RADIONODE

www.radionode365.com

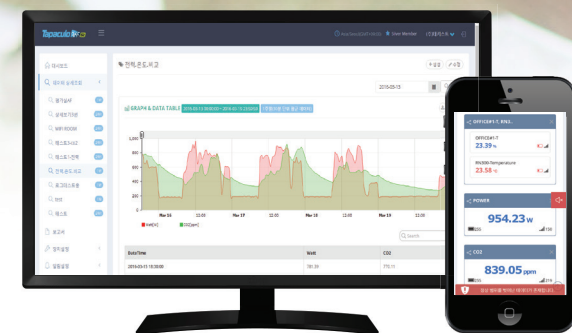**RADIONODE**

Sensor Data Monitoring Solution

Rev. 20

RADIONODE

Easy and Innovative Sensor Data Monitoring Solution.

It is Radionode.

RADIONODE
Connected Datalogger

Tapaculo365
Professional Sensor Data Monitoring Web Service

Contents

Applications

- Semiconductor Fab [QA(Quality Assurande) Temp/RH]

- Food Manufacturer [HACCP report / QA Temperature]

- Pharmaceutical Industry [QA differential Pressure, Temp/RH]

- Machinery Manufacturer [QA Temp / RH]

- Bio / Medical Center [Incubator / Deep Freezer Temp.]

- Data Center [Temp / RH report]

- Warehouse [Centralized Monitoring]

- Live Stock [Temperature Monitoring]

- Dinning Facilities
   [Refrigerator Monitoring / Washing Machine Temp.]

- Certification Center [Temp / RH monitoring]

- Museum [Temp / RH monitoring]

**Our customers in Korea
are using Radionode
during 24 / 7**

SAMSUNG · LG · BAYER · 서울역사박물관 SEOUL MUSEUM OF HISTORY

SKC solmics · POSCO · ORION · MERCK

DOOSAN · SK hynix · JW Medical · SIEMENS

KBS · CTR · Amway · 녹십자

동부엔지니어링 Dongbu Engineering · kyungshin · Hanwha Techwin · 일양약품

금호HT · UNICK (주)유니크 · Nutribiotech · 한림대학교강남성심병원

ILDONG 일동제약 · SAMSUNG BIOEPIS · HUMAX AUTOMOTIVE · Mercedes-Benz

AkzoNobel · 국립종자원 · market west · 대웅제약

대한적십자사 · HYUNDAI · SCL 서울의과학연구소 Seoul Medical Science Institute · 농심

samyang · CHA 차병원 CHA 의과학대학교 · KAC 한국공항공사 · 국립암센터 NATIONAL CANCER CENTER

How does it send temperature

a report by e-mail?

NTC	T/C	RTD	Door	4-20mA	PM0.5	NH3	H2S
Temp	Temp	Temp	Open	External	Particle	Gas	Gas

RN400

WiFi Connected Data Logger has took advantage of A.I. from Cloud.

00

Created by IT experts

- High WiFi Security (up to WPA2 Ent.)
- Tapaculo365 Web Service provided by Radionode.
- Even support user made web server.(HTTP)

01

Enhanced durability and easy installation

- OLED Display that does not freeze at low temperatures
- Waterproof & dustproof design ensures high rigidity
- Supports both magnetic and screw mounting
- Membrane filter protects the humidity sensor from water

Clear OLED Display at low temperature

Waterproof & Dustproof design

Sensor data clould monitoring service (SaaS)

With RN400,

Everything is possible.

✓ **Data Recording**

✓ **Remote Monitoring**

✓ **SMS Alert**

02

High Reliability

- Real-time data backup to micro SD card
- FeRam is 30 times faster and 1 billion times higher write
  endurance than Flash memory
- Data measured at internet loss time is stored on the
  device and automatically sent to the server upon restoration

03

Groundbreaking Power Management System

- 3.6V (1EA) or 1.5V (2EA) optional available
- Low battery warning notification
- 5~30V DC power supply
- Built-in UPS (automatically switched to battery in case of power failure)

04

Various sensor support

- Temp Sensor (NTC, T/C, PT100)
- Temp/RH Sensor (Internal, External)
- Gas Sensor (NH3, H2S)
- Particle Sensor (PM0.5, PM2.5, PM10)
- Door Magnet Sensor

05

Output Signals and Calibration

- RS-485 (T2GS,T2PM,T2TS,T2CS)
- Dry Contact On/Off Output (T2EX, H2EX)
- Micro USB terminals for calibration
  (Dedicated software provided)

Temp Sensor sockets (NTC,T/C,PT100)

PM0.5 fine dust inlet with laser scattering method
MODEL: RN400 T2PM

Gas sensor with sintered filter
MODEL: RN400 T2GS + RG10

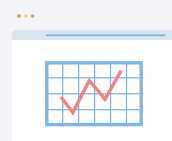High precision Temp/RH Sensor
MODEL: RN400 T2PS + RG20

Size
H100 * W165 * D50

Certified

FC   CE   Ⓚ

Do you need to setup

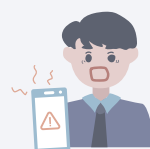the centralized data monitoring system?

RN400 Solution is a cost effective and simple way.

Anytime, Anywhere
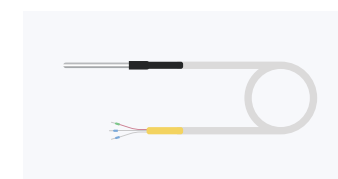Just sign in

Share your sensor data
with QR code link
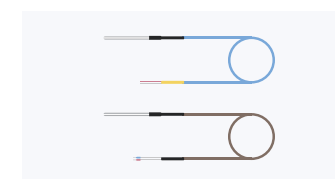
Urgent Alert Message by
SMS, Voice Call, Email.

RN400 Channel Information by Model

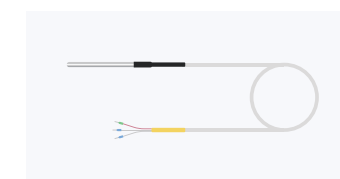| H2PS	- CH1 Temp, CH2 RH(MEMS Temp/RH) - CH3 Temp(NTC)	T2TS	- CH1~CH4 Temp (Thermocouple K/J/T/N/S/E/B/R Type) - RS-485 Output
H2EX	- CH1 Temp, CH2 RH(MEMS Temp/RH) - CH3~CH4 Temp(PT100 or Thermocouple K) - CH5 Door, CH6 Relay	T2CS	- CH1~CH4 4-20mA Input - RS-485 Output
T2PS	- CH1 Temp(NTC) - CH2 Temp - CH3 RH	T2GS	- CH1 Temp, CH2 RH (MEMS Temp/RH) - CH3~CH4 Electrochemical gas sensor(NH3, H2S) - RS-485 Output
T2EX	-CH1~ CH2 Temp(PT100 or Thermocouple) -CH3 Door, CH4 Relay	T2PM	- CH1 PM2.5, CH2 PM10.0, CH3 PM0.5 CH4 PM1.0, CH5 PM4.0, CH6 Size um - Weight unit, Count unit - RS-485 Output

RN400 Accessory

NTC 30cm, 150cm

Measuring Range : -20-50℃

Thermocouple 3m, 15m

K-type Measuring Range: -20~300℃
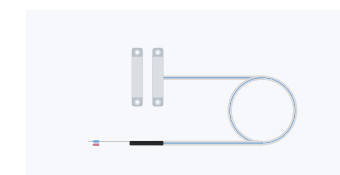T-type Measuring Range: -100~200℃
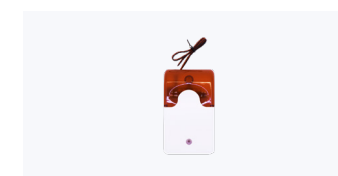

PT100 3m, 15m

Measuring Range: -200~200℃

Temp/Humidity Sensor RG20

Temp Measuring Range: -40~80℃
RH Measuring Range: 5~95% RH

Gas Sensor RG10

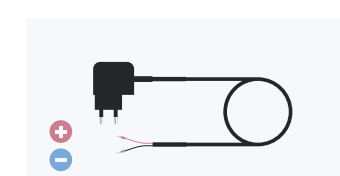NH3 Measuring Range: 0-100 ppm
H2S Measuring Range: 0-50 ppm

Door Sensor 1m

Sensor value at open : 99.0
Sensor value at closed : 0.0

Warning siren 30cm

12V, LED, 85dbA

Battery

C type battery 1.5V(2EA)
C type lithium battery 3.6V(1EA)

DC adapter 3m

12V 500mA

Radionode USB Plugged Sensor

UA provide various sensors
for environmental measurements
It is real time transmitter and just plug in your PC or Android.

UA1x, UA2x, UA5x

Sensor outputs data to USB ready for IoT
Make your computer the most advanced recorder.

01

Various sensor support

Temperature, Humidity sensor
Temperature & Humidity, Thermocouple, PT100

Gas Sensor
O2, NH3, H2S, tVOC, CO ,CO2

Signal Converter
Connect 4-20mA, 0-1V output sensor in use to output sensor value as USB digital

**Recording App on Android
Tapaculo Mobile(2 Channel)**

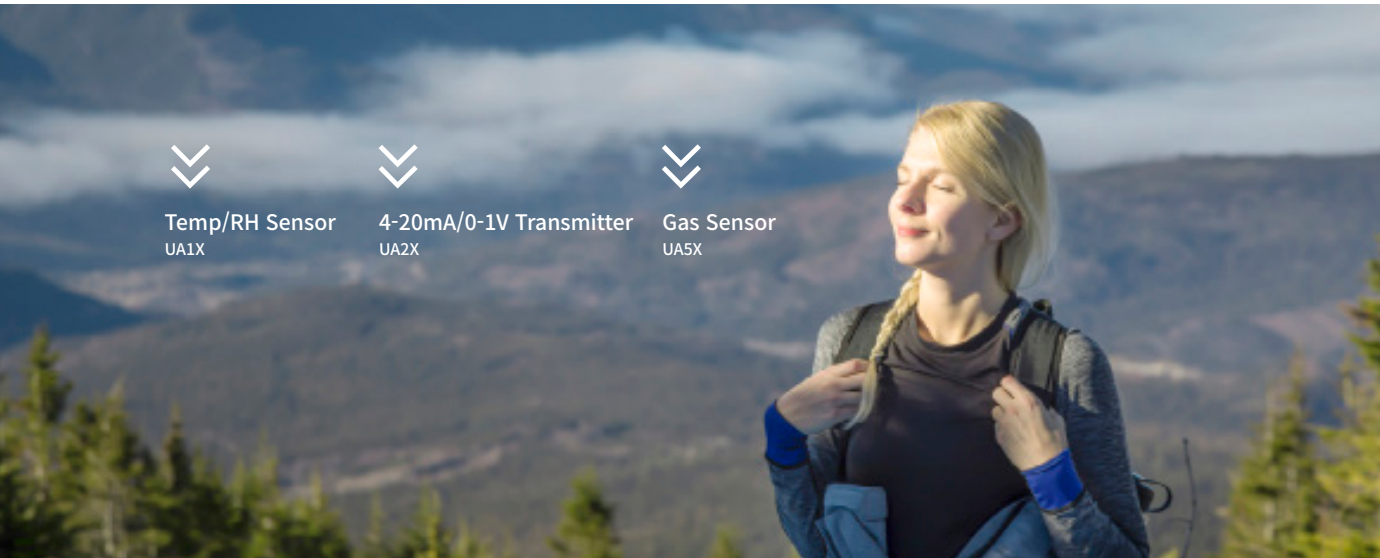**Recording Software on MacOS/Linux/Windows
Tapaculo Lite(32 Channel)**

**Fully Calibrated and
calibration tool support**

**SDK for software
integration support**

The UA sensor is a simple sensor that **anyone can use.**

Various sensors are ready for you.

Temp/RH Sensor UA1X	**4-20mA/0-1V Transmitter** UA2X	**Gas Sensor** UA5X

UA1x
Temperature/Humidity Sensor

UA10 Temp/RH sensor	- Temp Measuring range：-40~80℃ - RH Measuring range：5~95%RH
UA11-K High temperature transmitter	- Connect a TC-K type(2 CH) - Measuring range：0~1,000℃
UA11-T Low temperature transmitter	- Connect a TC-T type(2 CH) - Measuring range：-100~300℃
UA13 super low temp transmitter	- Connect a PT100 (1 CH, 3 wired) - Measuring range：-200~300℃

UA2x
4-20mA / 0-1V Converter

Ex) Pressure Sensor
(12V,4-20mA Output)

UA20 4-20mA / 0-1V converter	- Connect ANY 4-20mA output sensors - Internal 100 Ohm 0.05% resister - 3 Point Calibration certification provide - Calibration Software provide - Order number • UA20-A (4-20mA / 2 CH) • UA20-B (4-20mA / 1 CH, 12V Loop power) • UA20-C (0-1V / 2 CH)

UA5x
Gas Sensor

UA50 (tVoC + CO2eq)
tVOC gas sensor

- TVOC sensor embedded
- tVOC Measuring range: 0~60,000 ppb
- CO_2 Measuring range : 400~1200 ppm
- For Indoor air quality measurement

UA52 (O2+atm)
O2 gas sensor

- Optical oxygen sensor embedded
- Measure barometric pressure and convert the O2%
- O2 Measuring range: 0~25%
- Oxygen partial pressure : 500~1200 mBar
- Temperature Sensor embedded(-20~50℃)
- For Aircraft, Industrial safety

UA53 (Gas + Temp)
MEMS gas sensor

- Carbon monoxide sensor embedded
- Long-life Electrochemical Sensor
- Measuring range : 0 ~1000 ppm
- For Indoor air quality measurement

UA54 (Gas + Temp)
EC gas sensor

- Electrochemical sensor embedded
- Ammonia Measuring range : 0~100ppm
- Hydrogen sulfide Measuring range : 0~50ppm
- Order number: UA54 NH3-100, UA54 H2S-50
- Provide calibration certificate
- For Industrial safety

UA59 (Gas + Temp)
SUS gas sensor

- NDIR type CO_2 Sensor embedded
- Stainless steel / Provide mounting bracket
- Provide calibration certificate
- Measuring range : 0~20%
- Order number : UA59-CO2
- For Outdoor air quality measurement

RG40
AM-AF Film USB Extension Cable

- Film Type USB Extension Cable
- Port Material : Aluminum
- Cable Length : 50 cm

Recording Software for Radionode UA

Just Get a Sensor, then Multichannel Recorder is Free!

Tapaculo Lite
Sensor Data Real-time Recording Software at PC

UA1X, 2X, 5X, RN17x

- Up to 32 Sensor Data Recording (32 Channel dash board)
- Real-time Traceable Graph Supported for each device
- Recording Data Management by each project files
- Viewing the past sensor data or printing reports
  without stopping sensor measurements
- One-page Daily Report
- Export Data to CSV, PDF
- Browsing Data with a Chart
- User Defined name allocated to each device
- Threshold Alarm Setting for each piece of data (Turn to RED color)
- All devices are easily searched through device configuration window
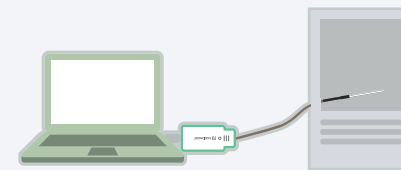

Tapaculo Mobile
Sensor Data Real-time Recording App at Android

UA1X, 2X, 5X

- Real-time Traceable Graph
- Up to 24 Channel Data Recording
- Recording Interval : 1Sec, 10Sec, 30Sec, 60Sec, 5Min, 10Min
- Export Data to CSV
- Share Data : e-Mail, SNS
- Threshold Alarm (Red color, Audible alarm)

How to Use Radionode UA sensor

01

With UA, your notebook can be used as
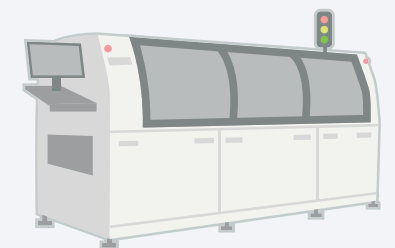a real-time multichannel recorder.

02

Measure and record with your smartphone.
Send and Share the data by email!

03

Use UA with RN171 and Tapaculo 365 to build a
remote sensor data monitoring system at
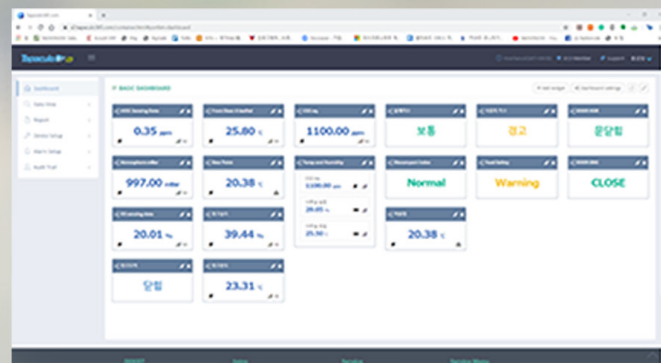an affordable price!

04

Are you manufacturing the equipment?
You can make the material cost down by replacing
the sensor used in the equipment with the UA sensor.

Networking is My Mission.
Don't Worry.

Send the data measured by UA Series
to the server, cloud storage service
through the LAN/WiFi

WiFi
Remote Monitoring via WiFi

RADIONODE®

24.10
33.09

TEMP/RH

RADIONODE®

RN17X

Sensor Data Transmitter

| WiFi | Easy wireless connection |
| PoE | Power and LAN communication at once |

Model Name

RN171	Ethernet Sensor Data Transmitter
RN172	WiFi Sensor Data Transmitter

Hardware Spec.

Dimension	H90 * W50 * D30 mm
Power	6V DC / 48V PoE
LAN	100Mbps
WiFi	IEEE802. 11 B/G (WPA, WPA2, WEP)
USB Port	Data in from UA Series or Config.
Display	2 Channel 4 Digit Display / 1 LED for Status
Alarm	Buzzer Inside
Mount Type	2 Screw Hole
Certificate	FCC / KC Compliance

Replaceable
USB
Sensor

UA10
Temp/RH
Sensor

UA50
tVOC
Sensor
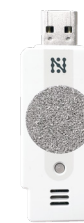
UA52
O2
Sensor

Software Functions

- Auto IP Allocation (DHCP On)
- HTTP Transmission to server
- HTTP Sending Interval (1Min ~ 60Mins)
- Telnet for Config. / AT Commands
- MODBUS TCP - Holding Register
- UDP Broadcasting
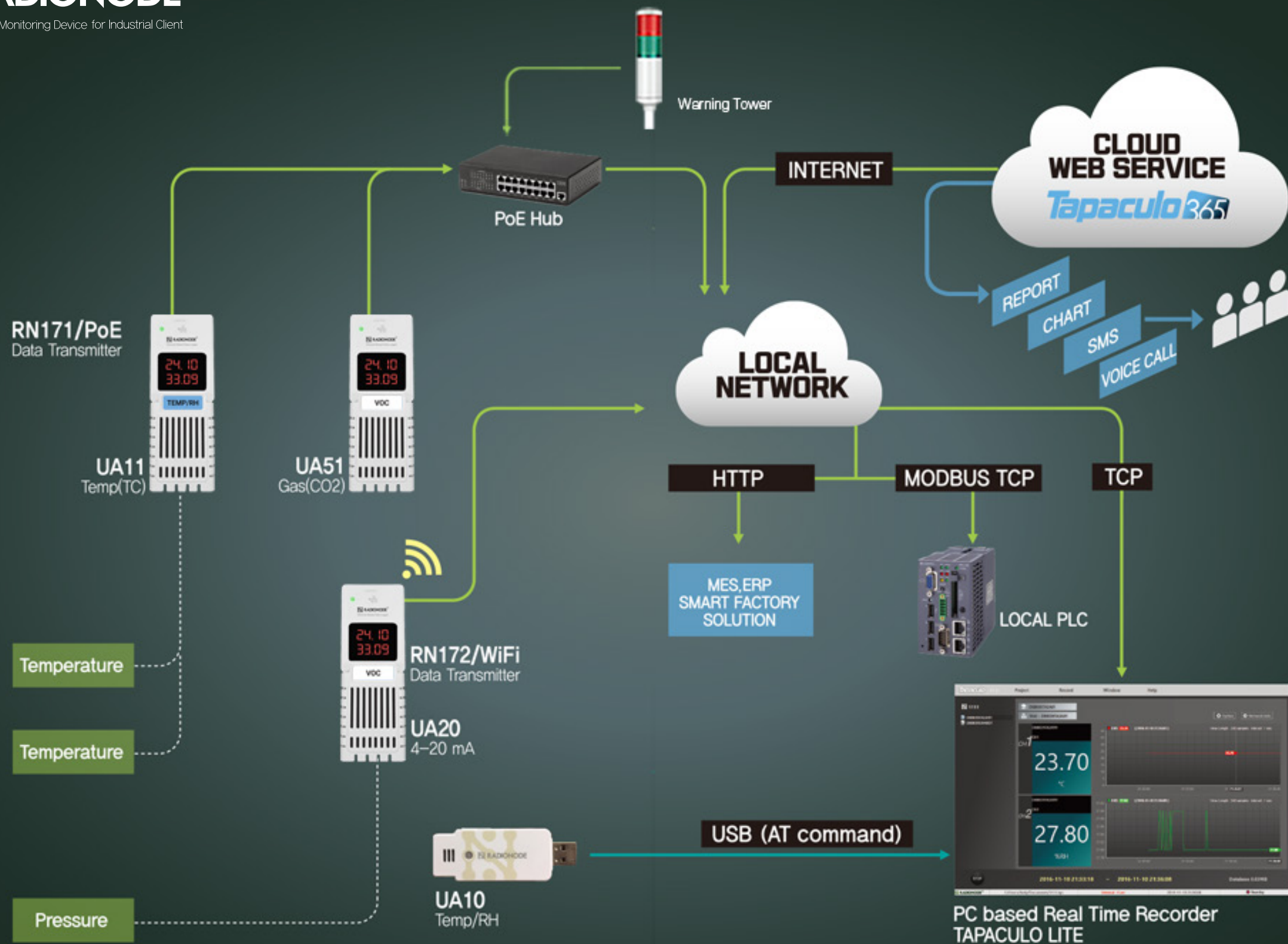- Cloud Monitoring Service (TP365)
- SMS / Call Alert

18

Tapaculo365 S2

No more install
the infrastructure !

Just Sign in for Tapaculo365 SaaS to access all your sensor data and device.

s2.tapaculo365.com

Tapaculo 365 service is developed and operated by Dekist Co., Ltd. It is professional management software for sensor data in client facilities.
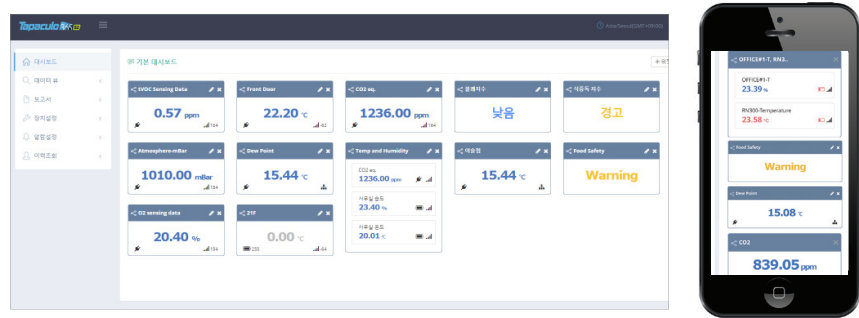Just pay a service subscription fee at low cost and use Tapaculo365 immediately.

powered by
amazon
web services

22

Tapaculo365

01.
Real-Time DASHBOARD

Dashboard is a group of alive data channels that you would want to check out instantly.
You can also put your own logo on this dashboard. Create your own dashboard.
Anytime, anywhere you can remotely monitor the equipments or facilities with web browser accessing.

Red colored text means that the sensor value is out of range. Audible alarm is given off to inform the people on the site.

02.
Huge Data Storage

For example, If you record the temperature every minute in a year, there will be 525,600 temperature records. In the case of 20 sensors, you should manage more than 1000 million records.
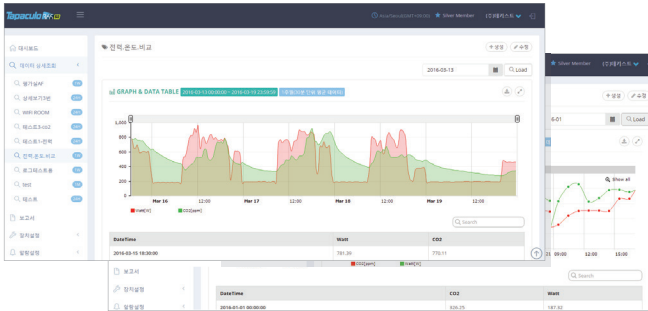
Tapaculo365 has a tremendous storage space for all the data from the RADIONODE device. Regardless of the number of sensors, our customers can access all the sensor data during past 3 years on thier account.

03.
Make your own View

Customers can create their own views in which multiple sensors are selected. In these views, the users can browse all the data within a specific time duration. Check within 24 hours, 1 week, or 1 month.
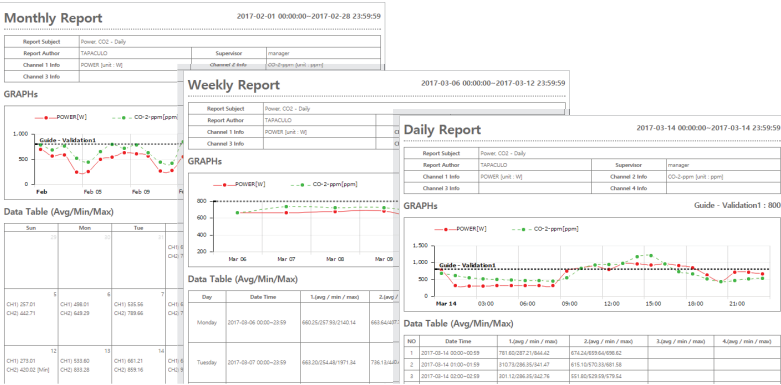Also, you cas compare several data channels at the same view chart.
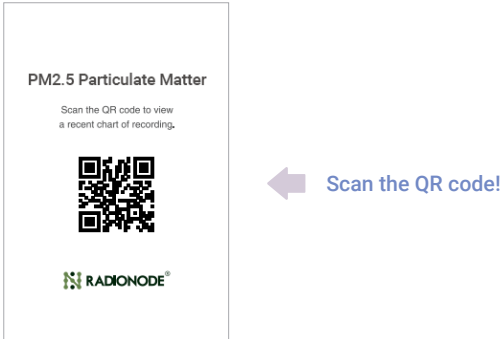

04.
Print a Report

Make good-looking reports from your sensor data base.
Basically, Tapaculo365 has a daily/weekly/monthly report form. Also, you can receive a MKT(Mean Kinetic Temperature) report. With this, you no longer need to calculate MKT separately. You can quickly decide whether to follow a complex deviation procedure (SOP).

Goodbye to write a report with your own hands. All reports can be emailed to you at the scheduled time.

05.
Provide
QR code Apps

Print the QR code from Tapaculo365 and paste it near your place.
It makes you see the sensor data flexibly.
When you scan it on your smartphone , on-site sensor data will appear immediately.
See and share graphs for 1, 3, and 7 days of data.

PM2.5 Particulate Matter

Scan the QR code to view
a recent chart of recording.

RADIONODE®

← Scan the QR code!

06.
Urgent Alert
Message

The users can set up their own threshold value on each sensor channel.
A message alert can be delivered via a phone call, SMS or e-Mail. To be able to use it, your Tapaculo365 account has to have SMS/Call credits.
You don't need any contract of telecommunication company.
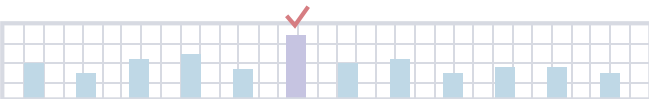Just buy some credit on your Tapaculo365 account with your credit card.

Support language

Korean, English, Chinese, Japanese, Vietnamese, Thai

Configuration Screen

· Alarm Name : ABC Pharma. 1F Lab
· Data Channel : Lab1 Temp (Device ID : xxxxxxxx-xxxxxxxx)
· Normal Range   -10 ~ 5 ℃
· No Initial Detection   20 Min
· Snooze   30 Min
· Type   Call Alert(TTS)
· Recipients : John(OFF: SAT, SUN), James(OFF: MON, WED, FIR)
· User Text to Speech   OUT OF RANGE!
                        Lab1 Temperature is too high!
                        Current temperature [XXX]

CALL
SMS
SAVE
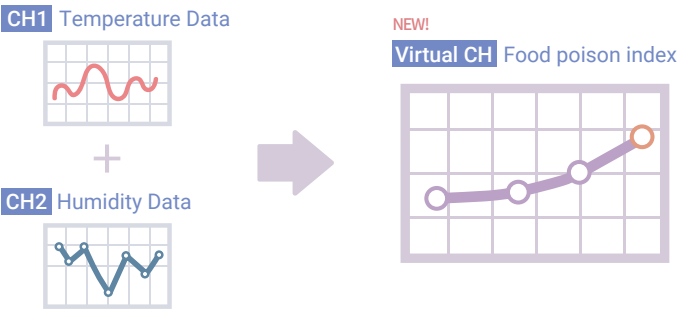
07.
Deviation
Reports

You can check the SMS/Call history of how the credit was used. Which sensor was the most problematic? You can also see who received the alarm and when.

08.
Virtual
Channel

Even if there is no real sensor, you can create a virtual channel by combining the values of existing sensors. Data is generated by your formula. For example, when you need some specific data such as food poisoning index and dew point, you could calculate them by appling your own mathematic formula to existing temperature and humidity channel data. Now you can receive reports/alarms of food poisoning index, condensation and so on.
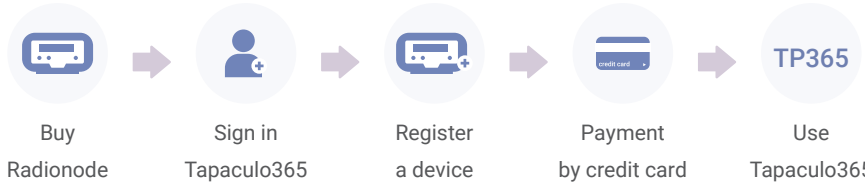
What information is meaningful to you?
Set a SMS alerts on the food poisoning index!

CH1 Temperature Data

NEW!
Virtual CH Food poison index

+

CH2 Humidity Data

09.
Additional
Features

✓ Device / Channel Management
✓ Power outage / Low battery warning
✓ Notification of Internet lost
✓ Audit Trail

✓ Time Zone
✓ User Access Log History
✓ OPEN API
✓ IQ/OQ Protocol

10.
How to use

Buy
Radionode

Sign in
Tapaculo365

Register
a device

Payment
by credit card

TP365

Use
Tapaculo365

11.
Low Cost

If you use about 40 channels, you can register as an ECO member.
The annual fee is USD 330(Offer SMS / Call / e-Mail credit).

For more price plan, please contact our sales team