

SKYMOT1



Workhour Counter

Skysens SKYMOT1 is a LoRaWAN compatible sensor which uses acceleration sensor to determine working status of a machine. It also comes with optional temperature and humidity measurement specifications.

> Highlights

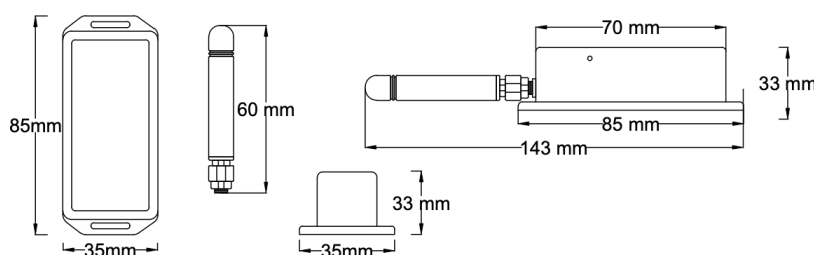
- ✓ Up to 10 years of battery life
- ✓ Precise measurement with high resolution sensor.
- ✓ Excellent long-term stability
- ✓ LED interface
- ✓ Adjustable sensor reading interval from network
- ✓ Adjustable sensor threshold value through network.
- ✓ Ready with end-to-end software application
- ✓ 2 mode restart pin button.

> Application Areas

Industries, Construction Companies, Factories, Houses, etc.



Smart Cities, etc.



Dimensions	35 x 85 x 33 mm	Available Frequencies	All
Weight	150 gr (approx.)	Measurement Range	-8G to +8G
Casing	ABS with RoHS Compliancy	Acceleration Resolution	12 Bits
Antenna	+2 dBi or +3 dBi external	Operating Conditions	-40°C to +80°C & 0% RH to 100% RH
Expected Battery Life	Minimum 5 Years with 30 min Interval	Battery	3.6V Lithium AA (Changeable)

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PRODUCT IMAGES, BUTTONS AND PLUG-INS



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PAYLOAD STRUCTURE – Regular Uplink with Temp&Hum Sensor

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5
Temperature MSB	Temperature LSB	Humidity MSB	Humidity LSB	Transient Source	Workhour XMSB
Byte 6	Byte 7	Byte 8	Byte 9	Byte 10	
Workhour XLSB	Workhour MSB	Workhour LSB	Battery MSB	Battery LSB	

Regular Uplink without Temp&Hum Sensor

Byte 0	Byte 1	Byte 2	Byte 3	Byte 4	Byte 5
Transient Source	Workhour XMSB	Workhour XLSB	Workhour MSB	Workhour LSB	Battery MSB
Byte 6					
Battery LSB					

- **Note:** All axis data are 16-bit unsigned number.

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PAYLOAD STRUCTURE – Downlink

Parameter Read Downlink

Following message should be sent to the device to read the parameters of the device.

Parameter Read Command	
Port	Message
0x0C	0x01

Set Parameter Downlink

Following message should be sent to the device to change the parameters of the device.

Parameter Read Command	
Port	Message
0x0D	0xXXYYZZ

X: Transient Config, Y: Transient threshold, Z: Transient Count. Response comes in the same form.

Reset Counter Downlink

Following message should be sent to the device to reset the counter value of the device.

Parameter Read Command	
Port	Message
0x0E	0x01

Interval Change Downlink

Following message should be sent to the device to change message period of the device.

Interval Change Command	
Port	Message
0x0B	0x02T ₀ T ₀ T ₁ T ₁ T ₂ T ₂ T ₃ T ₃

T values at the above table are time values in seconds and hexadecimal form. Must be sent in MSB first form. For example, 0x0200000384 message should be sent to the device to set message interval to 900 seconds. (0x384H = 900) These values can take from 1 minute to 6 hours.

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Reset Operation

Push the reset button and hold, red LED must light for a while and start blinking. When you see the blinking release the button. The device gets reset by this operation and after every reset operation, the device goes into sleep mode automatically by blinking red and green LEDs once.

Wake Up

To exit sleep mode and take the device to the normal operation mode, push the reset button until you see the red LED light. When you see red light release the button and the device will go into normal operation mode by blinking LEDs in a sequence of green-red-green.

OTAA Mode

The device requests OTAA join to the server after the device wakes up and goes into the normal operation mode. OTAA requests are represented by the blinking green LED once per request. When the device successfully joins to OTAA mode green LED lights for a while.

Communication

The device indicates uplink communication by blinking green LED once and downlink communication by blinking red LED once.

ABP

For ABP please contact SKYSENS.

Error Behavior

The first-time device with a hardware problem is energized, it flashes the red led at the intervals of five hundred milliseconds, to indicate there is a hardware problem.