LANSEN

Occupancy Detector with Environmental Quality
Motion long range passive IR

DEVICE
The occupancy detector with combined temperature, humidity, sound level, and light intensity from Lansen is a plug-and-play sensor that detects motion using PIR technology and immediately alerts. With sound level and light intensity, the device is able to determine if a room is still occupied even if no further motion is detected. This makes the device perfect for meeting rooms where people first enter and then sit down for discussions over a period of time.

The occupancy device can be mounted in, for example, meeting rooms or other rooms/locations where there is a need to know if there are people present to control light/ventilation or use it for statistical usage. The device is small and discrete and blend in nicely in any office or home environment.

PERFORMANCE
The internal radio antennas are optimized for 868Mhz and tuned for mounting on concrete, wood or plaster. Each device has two antennas, one horizontal and one vertical, to maximize the range between the meter and collector. The device keeps track on the duration the device has been active and when the time exceeds the expected lifetime of the device, a low level warning is issued. The run time is included as a data record in the wM-Bus telegram.

Advanced analog and digital signal algorithms makes sure that only valid motions trigger alarms.

MOTION SENSOR
Wide view PIR motion sensor with four mirror elements for long and accurate detection - Up to 12 meters with 110° horizontal viewpoint. Furthermore, even small movements can be detected. movements. For more information, see next page.

TEMPERATURE SENSOR
The on-board temperature sensor is highly accurate with typical accuracy of ±0.2°C at +5 to +60°C. For more information, see next page.

HUMIDITY SENSOR
The on-board humidity sensor is highly accurate with typical accuracy of ±2% RH at 20 to 80% RH. For more information, see next page.

SOUND SENSOR
The on-board sound sensor is highly accurate with typical accuracy of (preliminary) 4% at 40 to 90 dBA at 850 Hz. For more information, see next page.

LIGHT INTENSITY (LUX) SENSOR
The on-board light intensity sensor is highly accurate with typical accuracy of (TO BE DECIDED) at 0.01 to 83000 lux. For more information, see next page.

MEASUREMENTS
Motion information, sound information, light intensity, temperature, and humidity is transmitted at a preconfigured interval using the wireless M-BUS protocol OMS compliant. The message contains both historical and current status and the device sends three messages as soon as a motion is detected to reliably transfer the event to a collector. This makes the sensor ideal for integration in data collecting systems, control system or drive-by solutions.

INSTALLATION
The device should be installed away from direct sunlight and away from places that can experience fast temperature change. Furthermore, the device should be mounted indoors.

During the first 10 minutes after powerup the device will indicate motion with a red LED on the front to ease installation.

OMS® **M-Bus wireless**

* The expected battery lifetime stated is based on simulations and true measurements at 25°C and is valid to the best of our ability but not a guarantee. The calculations and measurements can be sent upon request for your reference.

Specifications in this document are subject to change without notice
v.2.2

LANSEN

TECHNICAL DATASHEET

FIRMWARE

MODES	C-, T-, or S-mode (selectable on order)
SEND INTERVAL	60s - 1h (selectable on order)
SAMPLE INTERVAL	
Temperature	Same as send interval (default 120 seconds)
Humidity	Same as send interval (default 120 seconds)
Sound	Same as send interval (default 120 seconds)
Light	Same as send interval (default 120 seconds)
ENCRYPTION	AES128 encryption OMS mode 5, Profile A.
	ON/OFF, unique/custom key (selectable on order)
	Can be ordered with custom configuration.
STANDARD	T1-Mode, 120 seconds, encryption ON, unique key

IR-SENSORS, OPTICS, SENSORS

OPTIC	Highest possible performance mirror optics
VIEWPOINT	
HORIZONTAL:	110° (±55°)
VERTICAL	30°(±15°)
DETECTION AREA:	12m
TEMPERATURE:	
RANGE:	-40 to +85°C typical
ACC:	±0.2°C at +5 to +60°C
	±0.5°C at -20 to +85°C
HUMIDITY:	
RANGE:	0 - 100% RH
ACC:	±2% RH at 20 to 80% RH
	±3% RH at 10 to 90% RH
	±3.5% RH at 0 to 100% RH
SOUND:	
RANGE:	(preliminary) 40 to 90 dBA at 850 Hz
ACC:	(preliminary) 4%
LIGHT (lux):	
RANGE:	(preliminary) 0.01 to 83000 lux
ACC:	To be decided

WARNINGS

BATTERY	Low battery at end of life
MOTION DETECTED	Motion was detected
SOUND DETECTED	Sound level above trigger level

POWER/LIFETIME

POWER SUPPLY	2x 3.6V Li-SOCl2, ER14505 battery
VOLTAGE	2.9 to 3.6V
LIFESPAN	14* years typical, standard configuration and operating temperature
RADIO	14 dBm (25 mW) output power to two differential antennas
	ERP typical: 8.4 dBm (6.92 mW)

GENERAL INFORMATION

STANDARDS	2014/53/EU (RED)
	EN 13757-3/4:2013, OMS 4.0.2
TEMPERATURE	-10^0 to ~+32^0
RELATIVE HUMIDITY	Less than 95% None condensing
COLOR	Signal white
MATERIAL	ABS
SIZE (W x H x D)	58.9 x 100 x 30.5 mm

DEVICES

LAN-WMBUS-OD-EQ	Occupancy sensor with passive IR and environmental quality

ACCESSORY

Corner bracket

* The expected battery lifetime stated is based on simulations and true measurements at 25°C and is valid to the best of our ability but not a guarantee. The calculations and measurements can be sent upon request for your reference.

Specifications in this document are subject to change without notice
v.2.2