Before using the Remote Sensor, read this manual carefully. During installation and operation, pay close attention to the safety aspect.

- Please turn off the Remote System before any performances such as mounting, maintenance or breakdown.
- Ensure correct connections by reference to the wiring diagram.
- To avoid malfunction caused by induction noise, cable should be kept apart from motor or other power cable.
- Work for a while or immediately after operation, please do not touch the (power supply unit, charging Unit, Head part) hot spots. Doing so could result in burns.
- This product, which is one of those high frequency utilization equipment of Radio Law, upon use you will need to install application. Please use it after you have made the application without fail. Installation details of the application procedure, see Telecommunications websites of the Ministry of International Affairs and Communications, Please.
- This product has become a Japan national specification. It can not be used outside of Japan. It can not be used outside of Japan. When used outside of Japan, I guess we assume any liability.

### Specification

**Charging unit**: RCS210-PB24

- **input voltage**: 100V/24V
- **current consumption**: Max 300 mA
- **Protection class**: IP50

**Supply Unit**: RCS240AC1

- **Type code**: RCS240PH
- **Output voltage / current**: 100V/24V
- **Protection class**: IP50

**Protection circuit**

- Input over voltage protection
- Battery high temperature / low temperature protection
- Battery over current protection
- Battery reverse connection protection

**Accessories**

- Output cable (1.5m)
- Thermo switch (1.5m)
- External device communication connector (4 screws M6x15)
- Power cable (3m)
- One ferrite clamp
- Parallel driving
- Sense shunt
- Signal output time required

### Wiring

**Charging side (RCS210-PB24)**

1. The output terminal for batteries
2. The terminal for thermistor
3. Input signal (voltage monitor request signal)

Other than at the time of charging, it is used when you want to output the batteries voltage monitor request signal.

Input current: 100mA
Input voltage: 7.5V~30V

**Output signal**

Each output signal is open-collector. The maximum current value and the maximum output voltage, please connect so as not to exceed the maximum value by referring to the following values.

Connect the load before doing so, please do not short-circuit the output signal.

### System configuration

**Power supply unit**

- **Type code**: RCS240PH
- **Application charging unit (power supply unit)**: RCS210-PB24
- **Protection class**
  - Operat. / Storage temperature: 0~40°C / -40~85°C
  - Center offset: ±1mm or less

**Protection class**

- Operat. / Storage temperature: 0~40°C / -40~85°C
- Center offset: ±1mm or less

**Connectors**

- Battery connection screw, Thermo switch connection screw (4 screws M6x15)
- Terminal screw size is M6B

**Power supply unit**

- Input voltage: 100V/24V
- Protection class: IP50
- Power cable (3m)
- One ferrite clamp

**Sealing**

- Input over voltage protection
- Battery high temperature / low temperature protection
- Battery over current protection
- Battery reverse connection protection


**Power supply unit side (RCS240-AC1)**

1. Connector for the active head
2. Connector for the active head
3. Start-up signal

![Power supply unit diagram]

- This is the ON / OFF signal of the power supply of the Active head.
- Either the ON / OFF switch operated by a separate, please use always ON. (With jumper, Factory)

<table>
<thead>
<tr>
<th>Power supply unit</th>
<th>Internal circuit</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Power supply unit diagram" /></td>
<td></td>
</tr>
</tbody>
</table>

- Maximum load current: 50mA
- Maximum load voltage: 30V

**Input signal pin assignment**

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
</tr>
</thead>
<tbody>
<tr>
<td>L+</td>
<td>L-</td>
<td>M+</td>
<td>M-</td>
<td>H+</td>
<td>H-</td>
<td>F+</td>
<td>F-</td>
<td>C+</td>
<td>C-</td>
<td>I+</td>
<td>I-</td>
<td>N+</td>
<td>N-</td>
</tr>
</tbody>
</table>

- Please note that the signal may become unstable (false signal or chattering) when the transmission distance and the center offset are outside the specification range.
- Please note that it does not guarantee signals output outside the specification range.

**Surrounding metal**

To avoid influence of surrounding metal, keep minimum spacing. Remove metal chips or metallic debris on the active surface. Metal chips or metallic debris may damage to device or cause unexpected trouble.

**Mutual interference**

If you are installing in parallel head, to avoid the effects of mutual interference, please attach the head with an interval greater than or equal to the value shown in the table below always.

- **Type code**
  - HC2420AH
  - HC2420HM
- **Current**
  - 100mA
  - 40mA
  - 45mA

**Attachment**

Power supply unit and Charging unit, in order to obtain a good cooling effect, please keep as shown below the separation distance between the surrounding body so as not to block the airflow.

![Attachment diagram]

- Active Cable and Passive Cable: R ≥ 50
- Signal Cable line: R ≥ 30

**Center off-set and transmitting distance**

The permissible center off-set of the feed head and charging head, please be installed so that the total (X + Y) axis deviation of the width of the X-axis - Y-axis is the following table.

<table>
<thead>
<tr>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>As a display function, I can be found in the LED displays the status of the equipment.</td>
</tr>
<tr>
<td>- As a protective function, it has the ability to detect abnormalities such as overheating during charging. In that case, you can operate the protection circuitry to protect the equipment.</td>
</tr>
<tr>
<td>- It is equipped with a communication function, it performs radio communication with charging side between the power supply side, we are state control and charging.</td>
</tr>
</tbody>
</table>

The following shows the contents of the **<display function>** - **<protection>**.

<table>
<thead>
<tr>
<th>State of equipment</th>
<th>Display content</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermittent oscillation state</td>
<td>This is a state in which power have been turned on to the power unit, passive head is not in the operating area of the active head.</td>
</tr>
<tr>
<td>State of charge (L)</td>
<td>is charging. (Charging amine amount than 50%)</td>
</tr>
<tr>
<td>State of charge (M)</td>
<td>is charging. (Charging amine about 70%)</td>
</tr>
<tr>
<td>State of charge (H)</td>
<td>is charging. (Charging amine about 90%)</td>
</tr>
<tr>
<td>Float charging state</td>
<td>If the charge current value becomes below a specified value, we will change to this mode.</td>
</tr>
<tr>
<td>Charging voltage error</td>
<td>Battery voltage outside of adaptation have been connected, the voltage of the battery side is down to abnormal. Please connect the correct battery.</td>
</tr>
<tr>
<td>Battery reverse connection of non-connection error</td>
<td>Battery terminal is turned in reverse, cable is disconnected. Please check terminal, the cable.</td>
</tr>
<tr>
<td>Over current error</td>
<td>Charging voltage was increased abnormally. (About 20% or more) Since there is a possibility of equipment failure, you must have inspection and repair.</td>
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</tr>
<tr>
<td>Battery overheating</td>
<td>The battery becomes the specification temperature outside. (Specification temperature is 0° to 40° degrees.) Please review the ambient temperature environment of the battery. Or thermistor is disconnected.</td>
</tr>
<tr>
<td>Input voltage error</td>
<td>Input voltage from the passive head is abnormal. Please check distance and center off-set between the heads is entering specifications within. If you are still unable to resolve the problem, there is a possibility of equipment failure.</td>
</tr>
<tr>
<td>Head overheating</td>
<td>Head temperature has been used to the maximum temperature (60°C) or more. Please on the power again after cooling the head. If you are still unable to resolve the problem, there is a possibility of equipment failure.</td>
</tr>
</tbody>
</table>

*If an abnormality is detected, the unit will stop the charging operation.*

**Mounting the ferrite clamp**

The installation of the bundled ferrite clamp is necessary to meet a standard of the EM150201000-4-3. Please attach a ferrite clamp to a power cable by 2 turns with following points each.

- It is one within 20cm from a power supply unit.
- It is one within 20cm from a power cable of the active head.
- It is one within 20cm from a passive head to the power cable of the passive head. |