

**Remote Power supply system  
210W specification RCS series**

Charging unit : RCS210-PB24  
Power Supply unit : RCS240-AC1  
Passive Head : RCS240PH  
Active Head : RCS240AH

**Attention for Installation**

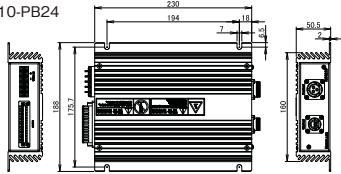
(Read this section thoroughly before installation.)

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

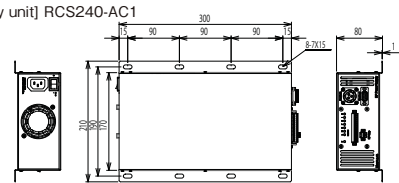
- ◆ Please turn off the Remote System before any performances such as mounting, maintenance or breakdown.
- ◆ Ensure correct connections by reference to the wiring diagram.
- ◆ To avoid malfunction caused by induction noise, cable should be kept apart from motor or other power cable.
- ◆ Work for a while 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 website of the Ministry of Internal 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 You.

**Dimension**

[Charging unit] RCS210-PB24



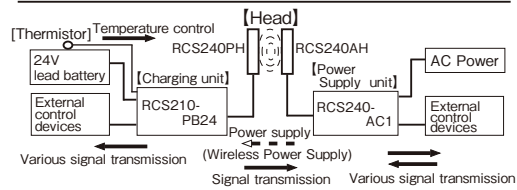
[Power Supply unit] RCS240-AC1



**Specification**

	Charging unit RCS210-PB24	Power Supply unit RCS240-AC1
Type code	RCS210-PB24	RCS240-AC1
Rated input voltage	-	AC100V / AC200V
Output voltage / current	Max30V / Max7A	-
Current consumption	-	4A
Operating / Storage temperature	0 ~ 40°C / 0 ~ 50°C	0 ~ 50°C / 0 ~ 50°C
Protection class	IP20	IP20
Connec- tion	Power supply / signal	Round 3 pin / Round 5 pin
	Power	-
	Terminal block	Battery connection(2-pole), Thermistor connection (2-pole), Terminal width is 6.2 mm or less, Terminal screw size is M3.
Cooling method Protection circuit	Various signal connector	Refer to the following page "wiring."
	Natural air cooling	Forced air cooling
	Input overvoltage protection	-
	Battery high temperature / low temperature protection	-
Accessories	Battery not connected protection	-
	Battery reverse connection protection	-
	Output cable (1.5m), Thermistor with cable (1.5m), External device communication connector, 4 screws M6x15	Power cable (2m), External device communication connector, 4 screws M6x15, One ferrite clamp
Parallel driving	None	-
Series driving	Available	-
Signal output time required	Up in zone signal light from entering the head transmission area ≤ 5s To start charging from the in-zone signal lights ≤ 5s	-

**System configuration**



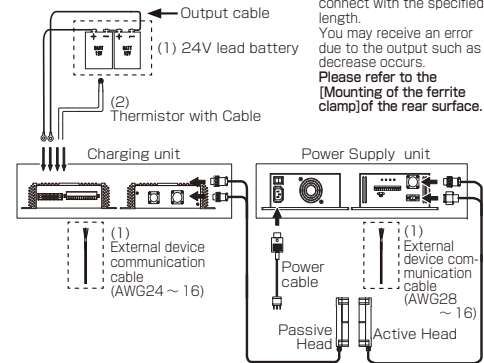
[Function of each component]

**Power supply unit :** I will convert to the high-frequency power supply, the AC power. Further, in response to the (power supply start signal) input signals, supplies a high frequency power to the Active head, and output control equipment in Zone signal and various signals Active head is received.

**Charging unit :** And is Charging to the battery. It regularly monitors the battery voltage and output voltage [battery monitor signal H, M, L] as the result.

**Head :** I can carry a variety of signal and power transmission in a non-contact.

[Connection diagram]

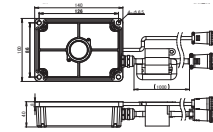


- (1) Parts of the dotted line (External device communication cable and 24V lead batteries) within the product is not included with this product. They are contents prepared and processed of a visitor.
- (2) I have you use the attached article always, please paste it into the top portion of the terminal near the 24V lead battery thermistor. In the case, please do not touch any terminals.

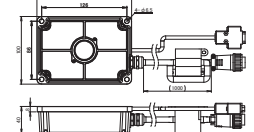
\* Each cable, please connect with the specified length. You may receive an error due to the output such as a decrease occurs. Please refer to the [Mounting of the ferrite clamp] of the rear surface.

**Dimension**

[Passive Head]  
RCS240PH



[Active Head]  
RCS240AH



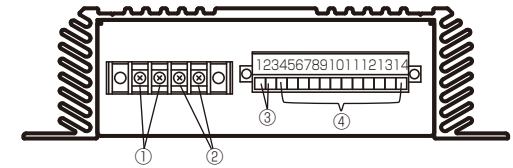
**Specification**

	Passive Head	Active Head
Type code	RCS240PH	RCS240AH
Application charging unit / power supply unit	RCS210-PB24	RCS240-AC1
Rated gap	Distance	10mm
	Center offset	The sum total of gap of length and width is 10 mm or less.
Operating / Storage temperature	0 ~ 50°C / -10°C ~ 50°C	
Protection class	IP65	
Connection (With the connector cable 1m)	Supply	Connected to the Charging unit at the (female) 3-pin round
	Signal	Connected to the Charging unit at the (female) 5-pin round
Accessories	4 screws M6x15, One ferrite clamp	

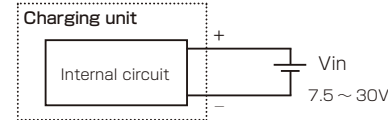
**Wiring**

● Charging side (RCS210-PB24)

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



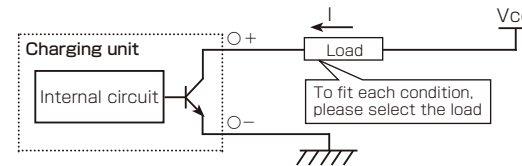
Other than at the time of charging, it is used when you want to output the batteries voltage monitor request signal.



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

④ 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.



- Maximum load current : 5mA
- Maximum load voltage : 24V

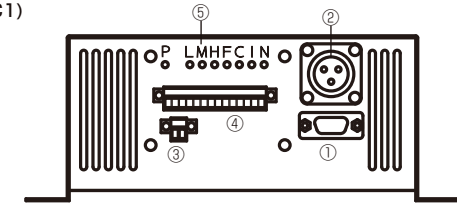
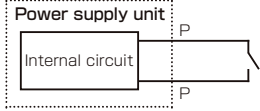
<Input signal pin assignment>

1	2	3	4	5	6	7	8	9	10	11	12	13	14
+	-	H+	H-	M+	M-	L+	L-	F+	F-	C+	C-	N+	N-

	Signal type	Pin number	Contents
Input	Voltage monitor request	1,2	It monitors the battery voltage and the voltage applied to this pin, and the output voltage monitor signal.
	Voltage monitor signal H	3,4	It is almost fully charged. (Charging aim: about 90%)
Output	Voltage monitor signal M	5,6	If the charge has been reduced somewhat. (Charging aim: about 70%)
	Voltage monitor signal L	7,8	It needs charging for charging amount is reduced. (Charging aim: less than about 50%)
	Float charging signal	9,10	It turns on, when a charging current value turns into a rated value.
	charging signal	11,12	It will turn OFF during charging ON, in charge cut-off and float charging start.
Error signal	13,14	It turns on, if a battery error occurs.	

● Power supply unit side (RCS240-AC1)

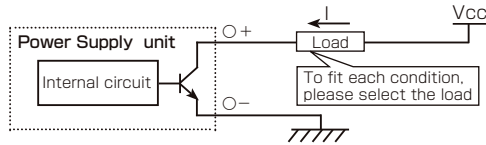
- ① Connector for the active head
- ② Connector for the active head
- ③ Start-up signal



※ 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)

④ Various 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.



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

<Input signal pin assignment>

1	2	3	4	5	6	7	8	9	10	11	12	13	14
L+	L-	M+	M-	H+	H-	F+	F-	C+	C-	I+	I-	N+	N-

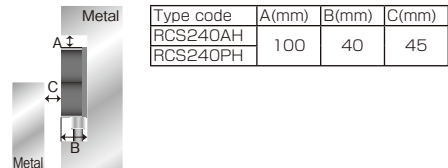
⑤ LED

Signal type	LED	Contents
Input Start-up signal	P	Shorting this signal, performs the power supply to the power head, power head starts oscillating, and then start the communication signal and power supply to the powered head. I want intermittent oscillation if there is no reception head.
Output	Voltage monitor signal L	L It needs charging for charging amount is reduced. (Charging aim:less than about 50%)
	Voltage monitor signal M	M If the charge has been reduced somewhat. (Charging aim:about 70%)
	Voltage monitor signal H	H It is almost fully charged. (Charging aim:about 90%)
	Float charging signal	F It turns on, when a charging current value turns into a rated value.
	charging signal	C It will turn OFF during charging ON, in charge cut-off and float charging start.
Inzone signal	I It will if ON is in the transmission area within the Active head / Passive head.	
Error signal	N It turns on, if a battery error occurs.	

- ◆ 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.
- ◆ The inzone signal is a preliminary signal for confirming that the output signal is established within the specification range. Please note that it does not guarantee signals output outside the specification range.

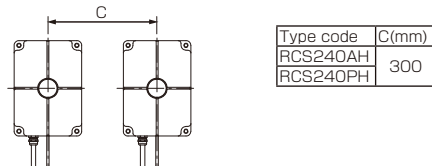
Surrounding metal

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



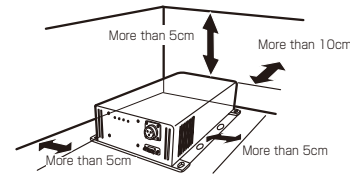
Mutual interference

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.



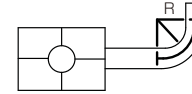
Attachment

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.

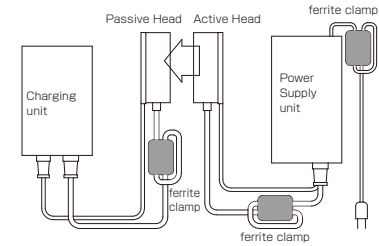


Please make the following is greater than or equal to the number of R(mm) bending of the cable line.

- Active Cable and Passive Cable :  $R \geq 50$
- Signal Cable line :  $R \geq 30$



Mounting of the ferrite clamp



The installation of the bundled ferrite clamp is necessary to meet a standard of the EMC(IEC61000-4-3).

- Please attach a ferrite clamp to a power cable by 2 turns with the following points each.
- It is one within 20cm from a power supply unit
  - It is one within 20cm from a power supply unit to the power cable of the active head.
  - It is one within 20cm from a passive head to the power cable of the passive head.

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.

Direction	Distance
G	$\leq 10\text{mm}$
X+Y	

Function

- As a display function, I can be found in the LED displays the status of the equipment.
- 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.
- 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.

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

State of equipment	Display content	LED								
		P	L	M	H	F	C	I	N	
Intermittent oscillation state	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.	●								
State of charge (L)	Is charging. (Charging aim:less than about 50%)	●	●				●	●		
State of charge (M)	Is charging. (Charging aim:about 70%)	●		●			●	●		
State of charge (H)	Is charging. (Charging aim:about 90%)	●			●		●	●		
Float charging state	If the charge current value becomes below a specified value, I will move to this mode.	●				●	●	●		
Charging voltage error	Battery voltage outside of adaptation have been connected, the voltage of the battery is down to abnormal. Please connect the correct battery.	●			●			●	●	
Battery reverse connection or non-connection error	Battery terminal is turned in reverse, cable is disconnected. Please check terminal, the cable.	●	●					●	●	
Over current error	Charging current was increased abnormally. (8A or more) Since there is a possibility of equipment failure, you must have inspection and repair.	●	●					●	●	
Over voltage error	Charging voltage was increased abnormally. (About 33.5V or more) Since there is a possibility of equipment failure, you must have inspection and repair.	●		●	●			●	●	
Battery overheating	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.	●	●		●			●	●	
Input voltage error	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.	●	●	●	●			●	●	
Head overheating	Head temperature has become used to the maximum temperature (80 °C) or more. Please on the power again after cooling the heat. If you are still unable to resolve the problem, there is a possibility of equipment failure.	●								

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