

MONNIT

REMOTE MONITORING **SMART WIRELESS SENSORS**

No matter what you do,
stay on top of your operations.
Whenever it is or wherever you are.



CONTENTS

01. COMMON FEATURES	10
02. GATEWAYS	11
03. SENSORS	13
ELECTRICITY	13
WATER	16
TEMPERATURE	17
ENVIRONMENT	20
ACCELEROMETER	23
OCCUPANCY	24
ADD-ON DEVICES	26
04. MONNIT SOFTWARE	27

Leader in IoT Wireless Sensor Solutions



**Better and Smarter with
MONNIT IoT Solution!**



80
Plus
Sensors

15
Years of
Experience

85
Countries
Worldwide

34_k
Thousands of
Clients










15_B
Readings
Collected

Monnit Korea is a leading provider of IoT wireless sensor technology. With our experience in various sensor manufacturing and platforms, we provide optimized and innovative solutions to customers across a wide range of industries.

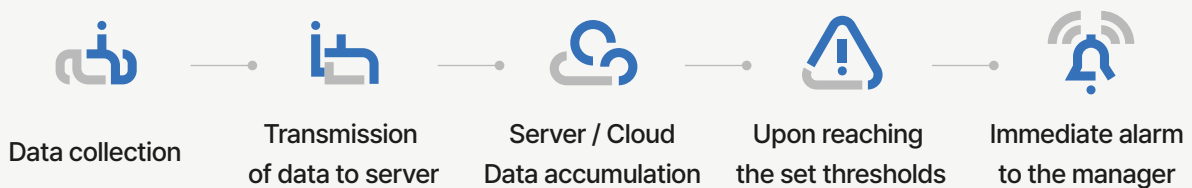
With Monnit solutions monitoring of equipment, infrastructure and environments simplifies management, prevents accidents, enables proactive maintenance, and can reduce workplace injuries and loss of valuable assets.

MONNIT'S STRENGTH

Low-power wireless sensors and IoT gateways are used by a broad spectrum of industries for smart monitoring of anything — from BMS to FM to Smart City.

 <p>Wireless Sensor Network Easily integrated into existing monitoring system</p>	 <p>Convenient User Interface Cloud-based system available on all internet-accessible devices</p>	 <p>Expenses Reduction Labor and operation cost reduction through data analysis</p>
 <p>Easy Setup & Use Install in just a few minutes and get data immediately</p>	 <p>80+ Sensor Types Unlimited industry use cases</p>	 <p>High Quality/Low Price Hardware for affordable price/free basic software platform</p>
 <p>Bank-grade Level Security Sensor data encryption on all levels of transmission</p>	 <p>Superior Signal Range 300 m coverage in open space/ up to 16 walls penetration</p>	 <p>Long Battery Life Up to 10 years of use with regular AA batteries</p>

MONNIT Solution Process





WORLDWIDE CUSTOMERS



Global Certifications



GLOBAL AWARD

2011

Utah Innovation Awards



2012

Entrepreneur Excellence Award

2015~2018

3 Year

Connected World Innovations Award, CRN's Internet of Things



2019

Facilitiesnet Vision Award, Utah Best Of State Manufacturer Of The Year Award



Customers in S. Korea





BANK GRADE SECURITY

Monnit products use Encrypt-RF® bank level security, featuring a 256-bit exchange to establish a global unique key, and an AES-128 CTR for all data messages.

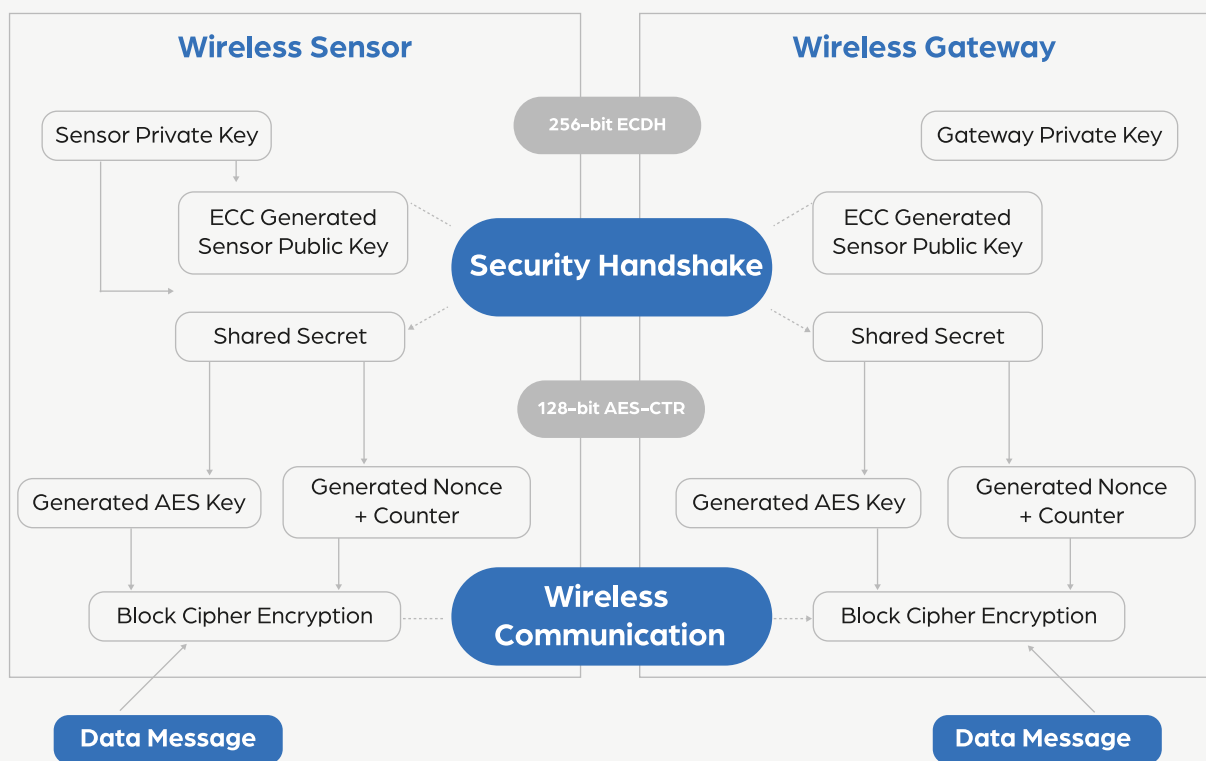
Security is maintained at all communication points from sensor to gateway, gateway to software, and back again.

Upgraded security with Monnit SensorPrints™

Implementing 256-bit SHA3 authentication, SensorPrints creates a “fingerprint” for a Monnit Wireless Sensor that contains an authenticated sensor message. When data is transmitted from the sensor, it is accompanied by a generated authentication token. Upon receipt by the application, the token is evaluated via cryptographic hash function against a unique per sensor secret key. This step provides an unprecedented level of full-coverage security for any Monnit user wishing to secure their IoT devices and data.



Double Encryption Method



MONNIT Wireless SENSOR TYPE

ENTERPRISE SENSORS

**AA Battery Powered
Up to 10 Years Battery Life**

Monnit Commercial sensors are the highest performing low power long range sensors among the existing worldwide with 8 years battery life and 300m signal coverage. Integrated on-board data storage allows sensors to store data messages if communication to a gateway is disrupted.




















































INDUSTRIAL SENSORS

**Waterproof and dustproof type
Suitable for heavy industries**

The industrial sensor is the strongest and most robust type of MONNIT sensors. It is sealed in a IP65 rated case, NEMA 4X, CE. Powered by replaceable 3.6V (1800mAH) AA batteries with life span of more than 7 years.

MONNIT WIRELESS SENSORS

More than 80 types of wireless sensors can be applied to various industries such as manufacturing plants, construction sites, distribution centers and farms.

					
TEMPERATURE	WATER TEMPERATURE	RTD HIGH TEMPERATURE	RTD LOW TEMPERATURE	DUCT TEMPERATURE	WATER TEMPERATURE
					
4x QUAD TEMPERATURE	123 DIGITAL TEMPERATURE	FOOD PROBE	THERMOCOUPLE	THERMOSTAT	ULTRASONIC
					
WATER DETECTION	WATER ROPE	BUTTON	PULSE COUNTER	MOTION DETECTION	VEHICLE DETECTION
					
ACTIVITY DETECTION	RESISTANCE	OPEN/CLOSED	CONTROL	VIBRATION METER	ADVANCED VIBRATION
					
G-FORCE	G-FORCE (Max-Avg)	TILT	TILT DETECTION	AIR VELOCITY	HUMIDITY
					
PRESSURE	DIFFERENTIAL AIR PRESSURE	AIR QUALITY	CARBON MONOXIDE	HYDROGEN SULFIDE	CARBON DIOXIDE
					
SOIL MOISTURE	DRY CONTACT	PAR LIGHT METER	LPG TANK MONITOR	3-PHASE CURRENT METER	1-PHASE CURRENT METER
					
4-20mA METER (Connector)	5 VDC METER (Connector)	10 VDC METER (Connector)	200 VDC METER	200 VDC DETECT	500 VAC DETECT
					
500 VAC METER					

* MONNIT currently produces 80 types of sensors and constantly develops new types.

01



COMMON FEATURES

AA Type			
Performance			Power Consumption
Wireless range	Reliability(1-10)	Radio Frequency	Battery life
300m in open space	FHSS(9)*	940MHz	8 - 10 years (AA battery x 2) (Depending on transmission frequency)

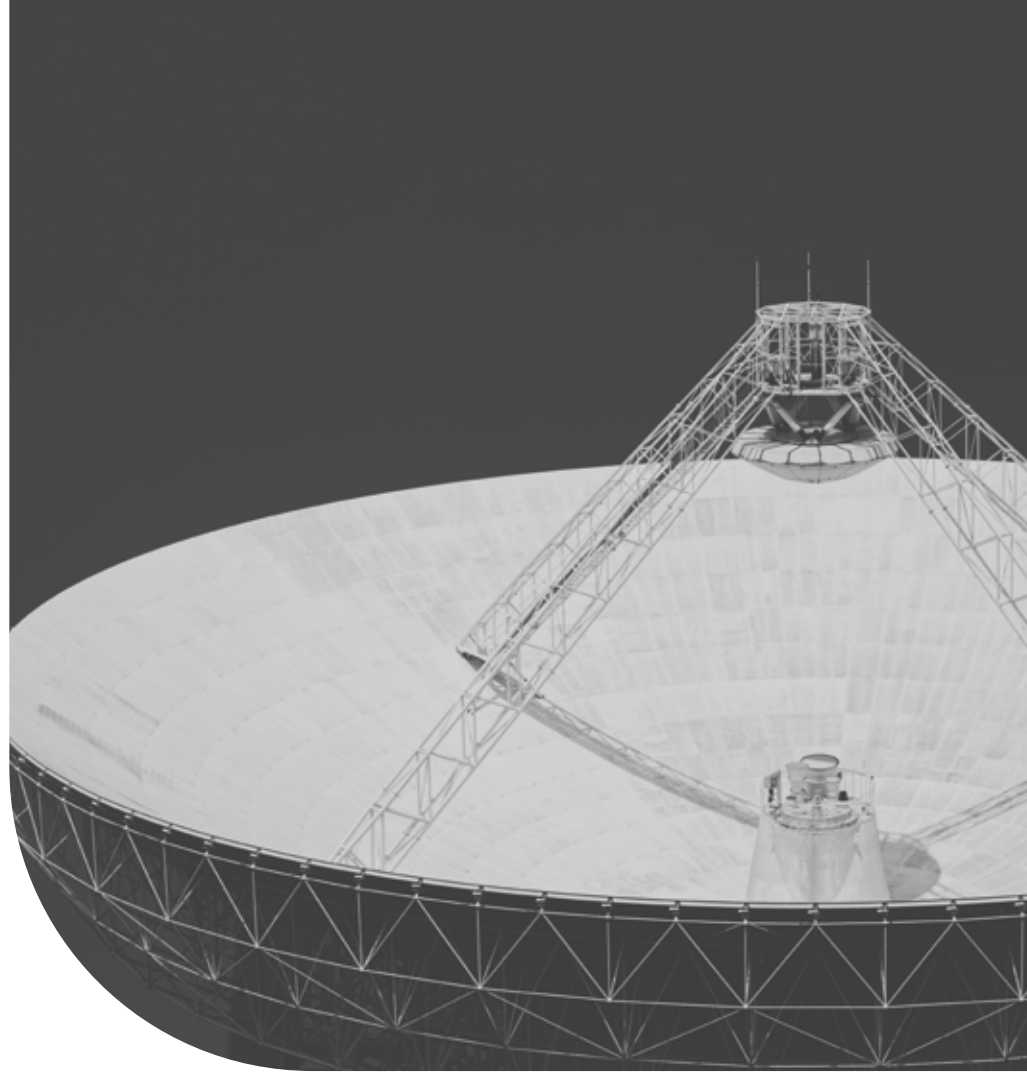
Industrial Type					
Performance				Power Consumption	
Wireless range	Reliability(1-10)	RF	Safety Standard	Battery life	
300m in open space	FHSS(9)*	940MHz	UL508-4x specifications	10 years(Depending on transmission frequency) Type : Replaceable 3.6V, 1800mAh (single AA sized)	
Networking				Memory	
Type	Security		Online update		Storage
Star Network**	256-bit key exchange & AES-128 CTR Bank level security / dual encryption		Online remote firmware update		5000 messages Heartbeats 10min / 22d

* Frequency Hopping Spread Spectrum (When a frequency is disturbed by a spread spectrum modulation method, it is retransmitted to other paths)

** Star Network : Top-rated networking method that provides connection to multiple platforms

02

GATEWAYS



Serial Modbus

Modbus gateway can connect 50 wireless sensors to existing Modbus RS-232C and RS-485 sensing. The robust industrial case enables stable use in various harsh environments, and a wide range of power sources between 4.5-36.0 VDC can be connected.

Serial port	RS232, RS485
Serial signal	RS232 : TXD(OUT), RXD(IN) and Ground/Common
Network	RS485 : D+, D- and Ground/Common
Operating temp.	RP-SMA connector, 5.0 dBi Standard -40°C ~ 80°C
Power	4.5 ~ 36.0VDC



Ethernet

Ethernet Gateway allows your Monnit Wireless Sensors to communicate with the iMonnit™ System without the need for a PC. Simply provide power and plug the gateway into an open Ethernet network port with an internet connection. It will then automatically connect with Monnit online servers, providing the perfect solution for commercial locations where there is an active internet connection.

Power	220V	Memory	50,000 messages
Frequency	940MHz		
Protocol	DHCP, DNS, NTP, UDP, TCP, SNMP, Modbus TCP		



IoT Gateway

IoT Gateway works on 4G LTE cellular technology and a built-in battery, so it has the advantage of accumulating data and receiving notifications through the platform even when not connected to power. It is the best gateway when wired internet connection is not available.

Power	220V / Lithium Battery / PoE Built-in battery lasts 70 hours		
Memory	50,000 messages		
Protocol	DHCP, DNS, NTP, UDP, TCP, SNMP, Modbus TCP		
Security	ECDH-256 & AES-128		



Advanced Edge

Able to support custom edge based IoT applications the Advanced Edge Gateway is ideal for IoT OEMs and ISVs. Additionally, the Advanced Edge Gateway deploys as an MQTTS client, allowing data to be sent to MQTT brokers hosted on platforms such as Amazon AWS, Microsoft Azure, IBM Watson, or to a user's own broker. The gateway includes a local web interface.

Hardware	<ul style="list-style-type: none"> • CPU: Cortex-A53 • RAM: 1 GB LPDDR2 SDRAM • Disk: 16 GB • Operating System: Linux
-----------------	---



03



SENSORS

ELECTRICITY SENSORS

Pulse Counter

Pulse Counter Sensor can be connected to the pulse output of a system (water meter, power meter, etc.) to count the number of actuations within a given time frame.

Application	Water, gas & air flow meter, production line tracking
Max counts	More than 4 billion
Input voltage	0 ~ 15V(DC)
Filter settings	No filter, 4 Hz filter, 40 Hz filter
Wire length	90 cm



INDUSTRIAL



200 VDC Voltage Detection

200VDC Voltage Detection Sensor measures the voltage between two electrical points. It can be connected to the power and ground of any voltage source and measure within stated accuracy up to 200 VDC. Perfect for measuring battery voltage at specified intervals.

Application	Relays/switches, power supplies
Full-scale voltage	1 ~ 200 VDC
Voltage detection threshold	Presence: >2VDC Absence: <1.8VDC
Wire spec	22 AWG, Red(+), Black(-)
Wire length	30cm (expandable)



200 VDC Voltage Meter

200 VDC Voltage Meter is an analog device that measures voltage by directly connecting leads to terminals. It can measure up to 200VDC. The red line of the sensor must be connected to (+) terminal and the black line to (-) terminal.

Application	Battery management (UPS, generators, vehicles, boats, etc.) Firefighting equipment, PLC monitoring
Resolution	0.01V
Full-scale voltage	0~200VDC
Wire length	30cm



500 VAC Voltage Detection

500 VAC Voltage Detection Sensor can interface with other devices to detect voltage from 24 VAC to 500 VAC. The sensor notifies of the presence or absence of voltage. Perfect for monitoring electrical appliances.

Application	MCC panel, substation room, machine room, Circuit breaker trip detection
Full-scale voltage	500 VAC
Max input voltage	600 VAC



500 VAC Voltage Meter

500 VAC Voltage Meter is an analog device that reports the measured voltage on user specified intervals. It has three operating modes, in which you can obtain the voltage measurement in VACrms, the peak voltage, or the DC voltage.

Application	Power lines, machinery, generators, electrical motors
Operation mode	VAC RMS VAC Peak to Peak
Full-scale voltage	0 ~ 500 VAC
Max input voltage	600 VAC

Electricity Sensors



INDUSTRIAL

Dry Contact

Dry Contact Sensor detects when there is contact between the two wired end points. It can easily be integrated into existing switches or contact plates.

Application	Button/switch integration Device/machine functioning
Wire length	30cm
Detection wires	High impedance
Trigger	Contact (Loop closed) No contact (Loop open)



INDUSTRIAL

4-20mA Current Meter

4-20mA Current Meter is capable of measuring the current off another device or sensor up to 20mA VDC, by connecting the leads of the sensor to the positive and ground terminals of the device being measured.

Application	Current converter, flow meter, infrared thermometer, PH measurement, mA output equipment such as sound level meter and oxygen concentration meter
Accuracy	Uncalibrated: 0.7mA, 0.35mA Calibrated: 0.05mA
Input resistance	51Ω
Full-scale current	0~20mA (DC)



3 Phase Current Meter

Three Phase Current Meter is measured simultaneously using three CTs. The sensor displays the maximum, minimum, and average load amperage of three phases at a time, indicating amperage per hour.

Application	Current & Amperage monitoring
Range	20A/150A/500A
Wire length	90cm
Unit	Ah, MJ, Kwh



INDUSTRIAL

AC Current Meter

One Phase Current Meter uses non-contact CT(current transformer) to measure current usage. This sensor displays the maximum, minimum, and average load currents and shows the current per hour (Ah, Wh).

Application	Current & Amperage monitoring
Range	20A/150A/500A
Wire length	90cm
Unit	Ah, Wh, Kwh

WATER SENSORS



Water Detection

Water Detection Sensor is a trigger-type sensor that sends notifications via text messages and e-mails to the administrator when water is detected or not detected. It helps to prevent potential property damage from flooding and leaks.

Application	Water heater, sump monitoring, plumbing leak detection
Wire length	90cm
Detection wires	High impedance
Trigger	Water detected/ not detected



Puck

INDUSTRIAL



INDUSTRIAL



3 Foot Lead | Middle of Enclosure
INDUSTRIAL



Water Rope

Water Rope Sensor detects conductive liquids anywhere along the length of the detection rope by using two wires covered with conducting polymer and immediately sends an alert. The sensor rope dries quickly allowing the sensor to reset for next use.

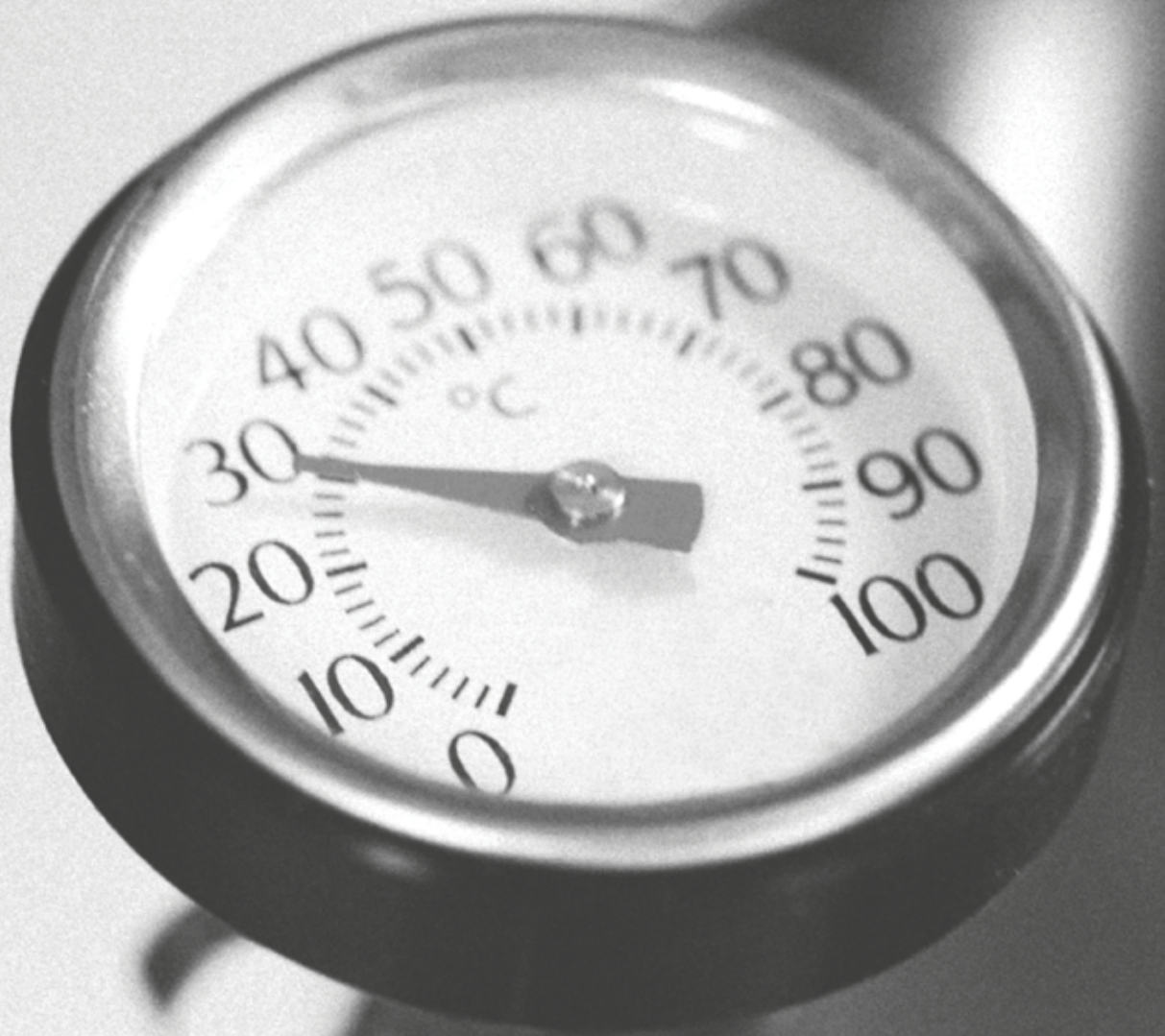
Application	Piping freezing, leak detection
Rope length	3m(expandable to 30m)
Rope material	PE + alloy lead
Resistance	3Ω/meters



Ultrasonic

Ultrasonic Sensor can be used in a variety of applications for measuring distances between the sensor and objects in its path. The sensor uses the speed of sound and the time difference between sending and receiving the sound pulse to determine the distance to an object.

Application	Water tank, collection well, septic tank water level management
Min Measurement Distance	10cm
Max Measurement Distance	400cm



TEMPERATURE SENSORS



Temperature

Temperature Sensor uses a thermistor to accurately measure temperatures. These sensors are perfect for monitoring of ambient temperatures around the sensors physical location.

Application Server room, vacant property, warehouse, crop and livestock farm
Operating temp. -40°C ~ 125°C
Accuracy +/-0.25°C



INDUSTRIAL



INDUSTRIAL



Temperature Probe

Temperature Sensor with Probe is optimized for measuring the internal temperature from the outside using a probe-type thermistor.

Application	HVAC (Air conditioning system), HACCP Certification, Motor surface temperature, Reactor surface temperature
Range	-40°C ~ 125°C
Probe length	90cm



INDUSTRIAL



Resistance

Resistance Sensor collects the measured resistance values at both terminals. It can only be connected to passive devices without voltage. If there is power the voltage will damage the sensor. Analog data is converted mathematically to calculate the resistance value.

Application	Strain measuring instruments (bridges, construction site facilities, etc.), batteries
Wire length	90cm
Measuring range	~ 250k(250,000) Ohms
Accuracy	± 2%



INDUSTRIAL



Low Temperature RTD

Low Temperature Sensor uses a glass coated platinum RTD sensor to accurately measure temperatures from -200°C to +162°C.

Application	Freezers & coolers Cold chain
RTD range	-200°C ~ 162°C *RTD : Resistance Temperature Detector
Accuracy	+/-0.3°C



INDUSTRIAL



High Temperature RTD

High Temperature Sensor uses a glass coated platinum RTD sensor to accurately measure temperatures from -50 C to +370 C.

Application	Boilers, ovens, high temperature manufacturing facilities
RTD range	-50°C ~ 370°C *RTD : Resistance Temperature Detector
Accuracy	+/-0.3°C

Temperature Sensors



Digital Temperature

Digital Temperature Sensor measures from -40°C to 125°C using the probe. At the touch of a button, the temperature value is displayed on the unit's display, making it ideal for sites requiring immediate temperature management.

Application	Coldchain, pharmacy, vaccine refrigerator
Range	$-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$
Accuracy	$\pm 0.25^{\circ}\text{C}$
Probe length	91cm or 304cm



INDUSTRIAL



Thermocouple

Thermocouple Sensor is available with a hardwired thermocouple or K-type connector to measure high temperature applications.

Application	Pharmaceutical laboratories, oil/gas plants, cement curing
Range	$-100^{\circ}\text{C} \sim 400^{\circ}\text{C}$
Accuracy	$\pm 2.2^{\circ}\text{C}$
Probe length	152cm(K-type connector)



INDUSTRIAL



Duct Temperature

Duct Temperature Sensor uses an NTC thermistor with 2.4m lead wires to accurately measure temperatures in duct work, while maintaining a sealed environment.

Application	HVAC operation, Air duct temperature
Range	$-40^{\circ}\text{C} \sim 150^{\circ}\text{C}$
Accuracy	$\pm 0.25^{\circ}\text{C}$
Probe length	44cm



INDUSTRIAL



Water Temperature

Water Temperature Sensor can collect temperature data of water or other noncombustible liquids using a sealed NTC thermistor with 90cm lead wires.

Application	Water/ liquid storage tanks, swimming pool, aquarium, sauna
Range	$-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$
Accuracy	$\sim 0.25^{\circ}\text{C}$
Probe length	90cm



ENVIRONMENTAL SENSORS



INDUSTRIAL

Humidity

Humidity (RH) Sensor accurately monitors the relative humidity of the air, temperature and dew point with high accuracy within a room or enclosure.

Application	Greenhouse, artgallery, museum, hotel, clean room
Range	0 ~100% RH (Relative humidity)
Accuracy	+/- 2%
Response time	8 sec



PAR Light Meter

Monitors the ideal light wavelengths required for photosynthesis by plants. Quantum light sensors can be used to monitor the presence of light, measure light intensity, and record daily saturation levels that affect plant health and growth.

Application	Greenhouses, botanical gardens
Range	389 to 692 nm +/- 5 nm
Accuracy	> 0.5%
Measuring angle	180°

Environmental Sensors



Hydrogen Sulfide(H2S)

Hydrogen Sulfide Sensor monitors the presence of toxic gas (hydrogen sulfide) in the air and provides temperature values. Accumulated data can be downloaded and viewed as graphs and spreadsheets.

Application	Crude oil/natural gas production, waste water treatment plant, septic tank, public toilet
Measuring range	0 ~ 50ppm
Measuring principle	Electrochemical reaction of H2S
Response time	< 40 seconds typical at 20°C
Stabilization time	< 120 seconds



Carbon Monoxide(CO)

Carbon Monoxide Sensor is a microelectronic control technology (MEMS)-based sensor that demonstrates high performance in an extremely low-power module, measures the amount of carbon monoxide in the air and temperature values.

Application	Stove, distribution panel fire, fire monitoring, Boiler gas leakage, septic tank, manhole
Measuring range	0 ~ 1000ppm
Measuring principle	Electrochemical oxidation of CO
Response time	< 40 seconds typical at 20°C
Stabilization time	< 120 seconds



Carbon Dioxide(CO2)

Carbon Dioxide Sensor is a microelectronic control technology (MEMS)-based sensor that demonstrates high performance with an amazing low-power module and boasts the longest battery life in the industry.

Application	Vessel, septic tank, manhole
Measuring range	0 ~ 1000ppm CO2
Sensing method	Non-dispersive infrared absorption Gold-plated optics Solid-state source and detector
Response time	180 sec



Air Particulate Meter

Air Particulate Meter measures PM1, PM2.5 and PM10 content using a laser that scatters based on the number and size of particles suspended in the air.

Application	Building/room air quality, public places Construction/Demolition sites
PM1	0.3 ~ 1.0 Mg/m ³
PM2.5	1.0 ~ 2.5 Mg/m ³
PM10	2.5 ~ 10 Mg/m ³
Response time	~ 10 sec



INDUSTRIAL

Air Velocity

Air Velocity Sensor detects the pressure difference between the two input ports and measures the speed at which the air is moving (mps), taking temperature and altitude into account. When viewed from the top, the right inlet is (-) and the left inlet is (+).

Application	HVAC, Duct
Operation mode	MPS(Meter Per Second) MPH(Meter Per Hour) KMPH(Kilometers Per Hour)



INDUSTRIAL

Differential Air Pressure

Differential Air Pressure Sensor measures the pressure difference (Pascal) between the two input ports and transmits the measured value to the software. When viewed from the top, the right inlet is (-) and the left inlet is (+). Temperature measurement is also possible.

Application	Hospital clean room, HVAC efficiency measurement, air conditioner filter replacement cycle monitoring
Range	Pressure : -500Pa ~ 500Pa Temperature : -40°C ~ 85°C
Media compatibility	Air, N2, O2



INDUSTRIAL

Soil Moisture

Soil Moisture Sensor uses a resistive granular matrix element to accurately measure the matric water potential (soil moisture tension) in the soil and a thermistor-based temperature element to measure temperature.

Application	Botanical gardens, plant research institutes, landscaping companies
Range	0.0 ~ 240.0 centibar or kPa -40°C ~ 125°C
Resolution	~0.3 centibar or kPa / 0.1°C
Response time	Typically less than 15 seconds



INDUSTRIAL

Pressure Meter

Pressure Meter measures pressure from a 5 volt pressure transducer. This sensor is capable of measuring pressures up to 21 kgf/cm² in compressed gas, noncorrosive liquid and vapor feed lines.

Application	Gas supply line, compressors Connecting with analog pressure gauge
Measuring medium	Gas, liquid, vapor
Range	0 ~ 300 PSIG
Response time	300ms
Wire length	1m

ACCELEROMETER SENSORS



INDUSTRIAL



Tilt

Tilt Sensor activates at a set time interval (defined by user) and converts accelerometer measurements to pitch and roll (0 to 180° -> -180° to 0°). The data is displayed in degrees with 0.1° of resolution.

Application	Old building safety diagnosis, Tower crane
Sensitivity	4096 count/g
Operating range	0° ~180° / -180° ~ 0°
Sensitivity range	+/-2G, +/-4g, +/-8g
Resolution	0.1



INDUSTRIAL



Tilt Detection

Tilt Detection Sensor constantly monitors a single axis of rotation over a range of -179.9° to +180.0°. It detects changes in tilt on a single axis and reports data in the form of pitch, based on user configurable orientation changes.

Application	Earthquake monitoring, old building, construction site
Sensitivity	4096 count/g
Operating range	0° ~180° / -180° ~ 0°
Resolution	0.01



INDUSTRIAL



Activity Detection

Activity Sensors can be used in a host of applications where detecting vibration (sudden movement) or counting the number of vibrations is required.

Application	Enhancement of restricted area security (Ex. window impact alert) Motor/machine usage cycle check
Sensitivity	0.05g



INDUSTRIAL



G-force Snapshot / Max Avg

G-Force Snapshot Sensor Accelerometer activates at a set time interval (defined by user) and measures g-force along X, Y and Z axes.

Application	Machine malfunction detection, tower crane
Sensitivity	4096 count/g
Sensitivity range	+/-2G, +/-4G, +/-8G
Accuracy	+/-2.5%(force:X, Y, Z)



INDUSTRIAL



Vibration Meter

Vibration Meter Sensor uses an accelerometer to measure vibration speed (mm/s) and frequency (Hz) and duty cycle on all three axes.

Application	Bridges, railways, facilities Motor fault detection
Speed	Measurement range: 0~25.5mm/s Measurement resolution: 0.1mm/s
Frequency	Measurement range: 10~200Hz Measurement resolution: 1Hz



INDUSTRIAL



Advanced Vibration Meter

Advanced Vibration Meter reports vibration (acceleration, velocity, displacement, or acceleration peak), frequency (Hz/RPM), and crest factor on all three axes. It also reports duty cycle and temperature.

Application	Facility motor, building and bridge Tower crane monitoring
Sensitivity	Acc RMS/Acc Peak: 0 to 156912mm/s ² Velocity RMS: 0 to 655.36mm/s Displacement: 0 to 655.36mm
Temperature	-40°C ~ 125°C
Wire length	3m

OCCUPANCY SENSORS



Light Meter

Light Meter uses a highly sensitive photo-diode to detect and measure the intensity of light from 0~82,000 lux (luminescence/unit area). It can alert upon immediate detection of light or a change in light intensity.

Application	Art gallery, museum, greenhouse, Facilities lighting
Max. light level	0 ~ 82,000 lux



INDUSTRIAL



Button

Button Sensor detects when the button has been pressed triggering a notification from the system. Best suits for situations where an immediate signal is needed.

Application	Remote order, emergency button, service call
Number of operations	10,000,000





Motion Detection

Motion Detection Sensor uses an infrared sensor to accurately detect movements made by people/animals within 4.5 m range.

Application	Restricted area access monitoring, movement monitoring by area/time
Range	Horizontal : 100° Vertical : 80°
Detection distance	2.7~4.5m



INDUSTRIAL



Open-Closed

Open/Closed Sensor can be used to detect when a door or window is opened and closed using a magnetic switch. Applicable for smart toilet use.

Application	Restricted area access control Automatic lighting system
Switch	SPST(1 circuit short contact point)
Magnet	Alnico magnet/weatherproof
Wire length	38cm



Motion Plus

Motion Plus Sensor detects movements made by people and animals within a 4.5 m range and measures ambient temperature and relative humidity(RH) using a passive infrared (PIR) motion sensing element.

Application	Office building, secure areas
Range	Motion angle 80°, 0 ~100% RH -40 ~ 125°C
Detection distance	4.5m



Local Alert

The Local Alert flashes a red LED, sounds an audible alarm, and displays the important message upon receiving a notification. The Local Alert can also display sensor readings from any sensor on the same account.

Application	Sites, secure areas where inventory and equipment protection is required
Display	LCD 128x32 px (8 lines of text) LEC One Ultra Bright Red
Size	101.6x101.6x40.64 mm

ADD-ON DEVICES

Thermostat

The Thermostat is designed specifically for remote configuration and energy savings. It features an integrated motion sensor to auto detect if an area or room is occupied and can be set to enter an energy saving state when not needed. The thermostat allows to set a maximum and minimum temperature range for both occupied and non-occupied states.



Application	Smart office, hotel rooms, schools, sport centers, etc.
Accuracy	+/-3%(10 - 90% RH)
RH range	0 -100%RH
RH response time	8 seconds

Control

The device allows a user to control two separate power relays, all through the iMonnit online sensors portal. Automatically control motors or electrical devices when a condition is detected by a sensor or group of sensors.



Application	Automatic control system Sprinklers and pumps
Activation	Automatic / Manual
LEDs	Power / frequency Relay 1 status / Relay 2 status
Max operating speed	20 times(1 minute interval)

Site Survey Tool

It helps to plan the placement of Monnit sensors by measuring the strength and quality of the radio frequency (RF) signal from an Monnit gateway



Application	Monnit sensor installation survey
--------------------	-----------------------------------

04



SOFTWARE

iMONNIT is a cloud-based monitoring platform provided exclusively for MONNIT wireless sensors and gateways, allowing sensor and network-related settings and user customization.

iMONNIT administrators can set thresholds for each sensor to send notifications via text message or e-mail to administrators or set users when an abnormality occurs, and can be accessed and managed from all Internet-based devices, including smartphones, tablet PCs, laptops, and desktop computers.

iMonnit Basic

Online Sensor Monitoring
Free with no ongoing costs!

iMonnit Premiere

Online Sensor Monitoring
Minimal Annual Fee!

iMonnit HX

Heartbeat Credits

iMonnit Express

Internal network

iMONNIT Basic is provided free of charge with the purchase of sensors and gateways, and provides basic functionality and limited functions for online monitoring of sensors.

iMONNIT Premiere enables detailed settings for sensors, gateways and users at a reasonable cost. It is essential when configuring with a 3rd party platform using the API from the Monnit server.

iMonnit HX is an upgraded version of iMonnit Premiere, which allows you to collect precise data by setting a shorter data collection period (less than 10 minutes).

iMonnit Express is a secure, standalone PC application that does not require an internet connection. It is possible to control equipment by linking with Bacnet and to set sensor readings.

Easy 3rd party system integration

XML, JSON-based MQTT, MODBUS TCP, and RS485 protocols are supported to easily integrate data to existing systems. Open API and SDK is provided.

iMONNIT Enterprise

iMonnit Enterprise is an installation software provided to customers who want to manage their data on their own server. It provides the same features as iMonnit Premiere, while allowing customers to host/manage their data themselves. However, to use the software, you must change the gateway to the IP of the server where Enterprise is installed using the unlock code.



Minimum System Requirements

Windows Server[®], 2 GB RAM, 2.0GHz Processor, ASP.NET Framework v4.5
 Web Server, IIS 7, ASP.Net MVC Framework v4.0
 SQL Server[®] 2008 or Newer (Database Server)

Monnit MINE SDK

MINE SDK is a library source that helps you combine Monnit hardware with your own software system or develop a new platform. The API is provided in .NET and JAVA, and all sample application functions are included. MINE also requires 1 unlock code per 1 gateway.



Gateway Unlock

Gateway Unlock is required to use iMonnit Enterprise or Monnit Mine.

Data can be transmitted to a user-specified host or IP using an unlock code, and a user-developed backend can be used with wireless sensors and gateways.



MONNIT's gateway points to the MONNIT server by default.

MONNIT reflects the needs of customers who want to build and operate their own platform and provides iMONNIT Enterprise and MONNIT MINE for that purposes. In order to do so, you need to purchase an UNLOCK key and modify the default value. Enter the ID and SC code of the gateway at www.imonnit.com/sethost and enter the purchased unlock key to unlock the gateway. Enter the IP and port of the server you want to receive data from and send the data directly to your own server. Gateway unlock keys are sold separately, and purchase is not required when using the iMONNIT platform, but purchase is required for each gateway when operating iMONNIT Enterprise and MONNIT MINE.

Monnit Wireless Sensor Network Monitoring Feature Comparison			
Features	iMonnit Basic	iMonnit Premiere / HX	iMonnit Enterprise MINE SDK
	Online Sensor Monitoring	Premium Online Sensor Monitoring	Self Hosted Software
Price	Free	Call for pricing	Call for pricing
Basic configurations sensor name, heartbeat, measurement notifications	✓	✓	✓
Advanced configurations Recovery settings, sub heartbeat Heartbeat in case of emergency		✓	✓
Sensor data reports	✓	✓	✓
Sensor data charts	✓	✓	✓
Sensor data CVS file download	✓	✓	✓
Sensor calibration	✓	✓	✓
Monnit Link USB Gateway support	✓	✓	✓
Monnit Link Ethernet & Cell Gateway support	✓	✓	✓
Monnit Wi-Fi (MoWi) Sensors support	✓	✓	✓
Internet accessible	✓	✓	✓
Offline access			✓
Alert history	✓	✓	✓
Multiple users		✓	✓
Group configurations	✓	✓	✓
Privilege-based access control and reporting		✓	✓
Email & sms	✓	✓	✓
In-app alerts	✓	✓	✓
Sensor mapping		✓	✓
Heartbeat min. (Sensor Check-In)	2hours	10min / 1min(HX)	1sec
# of networks	1	5	unlimited
# of sensors	500 per network	500 per network	500 per network
# of gateways	100	1,000	unlimited
# of users	1	unlimited	unlimited
Sensor data saved history	45days	unlimited	unlimited





BETTER AND SMARTER WITH IoT

MONNIT^{KR} E korea@monnit.com T +82 2 2088 1454

MONNIT KOREA, 2F, 13, Songi-ro 30-gil, Songpa-gu, Seoul, 05800, Republic of Korea