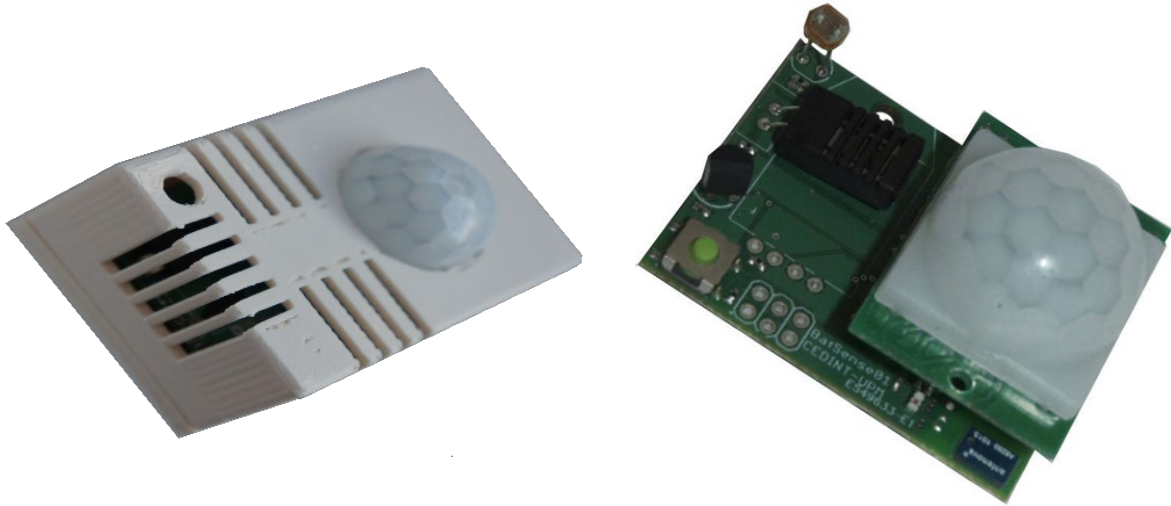




BAT-SENSE DATASHEET

GENERAL INFORMATION



BatSense is a device that incorporates sensors for presence, brightness, temperature and humidity. Its function is to monitor the comfort conditions of a room, as well as detect presence in it. It has two power modes: via USB and battery. Thanks to the low power mode that the microcontroller and sensors incorporate, the duration of the autonomous mode (without cable power) increases significantly. Usually it will be in stand-by with a very low consumption and will wake up cyclically to transmit the data of interest, returning to the stand-by mode after it.

If several BatSenses are incorporated in the same room, it is possible to control the temperature and humidity according to zones and heights. If this is combined with actions on climate control devices (air conditioners, heat pumps ...) associated with the areas of the room that are outside the desired comfort range, it translates into energy savings and a homogeneous distribution of temperature and humidity.

The brightness sensor lets you know how much light enters the room. This information can be used to regulate the angle of automatic slats in a room or to regulate LED lamps in a greenhouse, expanding the photosynthesis cycle and helping to increase the production at the same time.

The presence sensor helps to increase security, for example, in a building. The proper distribution of BatSenses in corridors and rooms makes it possible to reconstruct the path of an intruder, as well as to activate alarms based on motion detection.



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HOW IT WORKS?
<p>Plug and play device.</p> <p>Place it 2.4 metres above the floor.</p> <p>Wireless presence detector.</p> <p>Detects presence up to 7 metres away.</p> <p>Measurement intervals are programmable</p>

INSTALLATION PLAN		
	Serial number	Place located
BAT-SENSE 1		Eg. Bedroom
BAT-SENSE 2		Eg. Meeting room
BAT-SENSE 3		
BAT-SENSE ...		



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General data	Technical name	BSN
	Version	1
	Revision	July 2013
Funcionalidad	Monitoring	Temperature (analog and digital)
		Humidity (analog and digital)
		Illumination
		Presence
		Noise
		Battery level
Analog temperature	Resolution	MCP9701A
	Accuracy	8 bits (0.1°C)
	Resolution	±2°C
	Range	From -40°C to 125°C
	Interface	Digital (single bus)
	Measuring frequency	5 minutes (programmable)
Analog humidity	Sensor	HCZ-D5-A
	Sensibilidad	±2°C
	Precisión	5%
	Range	From 0% to 90%
	Interface	Analog (mV)
	Measuring frequency	% minutos (programmable)
Digital Humidity	Resolution	DHT22 (AM2303)
	Accuracy	0.1% RH
	Resolution	±2% RH °C
	Range	From 0 to 100% RH
	Interface	Analog (single bus)
	Measuring frequency	5 minutes default (programmable)
Illumination	Sensor	VT935G
	Resolution	1 Lux
	Accuracy	± 5 Lux
	Range	0 - 14157 Lux (calibrable)
	Interface	Analog (mV)
	Measuring frequency	5 minutes default (programmable)



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Presence	Sensor	HC-SR501
	Waiting time	0.3 - 18 seconds
	Detection time	0.2 seconds
	Range	7 meters, < 120°
	Interface	Digital
	Measuring frequency	5 minutes default (programmable)
Noise	Sensor	ABM-705-RC
	Accuracy	-42 dB
	SNR	>60 dB
	Interface	Analog (mV)
	Measuring frequency	5 minutes default (programmable)
Battery level	Sensor	Divisor de tensión
	Resolution	1 mV
	Accuracy	± 5 mV
	Range	0 - 4800 mV
	Interface	Analog (mV)
	Measuring frequency	5 minutes default (programmable)
Power suply	Type	Batteries (3xAAA)
	Voltage	3.3 - 4.8 V
	Modo de funcionamiento	Sleep mode, it awakes to measure and it sleep again
	Power consumption	Sleep (8,4 uA) Working (19,05 mA)
Comunications	Physical media	Radio (IEEE 802.15.4)
	Frecuency	2.4 GHz
	Protocol	6LoWPAN
	Antena	SMD
Other data	Microcontroler	Atmega128RFA1
	Memory	EEPROM
	Programming interface	Serial (6 pins)
Dimensions	Width	40 mm
	Height	55 mm
	Length	25 mm