SMART BUILDINGS

Energy efficiency and safety in buildings and offices

Our complete solution helps you capture actionable insights through the integration of main sensors, improve decision-making through our Libelium Cloud Platform and improve workspace wellbeing in smarter offices or factories.

Easy-to-install solution that will help you to:

- Improve the energy efficiency
- Security systems in offices and factories
- Better use of workspace
- Reducing costs
- Preventing from fires

Sensors → Data Analysis → Decision Making

How?

Doors and windows:

To detect an opening or closing event. It adds physical security monitoring to your location by warning of intrusion or unauthorized entry.

- Alarms: Open/Close Status, Tamper
- Detection distance: 10-15 mm
- Dimension: 50.5 × 31 × 18.5 mm
- Wireless communication: LoRaWAN®

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Presence:

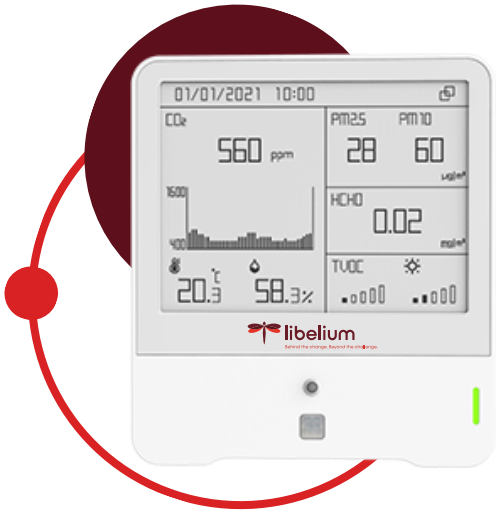
To easily identify occupancy or vacancy of an indoor space.

- PIR Detection area: 120 ° Horizontal, 100 ° Vertical
- PIR Detection distance: Maximum 8 m
- Dimension: 50 × 50 × 23.8 mm
- Wireless communication: LoRaWAN®

Temperature and humidity:

Equipped with IP67 rated enclosure to fit into more application scenarios.

- Range: -30°C to + 70°C
- Accuracy: 0°C to + 70°C (±0.3°C), -30°C to 0°C (±0.6°C)
- Resolution: 0.1°C ; 0.5% RH
- Dimension: 88 × 87 × 27 mm
- Wireless communication: LoRaWAN®



Co2 indoors:

To monitor and display real-time data on what matters in offices, buildings and homes.

- Parameters: Co2, Temperature and Humidity
- Dimension: 68 × 65 × 20.5 mm
- Wireless communication: LoRaWAN®

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Co2 outdoors:

To measure gaseous carbon dioxide (CO2) concentration in harsh environments. It is useful in greenhouse, building ventilation, fruit and vegetable storage.

- Parameters: Co2, Temperature, Humidity and Barometric pressure.
- Dimension: 147.9 × 71 × 69.5 mm
- Wireless communication: LoRaWAN®

Visualization, notifications, alarms and many more with our Libelium Cloud

The device management platform enables building owners, managers, and occupants to monitor, control and optimize all systems such as lighting, heating, ventilation, air conditioning, security, and energy usage.

The user will be able to store, visualize and analyze the data received. Send the data to other cloud platforms if needed and, overall, to enhance the quality of life and reduce the environmental impact of their buildings.

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TECHNICAL FEATURES

Doors and windows

MECHANICAL SPECIFICATIONS	Operating Temperature	-20°C to +60°C
	Relative Humidity	≤90% (non-condensing)
	Ingress Protection	IP20
	Dimension: Sensor	50.5 × 31 × 18.5 mm
	Dimension: Magnet	30 × 13.5 × 10 mm
GENERAL SPECIFICATIONS	Installation	On the flat surfaces with screws or 3M tapes
	Configuration	Already configured from factory
	Alarms	Open/Close Status, Tamper
	Detection distance	10-15 mm
	Button	1 × Reset Button (Internal), 1 × Tampering Button
	LED Indicator	1
CONNECTIVITY	Wireless Communication	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/ KR920/AS923
POWER SPECIFICATIONS	Power Supply	1 × 1200 mAh ER14250 Li-SOCl2 Battery
	Battery Life*	Over 5 years (1080 min interval + 30 triggers per day)

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TECHNICAL FEATURES

Presence

MECHANICAL SPECIFICATIONS	Operating Temperature	-20°C to +60°C
	Relative Humidity	≤90% (non-condensing)
	Ingress Protection	IP30
	Dimension	50 × 50 × 23.8 mm
	Material	Anti-flaming Polycarbonate
GENERAL SPECIFICATIONS	Installation	On the flat surfaces with screws or 3M tapes
	Configuration	Already configured from factory
	PIR Detection area	120 ° Horizontal, 100 ° Vertical
	PIR Detection distance	Maximum 8 m
	Light Status	Bright/Dark (Determine 1-60000 lux as Bright or Dark according to custom threshold)
CONNECTIVITY	Wireless Communication	LoRaWAN®
	Frequency	CN470/IN865/RU864/EU868/US915/AU915/ KR920/AS923
POWER SPECIFICATIONS	Power Supply	1 × 1650 mAh ER14335 Li-SOCl2 Battery
	Battery Life*	Around 4 years (30 min interval + 30 triggers per day)

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TECHNICAL FEATURES

Temperature and humidity

MECHANICAL SPECIFICATIONS	Operating Temperature	-30°C to 70°C
	Relative Humidity	≤90% (non-condensing)
	Ingress Protection	IP67
	Dimension	88 × 87 × 27 mm
	Material	Anti-flaming Polycarbonate
GENERAL SPECIFICATIONS	Installation	On the flat surfaces with screws or 3M tapes
	Configuration	Already configured from factory
TEMPERATURE MEASUREMENT	Range	-30°C to + 70°C
	Accuracy	0°C to + 70°C (±0.3°C), -30°C to 0°C (±0.6°C)
	Resolution	0.1°C
HUMIDITY MEASUREMENT	Range	0% to 100% RH
	Accuracy	10% to 90% RH (±3%), below 10% and above 90% RH(±5%)
	Resolution	0.5% RH
CONNECTIVITY	Wireless Communication	LoRaWAN®
	Frequency	CN470/RU864/IN865/EU868/US915/AU915/KR920 /AS923
POWER SPECIFICATIONS	Power Supply	1 × 1650 mAh ER14335 Li-SOCl2 Battery
	Battery Life*	≧ 5 years (for 1 battery)

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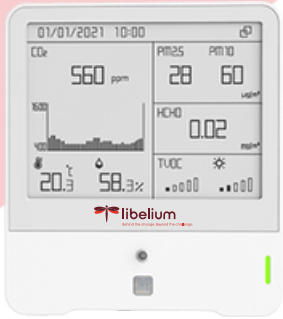
TECHNICAL FEATURES

CO2 Indoors



MECHANICAL SPECIFICATIONS	Operating Temperature	-20°C to +60°C (E-Ink Screen: 0°C - 40°C)
	Relative Humidity	0% to 95% (non-condensing)
	Ingress Protection	IP30
	Dimension	68 × 65 × 20.5 mm
GENERAL SPECIFICATIONS	Installation	Wall mounting
	Configuration	Already configured from factory
	Display	2.13-inch Black & White E-Ink Screen
	Button	1 × Power Button
	LED	1 × Traffic Light Status Indicator
TEMPERATURE MEASUREMENT	Range	-20°C - 60°C
	Accuracy	± 0.2°C
	Resolution	0.1°C
	Operating Principle	Digital CMOSens® technology (MEMS)
HUMIDITY MEASUREMENT	Range	0% - 100% RH
	Accuracy	± 2% RH
	Resolution	0.5% RH
	Operating Principle	Digital CMOSens® technology (MEMS)
CARBON DIOXIDE (CO2) MEASUREMENT	Range	400 to 5000 ppm
	Accuracy	± (30 ppm + 3 % of reading) (0°C to +50°C)
	Resolution	1 ppm
	Operating Principle	Nondispersive Infrared (NDIR)
CONNECTIVITY	Wireless Communication	LoRaWAN®
	Frequency	CN470/RU864/IN865/EU868/US915/AU915/KR920/AS923
POWER SPECIFICATIONS	Power Supply	2 × 2700 mAh ER14505 Li-SOCl2 Replaceable Batteries
	Battery Life	Around 3 Years

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TECHNICAL FEATURES

CO2 Outdoors

MECHANICAL SPECIFICATIONS	Operating Temperature	-30°C to +70°C
	Relative Humidity	0% to 100% (non-condensing)
	Ingress Protection	IP65
	Dimension	147.9 × 71 × 69.5 mm
GENERAL SPECIFICATIONS	Installation	Pole, Wall or DIN Rail Mounting
	Configuration	Already configured from factory
CARBON DIOXIDE (CO2) MEASUREMENT	Range	400 to 5000 ppm
	Accuracy	± (30 ppm + 3 % of reading) (0°C to +50°C)
	Resolution	1 ppm
	Operating Principle	Nondispersive Infrared (NDIR)
TEMPERATURE MEASUREMENT	Range	-30°C to + 70°C
	Accuracy	0°C to + 70°C (+/- 0.3°C), -30°C to 0°C (+/- 0.6°C)
	Resolution	0.1°C
	Operating Principle	MEMS
HUMIDITY MEASUREMENT	Range	0% - 100% RH
	Accuracy	10% to 90% RH (+/- 3%)
	Resolution	0.5% RH
	Operating Principle	MEMS
BAROMETRIC PRESSURE MEASUREMENT	Range	300 - 1100 hPa (-40°C - 85°C)
	Accuracy	±1 hPa
	Resolution	0.1 hPa
	Operating Principle	MEMS
CONNECTIVITY	Wireless Communication	LoRaWAN®
	Frequency	CN470/RU864/IN865/EU868/US915/AU915/KR920 /AS923
POWER SPECIFICATIONS	Power Supply	19000 mAh Li-SOCL2 battery (ER34615)
	Battery Life	10 years (10 min interval)

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