

Solar energy, wireless networks and sensor solutions

SRPC Series

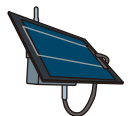
Tracking System



SRPC-RRS

active tag.

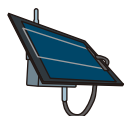
Weather observation



SRPC-WJ-WS

wind, precipitation, temperature, humidity

Agricultural support



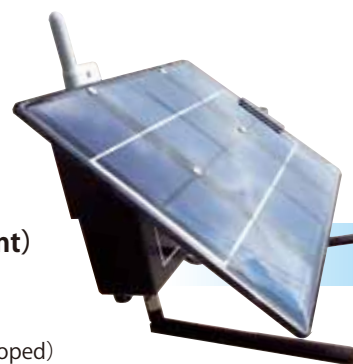
SRPC-AGR (in development)

example)

SRPC-AIR...CO2 sensor (Developed)

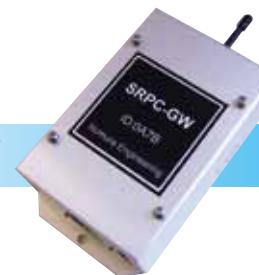
SRPC-TS03-AS...Trap sensor (Developed)

Active tag



SRPC-RRS

Mobile Gateway and Wired Gateway



■ SRPC series;

consists of solar panel, LiFePo4 battery, wireless system and various sensors.

It's really compact rain proof case with pole mounting bracket and provide a versatile wireless network solutions.

Built-in solar energy system;

8W solar panel, MPPT(Maximum Power Point Tracking) solar charger and 3.2V 10A LiFePo4 battery provide a independent power supply for the system operation. Web monitoring system provide a user friendly view for monitoring battery voltage, charge current, load current which are dynamically updated every 15minutes.

Various sensing data from anywhere ;

Temperature, humidity, CO2, wind, precipitation, tag and various sensor devices can be connected to SRPC via versatile interface boards. Multiple SRPCs can be installed at intervals of 2km maximum in a daisy chain connection and one gateway manages those SRPCs. Each SRPC transfer those data to the network server via mobile gateway or wired gateway through the internet, or directly to the PC.

True wireless solutions ;

The SRPC unit does not require any wired connection is a complete wireless solution capable of working independent of AC power supply. SRPC series operates at 400MHz license free band which eliminate licensing costs. The unit can communicate within a radius of 2km and at height of 2M of line of sight.

User friendly web monitoring system ;

The results of collected sensor data will be properly processed by the server and presented to the user on PC or smartphone. Free sample server software, starter kit and the maintenance PC software are provided so as to enable customers to quickly launch the monitoring system.

Configuration example)

SRPC will be able to collect data from the various sensors using the same wireless communication system.

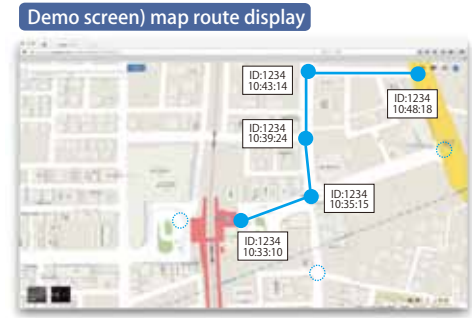
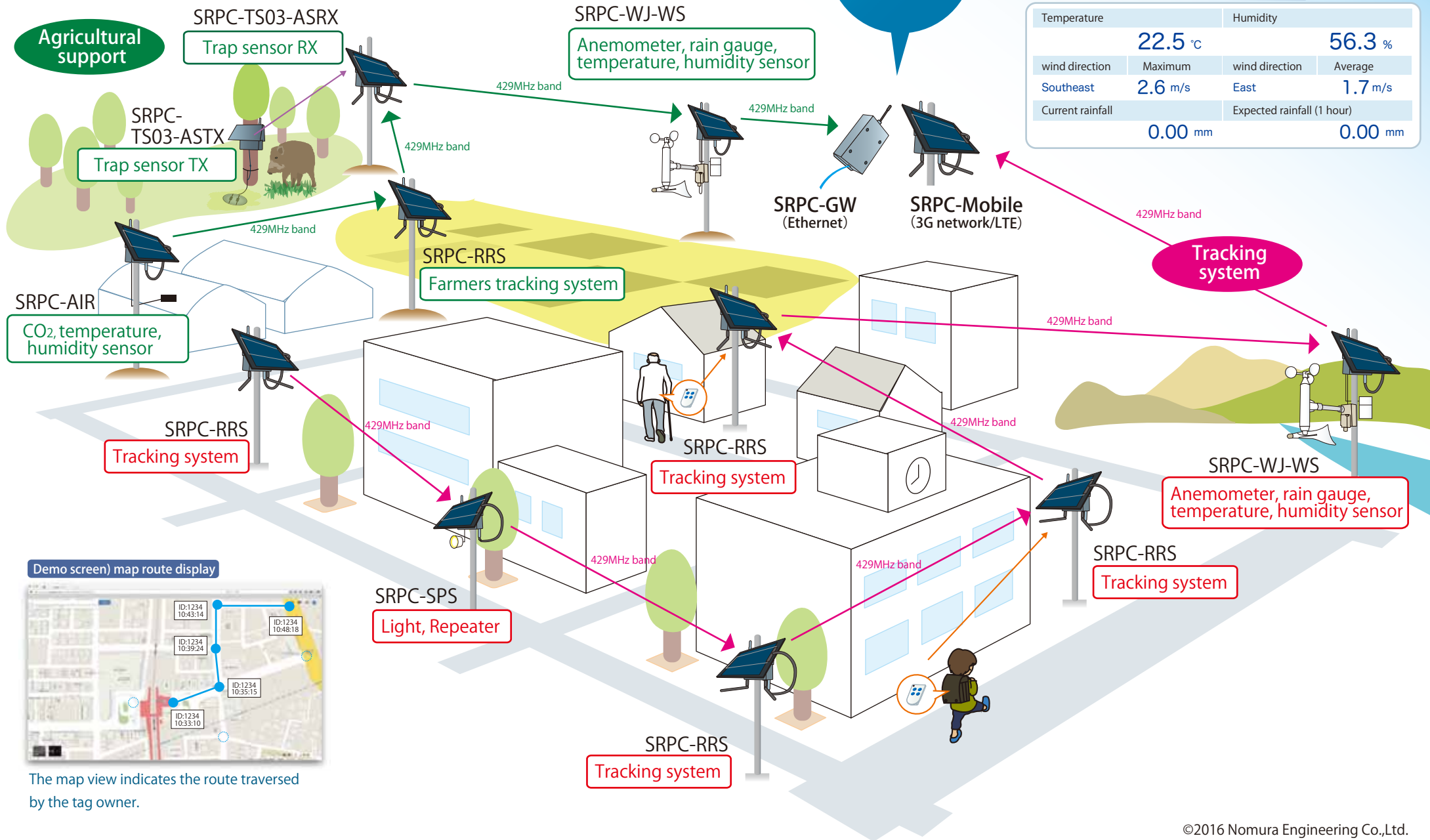
- Route① Agricultural support
- Route② Tracking system & Disaster prevention

All data is transferred to the Internet.

Log management, data analysis, graphing, anomaly detection, Tracking System will be displayed on the web. Emergency-mail notification function.

Demo screen) meteorological real-time display

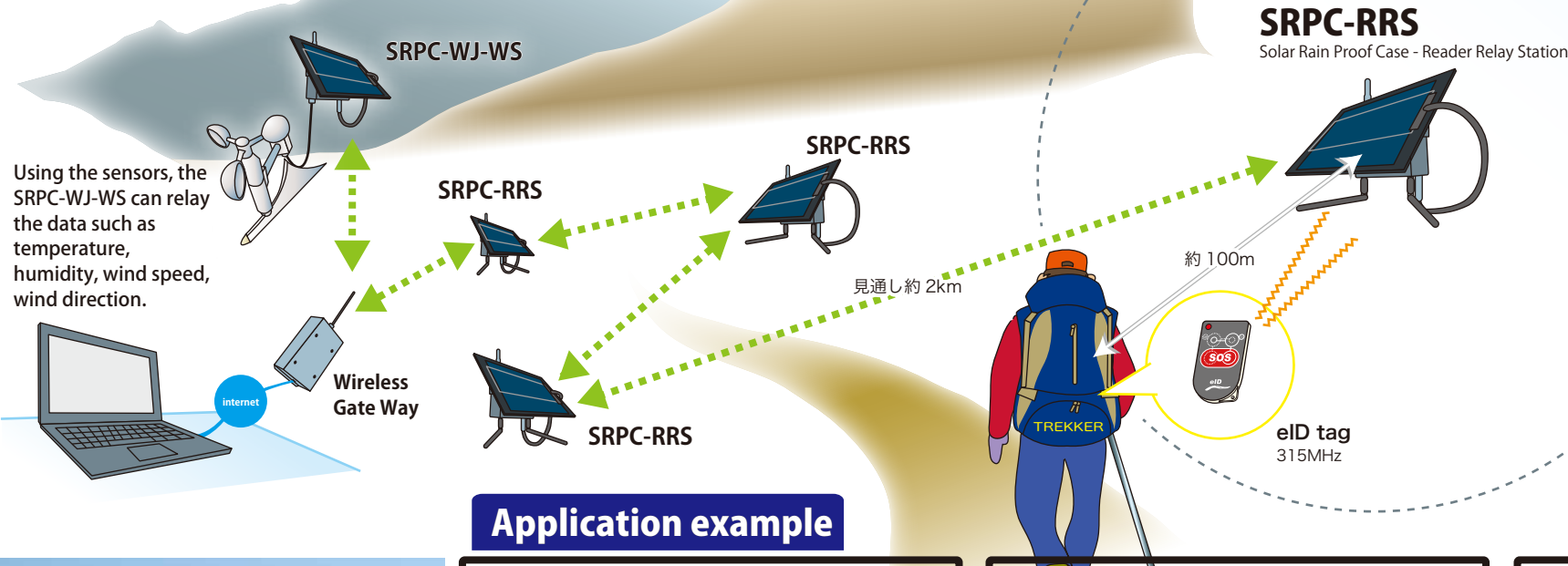
| | | | |
|------------------|----------------------------|----------------|---------|
| Temperature | Humidity | | |
| 22.5 °C | 56.3 % | | |
| wind direction | Maximum | wind direction | Average |
| Southeast | 2.6 m/s | East | 1.7 m/s |
| Current rainfall | Expected rainfall (1 hour) | | |
| 0.00 mm | 0.00 mm | | |



The map view indicates the route traversed by the tag owner.

Nepal Trekkers Tracking System demonstration

It has been installed on the 2,000~3,000m grade trekking course of Nepal. User friendly web portal will display the current position and passing information of trekkers. The family far from the country can be updated with the whereabouts of the trekker.



Application example



Kumamoto Pref.

Agricultural support

| | | | |
|---------|--------|---------|--------|
| 22.1 °C | 92.8 % | 25.5 °C | 57.7 % |
| 25.4 °C | 59.4 % | 00:00 | 00:00 |

Nagano Pref.

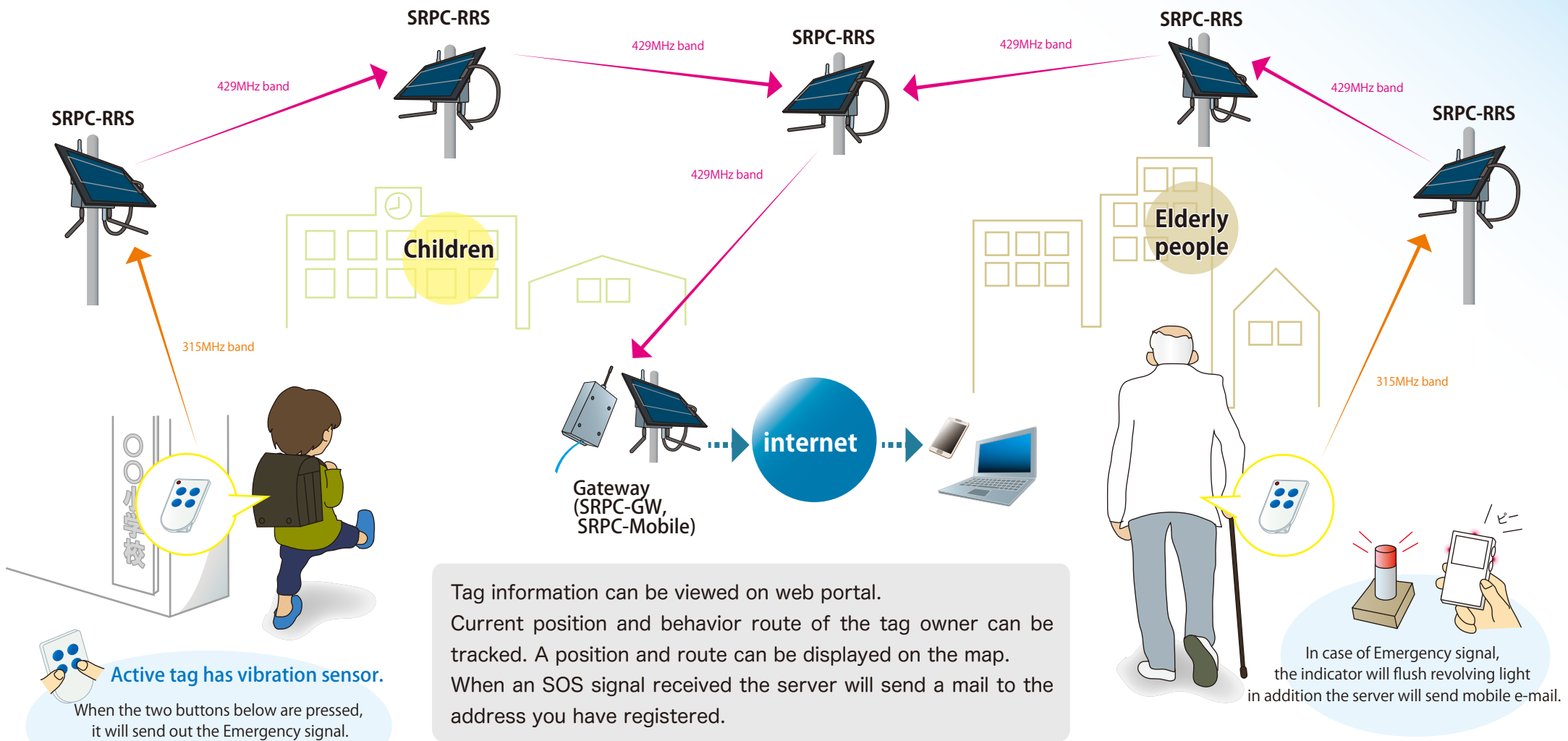
Trap sensor for wild boar

Kanagawa Pref.

Attendance management using the tag

Children & Elderly people Tracking System

SRPC-RRS (tag receiver) will monitor the current position and behavior route of person such as children and the elderly with a tag.



Tag information can be viewed on web portal.
 Current position and behavior route of the tag owner can be tracked. A position and route can be displayed on the map.
 When an SOS signal received the server will send a mail to the address you have registered.

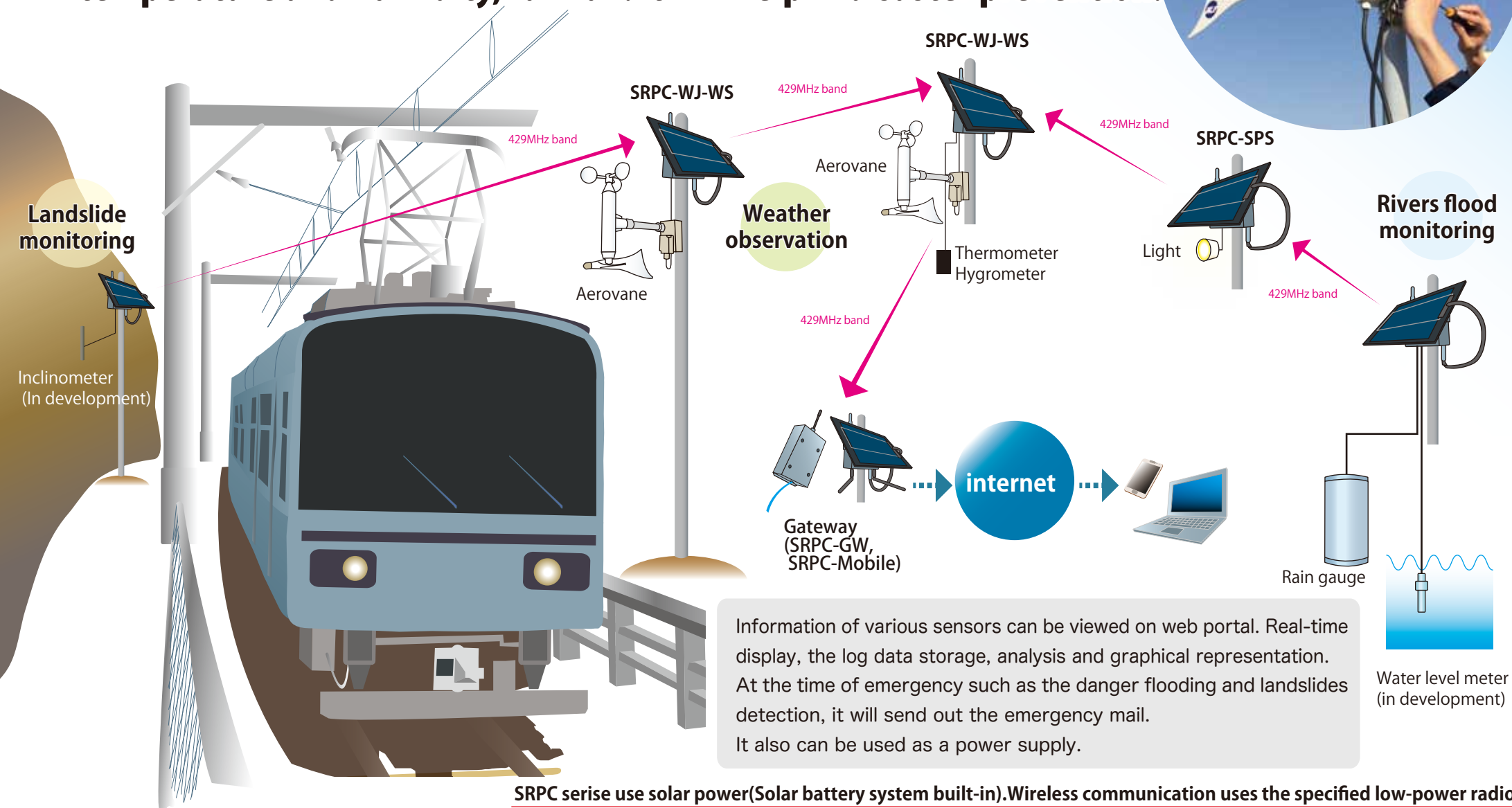
Active tag has vibration sensor.
 When the two buttons below are pressed, it will send out the Emergency signal. Server will send an emergency e-mail. It will help in rescue and regional security.

In case of Emergency signal, the indicator will flush revolving light in addition the server will send mobile e-mail.

SRPC serise use solar power(Solar battery system built-in).Wireless communication uses the specified low-power radio.

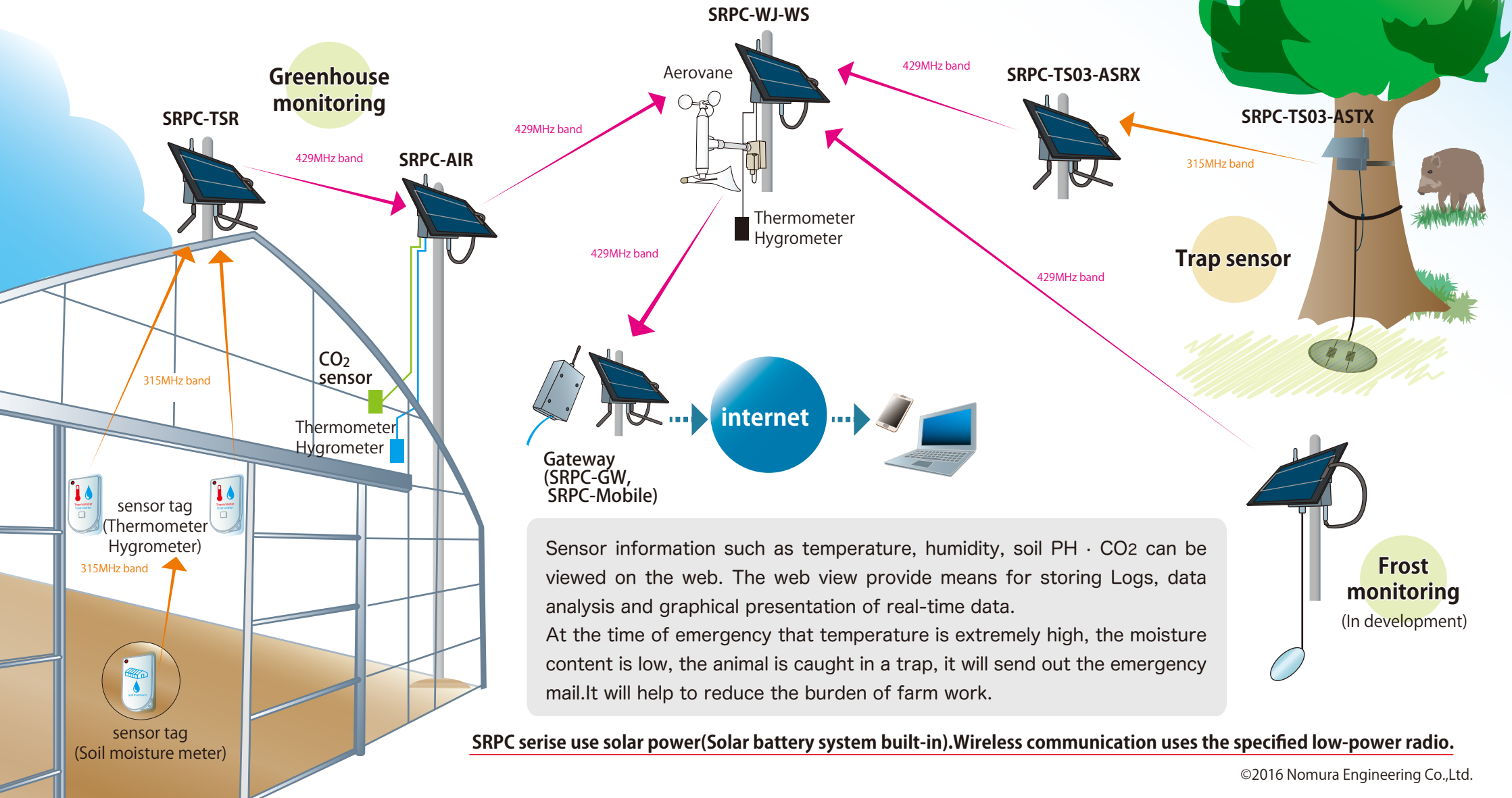
Weather observation

SRPC collects the sensor information such as wind direction, wind speed, temperature and humidity, rainfall. It will help in disaster prevention.



Agricultural support

SRPC collects the sensor information such as temperature and humidity, trap sensor, concentration of CO₂. It improves efficiency in a Greenhouse monitoring.

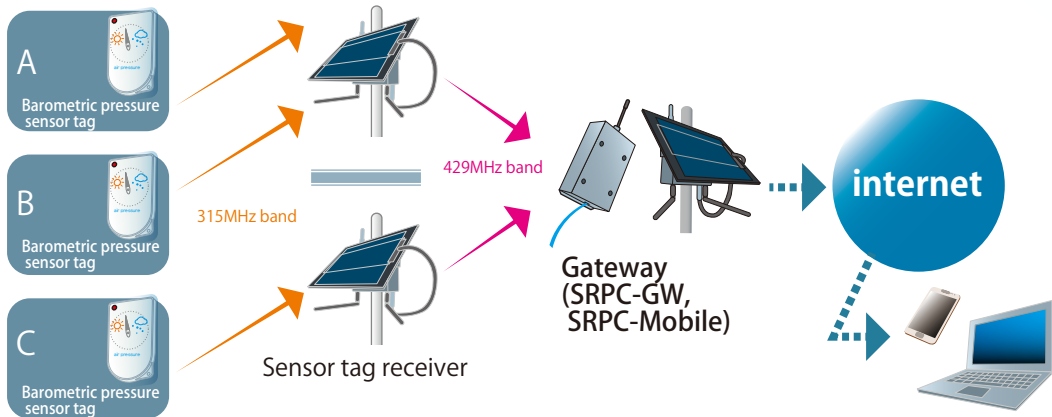


Sensor information such as temperature, humidity, soil PH · CO₂ can be viewed on the web. The web view provide means for storing Logs, data analysis and graphical presentation of real-time data. At the time of emergency that temperature is extremely high, the moisture content is low, the animal is caught in a trap, it will send out the emergency mail.It will help to reduce the burden of farm work.

SRPC serise use solar power(Solar battery system built-in).Wireless communication uses the specified low-power radio.

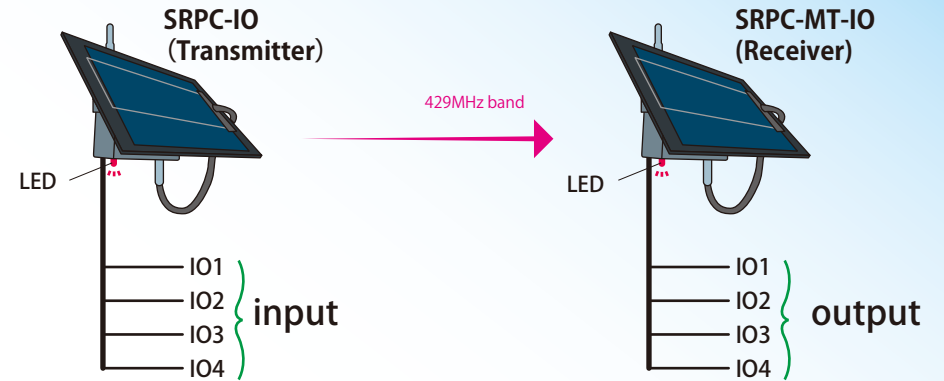
Inventory control

It detects the location of the industrial equipment with the tag. A barometric pressure sensor tag can find out the current location of the equipment.



ON/OFF Control

SRPC-IO can control 4 contacts for use in stand-alone.



Software for Windows

① Setting, monitoring, CSV file output

This is a Windows software for performing route settings and status check of SRPC.

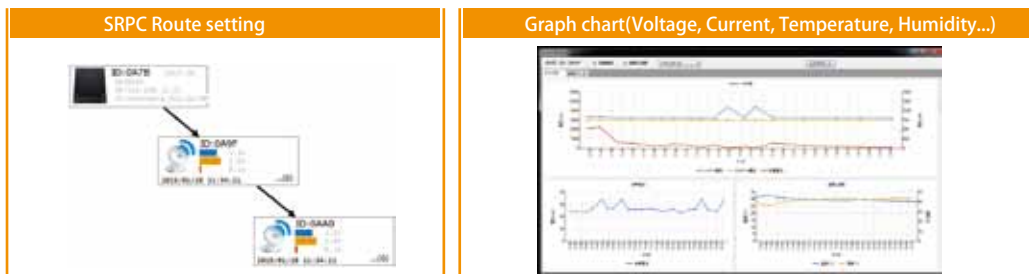
② Graph chart

This software will easily create graph by combining the necessary sensor data.

③ Data analysis

This software has the analysis of the log data.

It is possible to get the value(average value, maximum value, minimum value...) by specifying a date range, a date & time range.



How to install the SRPC

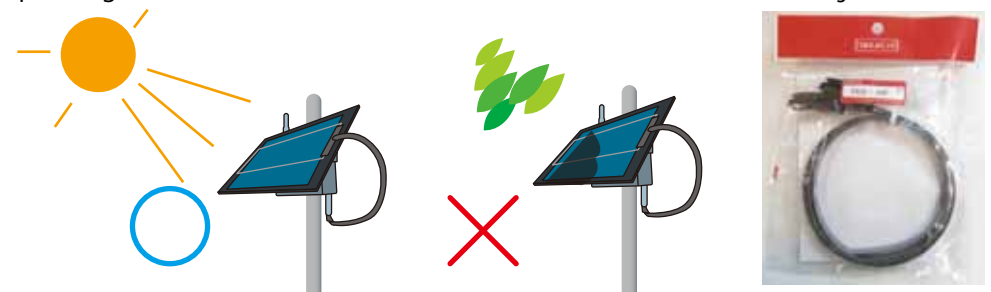
① Install the solar panel in the direction of direct sunlight.

South-facing is the best.

In the case of east and west, it is desirable to install it in the place where the sunlight strikes for at least three hours a day.

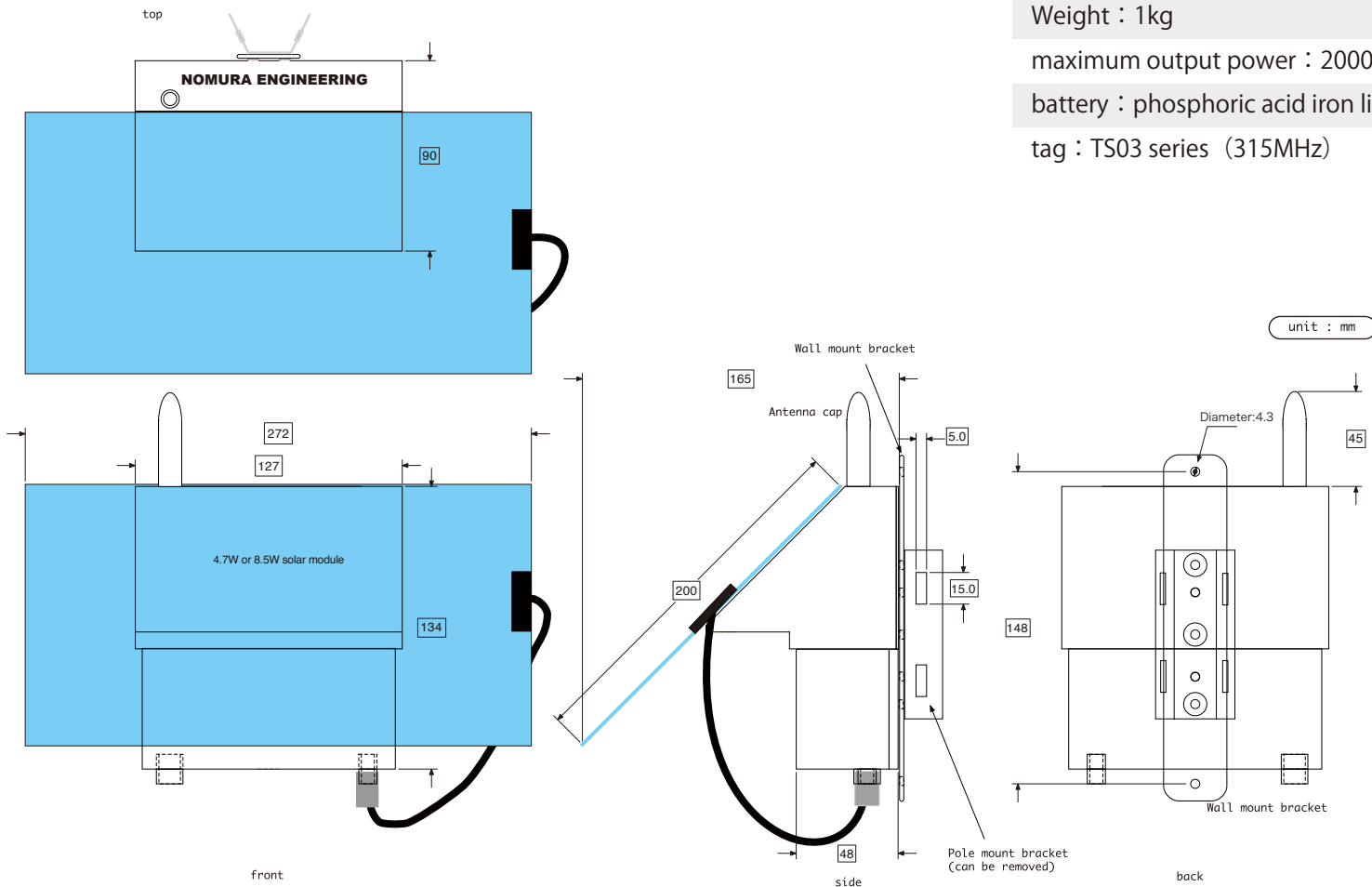
② Install the solar panel to the place that there is no shadow to the panel.

When the shadow is applied to the part of the solar panel, the total amount of power generation will be reduced.



SRPC Series

External dimensions



Electrical Specifications

- Frequency : 429.2500 ~ 429.7375MHz
- Comm protocol : original protocol
- Communication distance : 2km
- consumption current : 40mA (Except for the external current consumption)
- Output voltage : 3.2V,5.0V,12V
- RF Power : 10mW
- Operating temp. : -20 ~ 60°C (non condensing)
- Size : dimensional outline drawing
- Weight : 1kg
- maximum output power : 2000mW
- battery : phosphoric acid iron lithium battery 3.2V 10Ah MPPT charge method
- tag : TS03 series (315MHz)

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