Product Data sheet for Cellular Sensors

- Ammonia Gas Sensor with 3G Connectivity SIAQ-3G-NH3
- Compact Particulate PM10 Monitor CPM10
- Occupancy Detecting Sensor ODS
- NB-IoT Impact Rain Sensor WSNB-IRS
- NBIoT Ambient Temperature Sensor WSNB-ATE

Ammonia Gas Sensor with 3G Connectivity SIAQ-3G-NH3

SKU: SIAQ-3G-NH3

Doc No: SIAQ-3G-NH3-DS-EN-10

Introduction

SIAQ-3G-NH3 is an electrochemical-type gas sensor which has high sensitivity to low concentrations of ammonia gas, high selectivity, and a stable baseline. With modular design, it allows user to replace the measurement module easily when the sensor life reached the limit. The device has built-in IoT gateway with 3G cellular connectivity allow to connect easily to any IoT platform. The measurement sensor is from Japan to deliver the highest performance and accuracy.

- High selectivity to NH3;
- Small influence by H2S;
- Excellent Durability to NH3 exposure;
- Sensor life > 2 years;
- Stable base-line;
- 3G Connectivity;
- Ready to connect to Globiots platform;
- Plug & Play.

Typical Applications

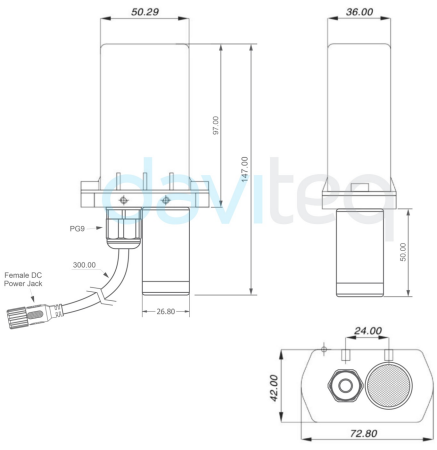
- Monitor leakage of Ammonia gas for Refrigerator;
- NH3 Monitoring;
- NH3 Detector.

AMMONIA GAS SENSOR WITH 3G CONNECTIVITY
SIAQ-3G-NH3



SIAQ-3G-NH3-H1.PNG

DIMENSION DRAWING OF NH3 SENSOR
(Unit: mm)



SIAQ-3G-NH3-H2.PNG



Specification

SENSOR SPECIFICATION	
NH3 sensor	electrochemical-type gas sensor
Measuring range for NH3	0..100 ppm
Max detecting concentration	200 ppm
Repeatability	< 10% of Reading value
Resolution	1 ppm
Stability / month	< 2% of Reading value
Zero stability	+/- 2 ppm
Working atmospheric pressure	101.3 Kpa +/- 10%
Sensor life	> 2 years
Humidity and Temperature sensor	Digital type, factory calibrated
Humidity measuring range & accuracy	0 .. 100 %RH, +/- 2.0%
Humidity resolution	0.1%
Temperature measuring range & accuracy	-40 .. + 85 oC, +/- 0.2 oC
Temperature resolution	0.1 oC
Working temperature	-30 .. + 50 oC
Working humidity	15 .. 90% RH

Sensor Filter	316SS sintered filter
Sensor housing material / Rating	SS316/SS304 / for Indoor use
CONNECTIVITY SPECIFICATION	
Cellular	3G-Dual band (2100/900)
Host communication supports	TCP/IP, UDP/IP, FTP, HTTPS, SNMP...
Vietnam Type Approval Certification	QCVN 54:2011/BTTTT, QCVN 15:2015/BTTTT (DAVITEQ B00122019)
Power supply	7..48VDC, avg. 200mA, peak 1.5A
Back-up battery	Lithium Super Capacitor
On-board memory & sensors	2MB Flash, PCB temperature sensor
Electrical connectors	M12, 4-pin, coding A or 9mm Power Plug and USB port
SIM slot	01 x micro-SIM (cellular versions only)
Included accessories	mounting bracket for wall mount (cellular version only)
Operating Temperature/Humidity	-20 .. + 60 degC / 95%RH, non-condensing
Housing/Protection	Aluminum+Polycarbonate / IP67
Dimension	H180xW73xD42
Net weight	<400 grams

Ordering Code

Item code	Descriptions
SIAQ-3G-NH3	INDOOR AIR QUALITY MONITORING, 3G DUAL BAND CONNECTIVITY, WITHOUT DISPLAY, 7-48VDC SUPPLY, 9MM DC POWER JACK AND 220VAC POWER ADAPTER, NH3-TEMPERATURE-HUMIDITY

⚠ Link for full datasheet:

⚠ Link for manual:

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Compact Particulate PM10 Monitor CPM10

SKU: CPM10

Doc No: CPM10-DS-EN-10

Introduction

CPM10 is a compact Dust monitor to help measuring particulate matter PM10 in realtime. Data will be sent back to cloudGlobiots for storage or forwarding to 3rd-party software / platform. The device is designed for outdoor applications. The sampling air will be controlled by temperature and humidity to have the highest accuracy and longest life of operation. It is fully automatic air sampling, automatic cleaning and zeroing allow the package can run continuously in 02 years without maintenance.

- Robust design for outdoor application;
- Temperature & Humidity control;
- Automatic cleaning;
- Automatic zeroing;
- Automatic alert when unit need maintenance;
- Cellular connectivity to server;
- Remote management, data storage and data forwarding via cloud portal;

Typical Applications

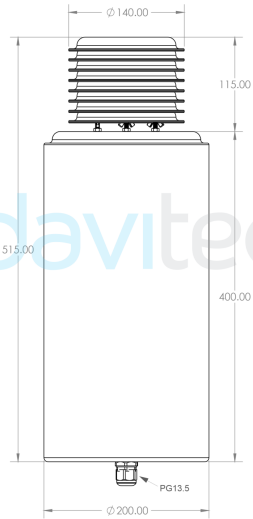
- Dust Monitor for Environment Monitor in City, Urban areas;
- Dust Monitor used by Environmental consultants, EHS managers, Researchers, etc. who want to collect accurate, scientifically robust data without the cost of a reference PM monitor

COMPACT PARTICULATE PM10 MONITOR
CPM10



CPM10-H1.PNG

DIMENSION DRAWING OF CPM10 SENSOR
(Unit: mm)



CPM10-H2.PNG

Specification

SENSOR SPECIFICATION	
Particulate Matter measurement	PM10
Measuring range	0..3000 ug/m3
Linearity	15% of reading
Repeatability	1 ug/m3
Resolution	0.1 ug/m3
Working atmospheric pressure	101.3 Kpa +/- 10%
Humidity and Temperature measurement	Digital type, factory calibrated
Humidity measuring range & accuracy	0 .. 100 %RH, +/- 1.5%
Humidity resolution	0.1%
Temperature measuring range & accuracy	-40 .. + 85 oC, +/- 0.1 oC
Temperature resolution	0.1 oC
Radiation shield for Humidity & Temperature sensor	Yes
Working temperature	-10 .. + 60 oC
Working humidity	15 .. 90% RH
CONNECTIVITY SPECIFICATION	
Cellular	3G-Dual band (2100/900)
Host communication supports	TCP/IP, UDP/IP, FTP, HTTPS, SNMP...
Vietnam Type Approval Certification	QCVN 54:2011/BTTTT, QCVN 15:2015/BTTTT (DAVITEQ B00122019)
Antenna	Internal antenna
Power supply	7..48VDC, avg. 200mA, peak 1.5A
Back-up battery	Lithium Super Capacitor
On-board memory & sensors	2MB Flash, PCB temperature sensor
Electrical connectors	PG13.5 cable gland of M20x1.5 female thread conduit
SIM slot	01 x micro-SIM (cellular versions only)
Housing/Protection	Aluminum + UV rated plastic / IP65
Dimension	D200xL600
Net weight	< 4 kgs

Ordering Code

Item code	Descriptions

CPM10-3G-01	COMPACT PARTICULATE PM10 MONITOR, 3G DUAL BAND CONNECTIVITY, WITHOUT DISPLAY, 7-48VDC SUPPLY, INCLUDED TEMPERATURE & HUMIDITY MEASUREMENT

⚠ Link for full datasheet:

⚠ Link for manual:

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Occupancy Detecting Sensor ODS

SKU: ODS

Doc No: ODS-DS-EN-10

Introduction

ODS is the 60 GHz mmWave sensor to solve the existing disadvantages of current technologies like PIR sensor, Camera…ODS is the smart sensor to detect the human in specified area. It works perfectly for restroom occupancy and management for maintenance. Leveraging our sensor technology, the Internet of Things, cloud platforms, and big data applications, this sensor provides people with better, more efficient, convenient and comfortable services. The built-in connectivity can support various type of communication like Sub-GHz, LoRaWAN, Sigfox, Wifi, Ethernet, Cellular (3G, NB-IoT)

- Robust design for outdoor application;
- Temperature & Humidity control;
- Automatic cleaning;
- Automatic zeroing;
- Automatic alert when unit need maintenance;
- Cellular connectivity to server;
- Remote management, data storage and data forwarding via cloud portal;

Typical Applications

ODS is used for Occupancy detection, People tracking, People counting, Space Utilization, Maintenance alerts, Equipment management, Energy consumption management... in:

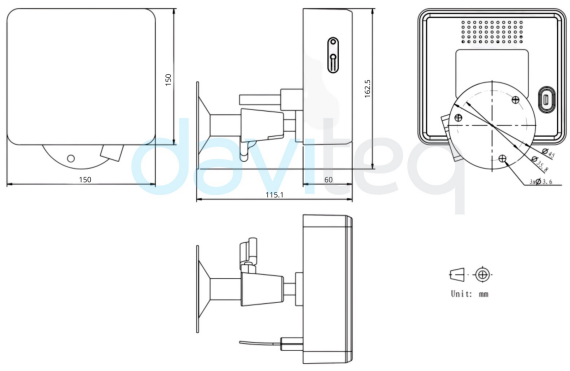
- Restrooms
- Office Buildings
- Hospitals
- Shopping Malls
- Mass Transit
- Airports
- Tourist Attractions
- Hotels
- Schools

OCCUPANCY DETECTING SENSOR
ODS

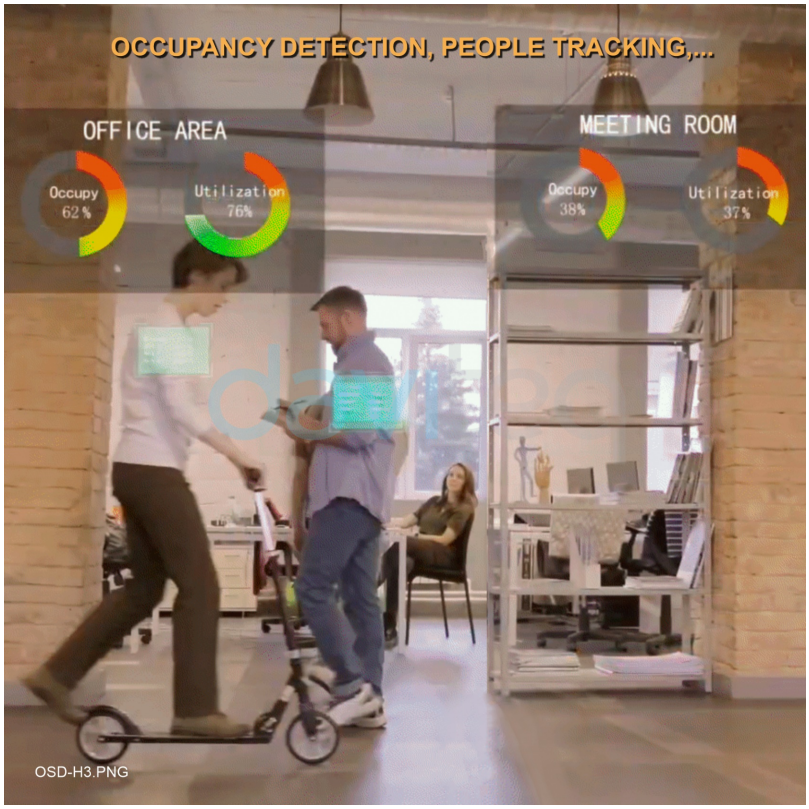


ODS-H1.PNG

DIMENSION DRAWING OF ODS SENSOR
(Unit: mm)



ODS-H2.PNG



Specification

OCCUPANCY SENSOR SPECIFICATION	
Operating frequency	60GHz
Azimuth angle	120 degree
Elevation angle	120 degree
Detection range	6m
CO2 SENSOR SPECIFICATION	
CO2 Sensor technology	NDIR sensor
CO2 range/resolution/accuracy	400-10.000 ppm / 1ppm / (+/- 30ppm + 3% reading)
Repeatability	+/- 10ppm
Temperature Stability	+/- 2.5ppm / oC in range 0-50 oC
Temperature range/resolution/accuracy	-40..+70oC / 0.1oC / ± 0.5 °C in range 0-50 oC
Humidity range/resolution/accuracy	0-100%RH / 0.1%RH /+/- 3.0%RH in range 25-100% RH
SOUND LEVEL SENSOR	
Range	30 - 130 dB
Frequency Response	31.5 Hz - 8 KHz
Accuracy	+/- 3 dB
PM SENSOR SPECIFICATION	

Mass concentration	PM1.0, PM2.5, PM4 and PM10
Number concentration	PM0.5, PM1.0, PM2.5, PM4 and PM10
Mass concentration range	1 to 1000 µg/m3
Mass concentration resolution	1 µg/m3
Mass concentration accuracy	±10 µg/m3 @ 0 to 100 µg/m3, ±10 % @ 100 to 1000 µg/m3
Lower limit of detection	0.3 µm
Number concentration range	0 to 3’000 #/cm3
Number concentration precision 1,2 for PM0.5, PM1 and PM2.53	0 to 1000 #/cm3 ==> ±100 #/cm3 1000 to 3000 #/cm3 ==> ±10 % m.v.
CONNECTIVITY SPECIFICATION	
Connectivity	Select one of WiFi, Ethernet, Sub-GHz, LoRaWAN, Sigfox
Host communication supports	TCP/IP, UDP/IP, FTP, HTTPS, SNMP...
Antenna	Internal antenna
Power supply	7..48VDC, avg. 200mA, peak 1.5A
On-board memory & sensors	2MB Flash, PCB temperature sensor
Electrical connectors	PG13.5 cable gland of M20x1.5 female thread conduit
SIM slot (cellular versions)	01 x micro-SIM (cellular versions only)
Working temperature	-20 .. + 60 oC
Working humidity	0 .. 95% RH
Dimension	150x150x60 (without mounting bracket)
Net weight	< 1 kg

Ordering Code

Item code	Descriptions
ODS-WF-01	OCCUPANCY DETECTING SENSOR WITH WIFI CONNECTION, 7-48VDC SUPPLY, WITH MOUNTING BRACKET
ODS-ETH-01	OCCUPANCY DETECTING SENSOR WITH ETHERNET CONNECTION, 7-48VDC SUPPLY, WITH MOUNTING BRACKET
ODS-3G-01	OCCUPANCY DETECTING SENSOR WITH 3G CONNECTION, 7-48VDC SUPPLY, WITH MOUNTING BRACKET
ODS-LRW-01	OCCUPANCY DETECTING SENSOR WITH WIRELESS LORAWAN CONNECTIVITY, INTERNAL ANTENNA, 860-930 MHZ FOR ALL REGIONS, 7-48VDC SUPPLY, WITH MOUNTING BRACKET
ODS-SFC-01	OCCUPANCY DETECTING SENSOR WITH WIRELESS SIGFOX CONNECTIVITY, INTERNAL ANTENNA, 860-930 MHZ FOR ALL REGIONS, 7-48VDC SUPPLY, WITH MOUNTING BRACKET

OPTIONAL SENSORS	
-CO2	CO2 SENSOR FOR RANGE UP TO 40.000 PPM, INCLUDED HUMIDITY AND TEMPERATURE MEASUREMENT
-SND	SOUND LEVEL SENSOR
-PM	PARTICLE SENSOR PM1.0, PM2.5, PM10 FOR RANGE UP TO 1000 UG/M3
other sensors	Please consult factory

⚠ Link for full datasheet: https://filerun.daviteq.com/wl/?id=TEgG7hsjYvBQ4HIPu9jxFIYldgOuTlAw

⚠ Link for manual:

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NB-IoT Impact Rain Sensor WSNB-IRS

SKU: WSNB-IRS

Doc No: WSNB-IRS-DS-EN-10

Introduction

NB-IoT impact rain sensor WSNB-IRS is a new rain sensor technology. Unlike the traditional methods such as weighing or tipping bucket range gauge, this impact rain sensor has many unique advantages as no maintenance is required, providing real-time information on rain intensity, duration, and accumulated rainfall. It also can distinguish between rain and hail and provide data for both types of precipitation. The measurement principle is using an impact sensor located beneath the stainless steel cover to count every drop of rain. Raindrops hit the surface at their terminal velocity, which is a function of the raindrop diameter. Measurement is based on the acoustic detection of each raindrop as it impacts the sensor cover. Heavier drops create a more significant acoustic signal than smaller drops. Ultra-low-power design and smart firmware allow the complete Wireless and Sensor package to run on AA batteries for up to 10 years. It supports LTE Cat NB1 connectivity for global bands. This NB-IoT Impact Rain Sensor WSNB-IRS is very suitable for remote area locations with a maintenance-free design and long battery life.

- Rain measurement for stationary or mobile in city, rural areas...

Highlighted Features

- Compact & Light weight;
- Maintenance-free;
- Not affected by falling leaves, bird dropping;
- 5-10 years battery life;
- Distinguish between rain and hail;
- Report Rain intensity, precipitation and duration;
- IP67 Robust design for outdoor application;
- LTE Cat NB1 connectivity for Global bands.

WSSFC-IRS.png

Specification

SENSOR SPECIFICATION	
Rain measurement	Intensity, Precipitation and Duration
Measuring range	0..200 mm/h
Resolution	0.1 mm/h, 0.1mm
Accuracy	within +/- 10% of measurement
Working atmospheric pressure	101.3 Kpa +/- 20%

Working temperature	-40 .. + 85 oC
Working humidity	up to 100% RH
COMMUNICATION SPECIFICATION	
Cellular	LTE Cat NB1 Global bands: B1, B2, B3, B4, B5, B8, B9, B10, B12, B13, B17, B18, B19, B20, B25, B26, B27, B28, B66
Data rate	Max download rate 27Kbps Max upload rate 65Kbps
Host communication supports	TCP/IP, UDP/IP, FTP, HTTPS, SNMP...
Antenna	Internal antenna
Battery	04 AA batteries, Type 1.5V or 3.6V
Configuration	via offline cable with free software and via online Globiots system
SIM slot	01 x micro-SIM
Accessories	Standard mounting bracket
Dimensions	D140xH45 without bracket
Total net weight	< 1kg, with bracket and batteries

Ordering Code

Item code	Descriptions
WSNB-IRS-01	NB-IOT IMPACT RAIN SENSOR, 0-200MM/H, IP67, AA BATTERIES OPERATED, GLOBAL BANDS

⚠ Link for full datasheet:

⚠ Link for manual:

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NBIoT Ambient Temperature Sensor WSNB-ATE

SKU: WSNB-ATE

Doc No: WSNB-ATE-DS-EN-10

Introduction

WSNB-ATE is an NBIoT sensor using a Digital temperature sensor that delivers highly accurate measurements in the range of -40°C to + 85°C. The device has built-in NBIoT connectivity module to allow it connect to any IoT platform.

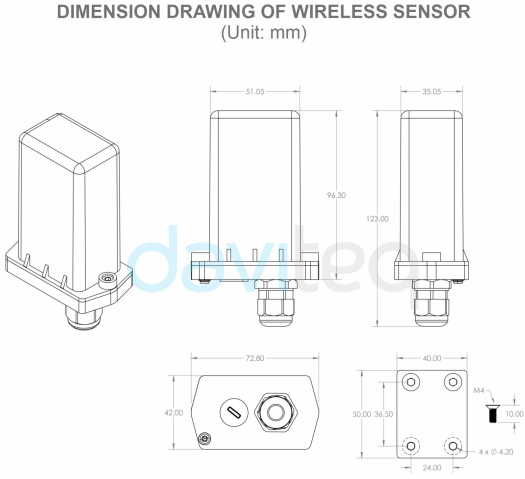
- Digital High-Accuracy Sensor;
- Global band NBIoT / Cat M1 / GPRS;
- Plug & Play;
- Data logging up to 140.000 records;
- Sending alarm messages for Hi-Lo Temperature;
- Sending alarm message for Power cut-off (to monitor power supply of machine)
- Notification when communication drop.

Typical Applications

- Ambient temperature Monitoring for Fridge, Freezer;
- Ambient temperature Monitoring for Factory / Building;
- Ambient temperature Monitoring for Warehouse;
- Ambient temperature Monitoring for Data Center;
- Ambient temperature Monitoring for HVAC;



WSSFC-ATE-H1.PNG



WSSFC-ATE-H2.PNG



Specification

SENSOR SPECIFICATION	
Sensor	Digital type, factory calibrated
Measuring range	-40°C .. + 85°C
Accuracy	+/- 0.5°C
Resolution	0.125°C
Sensor protection material / Rating	PA / IP68 (for version with sensor cable)
Cable length	300 or 900mm
NBIoT SPECIFICATION	
Connectivity	LTE Cat M1/NB1 with Global band (B1, B2, B3, B4, B5, B8, B9, B10, B12, B13, B17, B18, B19, B20, B25, B26, B27, B28, B66) and 2G-Quadband fall back, standard internal antenna, optional external antenna
Antenna	Internal Antenna, optional external antenna
Configuration	via offline USB cable (PC software is supplied at free)
Power Supply	7..48VDC, avg 200mA, peak 1.5A
Back-up battery	200mAh Lithium ion
RF Module complies to	CE, FCC, ARIB
Working temperature	-40°C..+85°C
Dimensions	H140xW73xD42
Net-weight	250 grams
Housing	Engineering Plastic, IP54 for Indoor
Mounting	Wall mount bracket

Ordering Code

Item code	Descriptions
WSNB-ATE-12-300	NBIoT AMBIENT TEMPERATURE SENSOR, 300MM CABLE TYPE , INTERNAL ANTENNA, 7..48 VDC
WSSFC-ATE-12-900	NBIoT AMBIENT TEMPERATURE SENSOR, 900MM CABLE TYPE , INTERNAL ANTENNA, 7..48 VDC

⚠ Link for full datasheet:

⚠ Link for manual:

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