Multilevel Sensor

Sensor Type		Support Scale	Measure Range
Temperature	0x01	Celsius (C)	-20 to 85°C (+- 1°C)
		Fahrenheit (F)	-4 to 185°F (+- 1.8°F)
Luminance	0x03	Lux	0 to 30000 lux
Relative Humidity	0x05	Percentage value (%)	0 to 100% RH +- 3%
Dew Point Temperature	0x0B	Celsius (C)	-20 to 85°C (+- 1°C)
		Fahrenheit (F)	-4 to 185°F (+- 1.8°F)
Acceleration X-axis	0x34	Meter per square second (m/s ²)	0 to 0xFFFF
Acceleration Y-axis	0x35	Meter per square second (m/s ²)	0 to 0xFFFF
Acceleration Z-axis	0x36	Meter per square second (m/s ²)	0 to 0xFFFF

4.11 Wake Up

Parameter	Value	Time
Min Wake Up Interval Seconds	0x000E10	3600s [1 hour]
Max Wake Up Interval Seconds	0xEFF100	15724800s [182days]
Default Wake Up Interval Seconds	0x093A80	604800s [1 week]
Wake Up Interval Step Seconds	0x0000F0	240s [4 minutes]

4.12 Battery

1. The 2.90V or more battery voltage corresponds to 100% battery level, and 2.60V or less corresponds to 0%.
2. If send Battery Get to the device, it will issue Battery Report with battery level to the requester when waked up.
3. If waked up or power on, it will detect battery level, and issue Battery Report via Lifeline when battery level change over 5%.
4. If waked up or power on, it will detect battery level, and issue Battery Report 0xFF via Lifeline when battery level is less than the value of configuration parameter 26.

4.13 Indicator

Indicator ID		Property ID	
Node Identify (Green Led)	0x50	On Off Period	0x03
		On Off Cycles	0x04
		On time within an On/Off period	0x05

4.14 Configuration

Parameter	0x01 (01)			
Name	Enable Binary Sensor Report			
Info	For motion state			
Properties	Size	1	Min Value	0
	Format	Enumerated	Max Value	1

	Read-only	False	Default Value	0
	Altering capabilities	False	Advanced	False
Description	Backwards compatibility, Binary Sensor for motion state			
	Value	Function		
	0	Disable		
	1	Enable. Sends Sensor Binary Report.		

Parameter	0x02 (02)			
Name	Motion Retrigger Time			
Info	Motion re-detection time			
Properties	Size	2	Min Value	0
	Format	Unsigned Integer	Max Value	3600
	Read-only	False	Default Value	240
	Altering capabilities	False	Advanced	False
Description	Timeout configuration set in second for motion sensor to send no trigger status.			
	Value	Function		
	0	Disable(Hardware determines the time for re triggering)		
	1~30	30 seconds		
	30~3600	Timeout set in seconds		

Parameter	0x03 (03)			
Name	Motion Untrigger Time			
Info	Motion event release delay time			
Properties	Size	2	Min Value	0
	Format	Unsigned Integer	Max Value	3600
	Read-only	False	Default Value	0
	Altering capabilities	False	Advanced	False

Description	Timeout configuration set in second for motion sensor to send no trigger status.	
	Value	Function
	0	Disable
	1~30	30 seconds
	30~3600	Timeout set in seconds

Parameter	0x04 (04)			
Name	Motion sensitivity			
Info	Sensitivity of motion sensor			
Properties	Size	1	Min Value	0
	Format	Unsigned Integer	Max Value	11
	Read-only	False	Default Value	11
	Altering capabilities	False	Advanced	False
Description	0 - Motion sensor is disable. 1 - Minimum Sensitivity. 11 - Maximum Sensitivity.			

Parameter	0x05 (5)			
Name	Motion Group Control Requirement			
Info	Motion Group Control Requirement			
Properties	Size	2	Min Value	0
	Format	Unsigned Integer	Max Value	30000
	Read-only	False	Default Value	30000
	Altering capabilities	False	Advanced	False
Description	Set threshold of Light/Lux when devices associated in group2 should be triggered by motion. Associated device only receive BASIC_SET command when light <= (this value).			

Parameter	0x06 (06)			
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Name	Tamper Report Enable/Disable			
Info	Used to enable/disable tamper report			
Properties	Size	1	Min Value	0
	Format	Unsigned Integer	Max Value	255
	Read-only	False	Default Value	4
	Altering capabilities	False	Advanced	False
Description	0 : disable tamper 1~254: timeout set in minutes to reset tamper status 255: only send tamper triggered, does not timeout			

Parameter	0x07 (07)			
Name	Minimum acceleration change to report			
Info	Trigger acceleration report			
Properties	Size	1	Min Value	0
	Format	Unsigned Integer	Max Value	255
	Read-only	False	Default Value	0
	Altering capabilities	False	Advanced	False
Description	Set the minimum acceleration change required to induce an acceleration report.			
	Value	Function		
	0	Disable		
	1~30	30 M/S ²		
	30~255	30~255 M/S ²		

Parameter	0x08 (8)			
Name	Motion Group Control Group2			
Info	Motion Group Control Group2			
Properties	Size	1	Min Value	0
	Format	Enumerated	Max Value	6
	Read-only	False	Default Value	0

	Altering capabilities	False	Advanced	False
Description	Set control of other devices on group2 based on motion trigger			
	Value	Function		
	0	Send BASIC_SET (0xFF) when motion is triggered. Send BASIC_SET (0x00) when motion is untriggered to associated device		
	1	Send BASIC_SET (0x00) when motion is triggered. Send BASIC_SET (0xFF) when motion is untriggered		
	2	Send BASIC_SET (0xFF) when motion is triggered, Nothing when motion untriggered.		
	3	Send BASIC_SET (0x00) when motion is triggered, Nothing when motion untriggered		
	4	Send BASIC_SET (0x00) when motion is untriggered, Nothing when motion triggered.		
	5	Send BASIC_SET (0xFF) when motion is untriggered, Nothing when motion triggered.		
	6	Send BASIC_SET (value is configured by parameter 9) when motion is triggered to associated devices. Send BASIC_SET (value is configured by parameter 9) when motion is untriggered.		

Parameter	0x09 (9)			
Name	Motion Group Value Setting			
Info	Motion Group Value Setting			
Properties	Size	2	Min Value	0
	Format	Unsigned Integer	Max Value	0xFFFF
	Read-only	False	Default Value	0xFF00
	Altering capabilities	False	Advanced	False
Description	E.g. value=0x0A00, then BASIC_SET(0x0A) will be sent when motion trigger, BASIC_SET(0x00) will be sent when motion untrigger.			

Parameter	0x0A (10)			
Name	Temperature & Dew Point Scale			
Info	scale for auto reports and setting			
Properties	Size	1	Min Value	0
	Format	Enumerated	Max Value	1

	Read-only	False	Default Value	0(EU)/1(US)
	Altering capabilities	False	Advanced	False
Description	scale for auto reports and setting			
	Value	Function		
	0	Celsius		
	1	Fahrenheit		

Parameter	0x0B (11)			
Name	Threshold Check Time			
Info	Set threshold Check Time			
Properties	Size	2	Min Value	0
	Format	Unsigned Integer	Max Value	65535
	Read-only	False	Default Value	0
	Altering capabilities	False	Advanced	False
Description	This parameter disables or enables threshold reporting and sets the time for checks in seconds for Parameters 14-25.			
	Value	Function		
	0	Disable		
	1~65535	Enable threshold reports and sets the number of seconds per each threshold check. When Battery powered, if 1 - 30, set threshold to 30.		

Parameter	0x0C (12)			
Name	Sensor threshold control			
Info	Sensor threshold control			
Properties	Size	1	Min Value	0
	Format	Bit field	Max Value	0x77
	Read-only	False	Default Value	0x77
	Altering capabilities	False	Advanced	False

Description	This value is a bit mask. It is used to enable/disable measurement reports for various sensors (Parameter 14-19) that are more than the upper limit value or less than the lower limit value. 0 - disable, 1 - enable							
	7	6	5	4	3	2	1	0
	Reserved	Lux lower	Humidity lower	Temperature lower	Reserved	Lux upper	Humidity upper	Temperature upper

Parameter	0x0D (13)							
Name	Out-of-threshold State							
Info	Out-of-threshold State							
Properties	Size	1			Min Value	0x00		
	Format	Bit field			Max Value	0x77		
	Read-only	True			Default Value	0x00		
	Altering capabilities	False			Advanced	False		
Description	This is a read-only bitmask indicating the out-of-limit state of various sensors. 0:Within limit, 1:Out of limit							
	7	6	5	4	3	2	1	0
	Reserved	Lux lower	Humidity lower	Temperature lower	Reserved	Lux upper	Humidity upper	Temperature upper

Parameter	0x0E (14)			
Name	Over Heat Group Threshold Group3			
Info	Over Heat Group Threshold			
Properties	Size	2	Min Value	-400
	Format	Signed Integer	Max Value	850(EU/AU) 1850(US)
	Read-only	False	Default Value	239(EU/AU) 750(US)
	Altering capabilities	False	Advanced	False
Description	Used to set the threshold of temperature. Designed to control Air Conditioners or temperature controllers ON or OFF. If measured temperature ≥ (this value, Scale is determined by Param10) send			

	BASIC_SET (0xFF) to associated devices. If measured temperature < (this value) send BASIC_SET (0x00) to associated devices. E.g. Value 239 means 23.9 C. Value 750 means 75.0 F.	
	Value	Function
	0	Disable
	400~850(EU/AU)	Enable. -40°C~85°C
	-400~1850 (US)	Enable. -40°F~185°F

Parameter	0x0F (15)			
Name	Under Heat Group Threshold Group4			
Info	Under Heat Group Threshold			
Properties	Size	2	Min Value	-400
	Format	Signed Integer	Max Value	850(EU/AU) 1850(US)
	Read-only	False	Default Value	155(EU/AU) 600(US)
	Altering capabilities	False	Advanced	False
Description	Used to set the threshold of temperature. Designed to control Air Conditioners or temperature controllers ON or OFF. If measured temperature ≤ (this value, Scale is determined by Param10) send BASIC_SET (0xFF) to associated devices. If measured temperature > (this value) send BASIC_SET (0x00) to associated devices. E.g. Value 155 means 15.5 C. Value 600 means 60.0 F.			
	Value	Function		
	0	Disable		
	400~850(EU/AU)	Enable. -40°C~85°C		
	-400~1850 (US)	Enable. -40°F~185°F		

Parameter	0x10 (16)			
Name	Over Humidity Group Threshold Group5			
Info	Over Humidity Group Threshold			
Properties	Size	1	Min Value	0
	Format	Unsigned Integer	Max Value	100

	Read-only	False	Default Value	60
	Altering capabilities	False	Advanced	False
Description	Used to set threshold of humidity. If measured humidity $\geq$ (this value), send BASIC_SET (0xFF) to associated devices through group5. If measured humidity $<$ (this value) send BASIC_SET (0x00) to associated devices through group5. Note: The Sensor will check the threshold value for an interval set by Parameter 11 if this threshold report is enabled.			
	Value	Function		
	0	Disable		
	1~100	Enable. (1~100%)		

Parameter	0x11 (17)			
Name	Under Humidity Group Threshold Group6			
Info	Under Humidity Group Threshold			
Properties	Size	1	Min Value	0
	Format	Unsigned Integer	Max Value	100
	Read-only	False	Default Value	40
	Altering capabilities	False	Advanced	False
Description	Used to set threshold of humidity. If measured humidity $\leq$ (this value) send BASIC_SET (0xFF) to associated devices through group6. If measured humidity $>$ (this value) send BASIC_SET (0x00) to associated devices through group6.			
	Value	Function		
	0	Disable		
	1~100	Enable. (1~100%)		

Parameter	0x12 (18)			
Name	Over Light Group Threshold Group7			
Info	Over Light Group Threshold			
Properties	Size	2	Min Value	0
	Format	Unsigned Integer	Max Value	30000

	Read-only	False	Default Value	2000
	Altering capabilities	False	Advanced	False
Description	Used to set the threshold of Light/Lux. If measured light/lux $\geq$ (this value) send BASIC_SET (0xFF) to associated devices. If measured light/lux $<$ (this value) send BASIC_SET (0x00) to associated devices.			
	Value	Function		
	0	Disable		
	1~30000	Enable. 1~30000 Lux		

Parameter	0x13 (19)			
Name	Under Light Group Threshold Group8			
Info	Under Light Group Threshold			
Properties	Size	2	Min Value	0
	Format	Unsigned Integer	Max Value	30000
	Read-only	False	Default Value	100
	Altering capabilities	False	Advanced	False
Description	Used to set the threshold of Light/Lux. If measured light/lux $\leq$ (this value) send BASIC_SET (0xFF) to associated devices. If measured light/lux $>$ (this value) send BASIC_SET (0x00) to associated devices.			
	Value	Function		
	0	Disable		
	1~30000	Enable. 1~30000 Lux		

Parameter	0x14 (20)			
Name	Temperature Recover Limit			
Info	Temperature Recover Limit			
Properties	Size	1	Min Value	1
	Format	Unsigned Integer	Max Value	255
	Read-only	False	Default Value	20(EU/AU) 36(US)
	Altering capabilities	False	Advanced	False

Description	This parameter sets the temperature recover limit in a scale of 0.1. The scale is determined by Parameter 10. If (Current measurement) <= (upper limit - recover limit), then a temperature report is sent. If (Current measurement) >= (lower limit + recover limit), then a temperature report is sent.			
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Parameter	0x15 (21)			
Name	Humidity Recover Limit			
Info	Humidity Recover Limit			
Properties	Size	1	Min Value	1
	Format	Unsigned Integer	Max Value	50
	Read-only	False	Default Value	5
	Altering capabilities	False	Advanced	False
Description	This parameter sets the humidity recover limit level. Refer to Parameter 20 for details on its function.			

Parameter	0x16 (22)			
Name	Lux Recover Limit			
Info	Lux Recover Limit			
Properties	Size	1	Min Value	1
	Format	Unsigned Integer	Max Value	255
	Read-only	False	Default Value	100
	Altering capabilities	False	Advanced	False
Description	This parameter sets the lux recover limit level. Refer to Parameter 20 for details on its function.			

Parameter	0x17 (23)			
Name	Temperature Threshold			
Info	Minimum temperature change to report			
Properties	Size	1	Min Value	0
	Format	Unsigned Integer	Max Value	255

	Read-only	False	Default Value	10(EU,ANZ) / 18(US)
	Altering capabilities	False	Advanced	False
Description	This parameter sets the temperature threshold. If the temperature changes by more than this value, a report is sent. The value is scaled by 0.1, and the overall scale is determined by Parameter 10.			
	Value	Function		
	0	Disable		
	1~255	0.1~25.5 degree		

Parameter	0x18 (24)			
Name	Humidity Threshold			
Info	Minimum humidity change to report			
Properties	Size	1	Min Value	0
	Format	Unsigned Integer	Max Value	50
	Read-only	False	Default Value	5
	Altering capabilities	False	Advanced	False
Description	This parameter sets the humidity threshold. If the humidity changes by more than this value, a report is sent.			
	Value	Function		
	0	Disable		
	1~50	1-50%		

Parameter	0x19 (25)			
Name	Lux Threshold			
Info	Minimum Lux change to report			
Properties	Size	2	Min Value	0
	Format	Unsigned Integer	Max Value	10000
	Read-only	False	Default Value	250
	Altering capabilities	False	Advanced	False

Description	This parameter sets the Lux (light level) threshold. If the Lux level changes by more than this value, a report is sent.	
	Value	Function
	0	Disable
	1~10000	1~10000

Parameter	0x1A (26)			
Name	Low battery threshold			
Info	Low battery threshold			
Properties	Size	1	Min Value	10
	Format	Unsigned Integer	Max Value	90
	Read-only	False	Default Value	20
	Altering capabilities	False	Advanced	False
Description	This parameter lets you configure the percentage at which the device sends a low battery report. When the battery level drops below this set value, a notification is sent, along with a battery report.			
	Value	Function		
	0	Disable		
	10-90	10-90%		

Parameter	0x1B (27)			
Name	Temperature Offset Value			
Info	Temperature Offset Value			
Properties	Size	2	Min Value	-200
	Format	Signed Integer	Max Value	200
	Read-only	False	Default Value	0
	Altering capabilities	False	Advanced	False
Description	This parameter allows you to add or subtract a value to calibrate the temperature when checked. The scale is defined by Parameter 10. For example, a value of 15 means 1.5°C or 1.5°F.			

Parameter	0x1C (28)			
Name	Humidity Offset Value			
Info	Humidity Offset Value			
Properties	Size	1	Min Value	-50
	Format	Signed Integer	Max Value	50
	Read-only	False	Default Value	0
	Altering capabilities	False	Advanced	False
Description	This parameter allows you to add or subtract a value to calibrate the humidity when checked. The unit is %			

Parameter	0x1D (29)			
Name	Lux Offset Value			
Info	Lux Offset Value			
Properties	Size	2	Min Value	-10000
	Format	Signed Integer	Max Value	10000
	Read-only	False	Default Value	0
	Altering capabilities	False	Advanced	False
Description	This parameter allows you to add or subtract a value to calibrate the Lux when checked.			

Parameter	0x1E (30)			
Name	Mold Danger Offset Value			
Info	Mold Danger Offset Value			
Properties	Size	1	Min Value	0
	Format	Unsigned Integer	Max Value	40
	Read-only	False	Default Value	0
	Altering capabilities	False	Advanced	False
Description	The default Relative Humidity to trigger Mold danger alarm is 60%.			
	Value	Function		

	0--40	0%--40%
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Parameter	0x1F (31)							
Name	Report Indicator							
Info	Report Indicator							
Properties	Size	4		Min Value		0		
	Format	Unsigned Integer		Max Value		0x09999999		
	Read-only	False		Default Value		0x00032140		
	Altering capabilities	False		Advanced		False		
Description	This parameter allows the user to change the report color of the motion sensor. 0: Disabled 1: Red 2: Green 3: Blue 4: Yellow 5: White 6: Purple 7: Orange 8: Pink 9: Cyan							
	28~31 bit	24~27 bit	20~23 bit	16~19 bit	12~15 bit	8~11 bit	4~7 bit	0~3 bit
	Enable / Disable LED Activity	Exceeding Threshold	acceleration Report	Tamper Detection	Motion Report	Mold Detection	Wake up interval report	Periodic Report:(Temperature, Humidity, Lux, Dewpoint, Battery)

Parameter	0x20 (32)			
Name	Automatic Report Checklist 1			
Info	Automatic Report Checklist 1			
Properties	Size	1	Min Value	0x00
	Format	Bit field	Max Value	0x1F
	Read-only	False	Default Value	0x1F
	Altering capabilities	False	Advanced	False
Description	This parameter is Checklist 1 for automatic timed reports. When a corresponding item is selected (via bitmask), it will be checked when the timeout setting configured by Parameter 34 is reached.			

	7	6	5	4	3	2	1	0
	Reserved	Reserved	Reserved	Battery	Dewpoint	Lux	Humidity	Temperature

Parameter	0x21 (33)							
Name	Automatic Report Checklist 2							
Info	Automatic Report Checklist 2							
Properties	Size	1			Min Value	0x00		
	Format	Bit field			Max Value	0x1F		
	Read-only	False			Default Value	0		
	Altering capabilities	False			Advanced	False		
Description	This parameter is Checklist 2 for automatic timed reports. When a corresponding item is selected (via bitmask), it will be checked when the timeout setting configured by Parameter 35 is reached.							
	7	6	5	4	3	2	1	0
	Reserved	Reserved	Reserved	Battery	Dewpoint	Lux	Humidity	Temperature

Parameter	0x22 (34)			
Name	Automatic Checklist 1 Interval Time			
Info	Automatic Checklist 1 Interval Time			
Properties	Size	2	Min Value	0
	Format	Unsigned Integer	Max Value	65535
	Read-only	False	Default Value	3600
	Altering capabilities	False	Advanced	False
Description	This parameter sets the interval time in seconds to check the items in Checklist 1. A Multilevel Sensor Report will be sent when the timeout is reached.			
	Value	Function		
	0	Disable		
	1~65535	If 1 - 30, set value to 30.		

Parameter	0x23 (35)			
Name	Automatic Checklist 2 Interval Time			
Info	Automatic Checklist 2 Interval Time			
Properties	Size	2	Min Value	0
	Format	Unsigned Integer	Max Value	65535
	Read-only	False	Default Value	0
	Altering capabilities	False	Advanced	False
Description	This parameter sets the interval time in seconds to check the items in Checklist 2. A Multilevel Sensor Report will be sent when the timeout is reached.			
	Value	Function		
	0	Disable		
	1~65535	If 1 - 30, set value to 30.		