B&PLUS

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No. T 313401Pe

P

Wireless charging system
210W specification Manual

RCS series

Thank you very much for purchasing the Wireless charging system RCS210 of B&PLUS lately.
Before using this Processor, read this manual carefully and operate properly, paying attention to the safety aspects.

For safety precautions

Please read, please use it correctly and full attention to safety this "Safety Precautions" before use.
Incorrect handling may cause not only malfunction or failure, leading to an accident or injury.
Also in order to prevent damage or injury, please look after.

■ About Warnings

You are viewing mark with the following notes on safety in this manual.

⚠ Caution	It indicates that there is likely to ignore this display, and operate the product in an improper manner, serious injury or possible person to death.
⚠ Attention	If you ignore the display, and operate the product in an improper manner, it indicates that that there is a possibility that people bear the damage, the potential and property damage may occur.

■ About designation

The symbol shown in the instruction manual and product, have the following meanings.

	Shows the attention "Please be careful".
	I shows that please without doing the "forbidden".
	I indicates mandatory "Please always run".

⚠ Caution

	**I do not do the resolution and remodeling** Failure to do so may result in fire, electric shock or malfunction. In addition, there is a risk that can lead to serious injury.When I perform the resolution and remodeling, a guarantee may not be received.
	**I do not use it as trouble and an abnormal state** Smoke, or in the case of such an abnormal state when abnormal noise or offensive smell is, please stop using it immediately.The malfunction or electric shock , the cause of the fire.
	**The equipment inside, do not insert foreign objects and water** It may cause fire, smoke, electric shock, or malfunction due to malfunction or short circuit.
	**This product is a 24VDC lead battery-only power supply device** It can not be used in applications other than 24VDC battery charge. The malfunction or cause of the fire.
	**In accordance with the instructions, I will do the wiring and mounting** Please ensure proper procedure to street work. The malfunction or cause of the fire.

⚠ Attention

I do not take any action in the hot-line state
If you want to support the installation, maintenance, and failure, after confirming that the main circuit breaker (power board) is always out, please work. When working with hot-state, there is a potential for electric shock.

I use the power supply as set forth in the specification always
If it is used in power outside of the specifications such as a power in excess of the rated voltage, there is a risk of overheating, fire or malfunction.

To contact a specialized dealer or installation of equipment (installation), the wiring
Improper by doing installation work on your own, you will malfunction or an electrical shock, the cause of the fire.

Use the product so that its temperature does not exceed the specified temperature range. Using the product out of the specification range may cause equipment failure due to overheating.

If you want to dispose of this product, you will be disposed of as industrial waste
Please dispose of in accordance with waste disposal regulations specified.

Always, I want to use the specified parts and accessories
The malfunction or accident, the cause of the fire.

Do not put your hands or metal objects between the coils during operation
There and heat generated by induction heating, the potential to catch fire.

Do not install in a place that may be exposed to high temperature
When installed in a place such as hot air heater or direct sunlight directly, it could cause a malfunction or fire.

Do not block the cooling fan
Heat build up inside and cause malfunction or fire.

Do not touch the high temperature part
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.

Please be careful about the influence due to the installation environment
Please be careful about the influence on the material degradation due to the installation environment and the intrusion of foreign material.Especially when using it outdoors, please install it with less influence from ultraviolet rays.

⚠ Attention

⊘	**Do not use a deteriorated battery** Charging a deteriorated battery may cause the battery to overheat, resulting in an accident or fire. Replace the battery regularly according to the battery manufacturer's recommended replacement time.
⊘	**Do not use head cables other than those specified by us.** If you use a cable other than the specified one, the cable may generate heat, resulting in an accident, malfunction, or fire. Be sure to use the specified cable.
⊘	**Do not disconnect the battery while charging** If the battery is disconnected during charging, it may cause an accident, malfunction or fire. Be sure to check that the battery is not charged before disconnecting the battery.
⊘	**Do not use under conditions with excessive vibration or impact** Using it beyond the conditions may cause an accident, malfunction or fire. Be sure to use it within the specifications.
⊘	**Do not use in a state where it is filled with dust containing oil and moisture and accumulated.** Accumulation inside the device may cause a malfunction or fire. Clean it regularly or put it in a case to protect it.

Request for use on

● This product, which is one of those high frequency utilization equipment of Radio Law, In the case of useing in Japan, please apply for a permission application for high frequency utilizaion equipment permission to Ministry of Internal Affairs and Communications. In the case of using the product out side Japan, please take appropriate action after confirming by yourself the standards and regulations to which the customer's system should conform.

● For the control communication device that is installed in the product, there is no need for (diploma) radio station authorization of the Minister as it corresponds to "a weak radio station (weak radio equipment)" to. However, please be careful on the occasion of the operation because it may affect medical equipment and electronic equipment (such as pacemakers).

※ Specifications subject to change without notice.
※ If there is a point of notice about the contents of this document, hope you'll give me your contact us, thank you.

Disclaimer

● In principle, repairs will be charged in the event of failure or damage caused by fire, earthquake, acts by a third party, other accidents, intentional or negligent use by the customer, misuse, or use under abnormal conditions.
● The Company is not liable for any incidental damages (loss of business profit, etc.) resulting from the use or inability to use this machine.
● If this unit is used for purposes other than battery charging, we cannot guarantee it.

※ Specifications subject to change without notice.
If there is a point of notice about the contents of this document, hope you'll give me your contact us, thank you.

■ Index ■

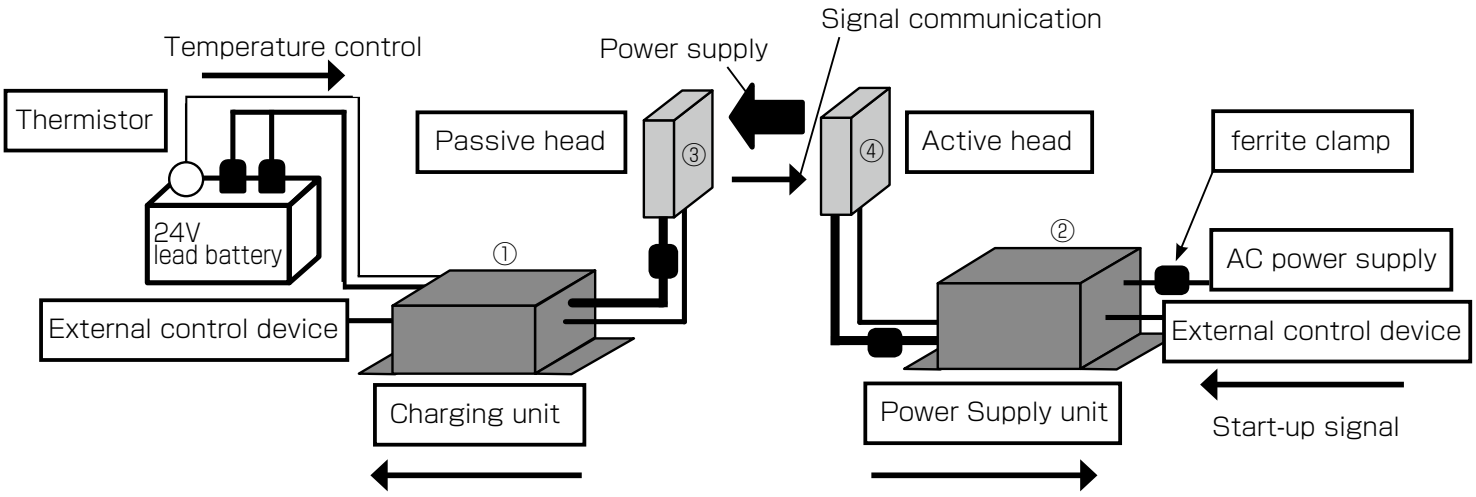
1.Product summary

Create a high frequency from an AC power source, along with the transmitting power in a non-contact with the charge control circuit, this product is a revolutionary wireless charging system that has at the same time signal communication function.

System configuration and product configuration

Battery voltage : 24V DC
Available lead batteries : charging current is a thing of 7A or more

	Product typecode	Description of each part
① Charging unit	RCS210-PB24	· Charge to a battery is performed. · It monitors the battery voltage,【voltage monitor signal H, M, L】as, and output control device that is connected to this unit and passive head results. · I will output to control external devices connected to this unit and passive head, the information signal on the "float charging start" , "charging" , "battery error" .
② Power Supply unit	RCS240-AC1	· AC power supply is changed into high frequency. · In response to the input signal【start-up signal】, and supplies the high frequency to active head. · I will output to an external control device inzone signal various signals and the active head is received.
③ Passive Head	RCS240PH	· The receiving power from the active head, and supplies power to the charging unit. · I can carry in a non-contact to the active head and a variety of signal that is output from the charging unit.
④ Active Head	RCS240AH	· By electromagnetic coupling method, in a non-contact, make the power transmitted to the passive head. · Receives various signals from the passive head, and then transmitted to the power supply unit.



Voltage monitor signal H,M,L
Float charging signal
Charging signal
Error signal

Voltage monitor signal H,M,L
Float charging signal
Charging signal
Error signal
Inzone signal

2.Feature

● Signal transmission system and non-contact power transmission
The signal transmission and power transmission, because the electromagnetic coupling method, is carried out in a non-contact, no problem glass-plastic even in the presence of the transmission space.

● Oscillation power control function
If you have a transmission area within the specified range within the active head / passive head, active head will make the oscillation behavior by controlling so that the internal voltage is constant value.If not in the transmission area is passive head, and it is the specifications that make the intermittent oscillation. In the case in the transmission area is passive head, in zone LED on the power supply unit is lit, in zone signal is output to the outside.

● Active head overtemperature protection
If the piece of metal was present in the transmission space oscillation operation of the active head, internal heating of the active head exceeds a certain temperature due to its effect, it shifts to the intermittent oscillation protection function is activated.

● Battery voltage monitor function
If you have the inzone passive head, [voltage monitor signal H, M, L] is output to the outside from the charging unit and power supply unit according to the battery voltage.
If there is no inzone passive head, when you connect the power of the default from external control devices that are connected to the charging unit to [voltage monitor request], [voltage monitor signal H, M, L] is to the outside from the charging unit is output.

● Charging function
Charging of the battery, held at the CC / CV charging, full charge is virtually possible. It is determined that the full charge charging voltage reaches a certain level or higher, and then start the float charging.

● Charging voltage error detection function
If you turn on the power to connect the battery of an adaptive voltage other than by mistake, it does not start charging.

● Battery reverse connection or non-connection (disconnection) detection function
If you connect to reverse the battery terminal by mistake, it does not start charging.In addition, if the cable leading to the battery for some reason is broken, I will cut off the charge.

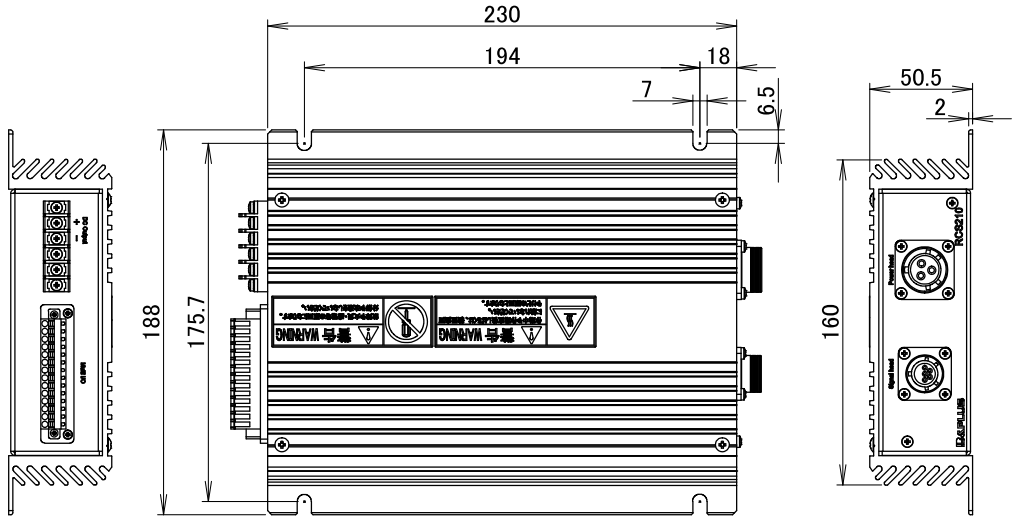
● Overcurrent protection
If the charging current flows at least a certain charging, after continued for 1 minute wait state, and then shut off the charge.

● Overvoltage protection
If the charging voltage is constant over during charging, after continued for 1 minute wait state, and then shut off the charge.

● Battery overheating protection
Battery is more constant temperature, when it comes to constant temperature or below, after continued for 1 minute wait state, and then shut off the charge.

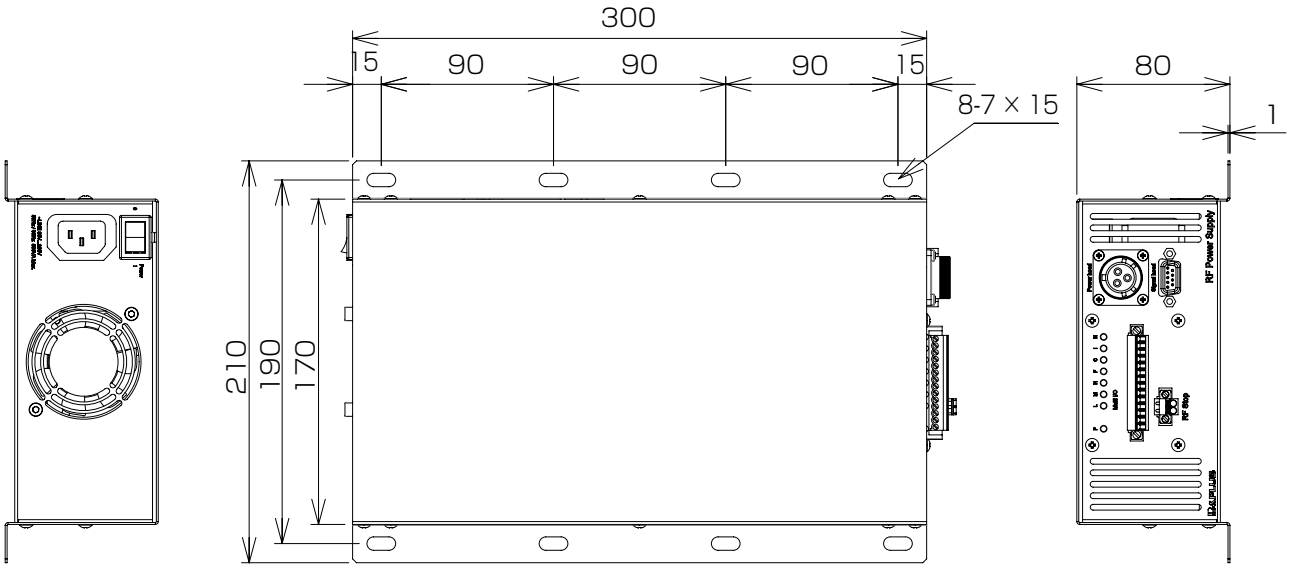
3.The name and specification of each part

● Charging unit



Type code		RCS210-PB24
Application battery		lead battery
Application passive head		RCS240PH
Output voltage		Max.30V (It varies depending on battery temperature)
Output current		Max.7A
External input		(5.About the wiring P.13 reference)
External output		(5.About the wiring P.13 reference)
Operating temperature		0℃～40℃
Storage temperature		0℃～50℃
Operating humidity		≦ 90 %RH (No condensation)
Insulation		≧50M Ohm
Dielectric strength		1500 VAC / 1min
Shock rating		10G, each axis to x-y-z
Vibration rating		19.6m/sec^2 (10～55Hz)
Protection class		IP20
Dimension		230×188×50.5
Weight		1.6kg
Attachment hole dimensions		4-7x6.5
Connection	Power supply connector	Round 3-pin
	Communication connector	Round 5-pin
	Terminal block	Battery connection(2-pole), Thermistor connection(2-pole), Terminal width 6.2mm or less, Terminal screw size M3
	Various signal connector	(5.About the wiring P.13 reference)
Cooling method		Natural air cooling
Protection circuit	Input	Input overvoltage protection
	Battery	Battery high temperature / low temperature protection
		Battery not connected protection
		Battery reverse connection protection
Parallel driving		None
Series driving		Available
Accessories		Output cable (1.5m), Thermistor with cable (1.5m), External device communication connector, 4 screws M6x15

● Power Supply unit

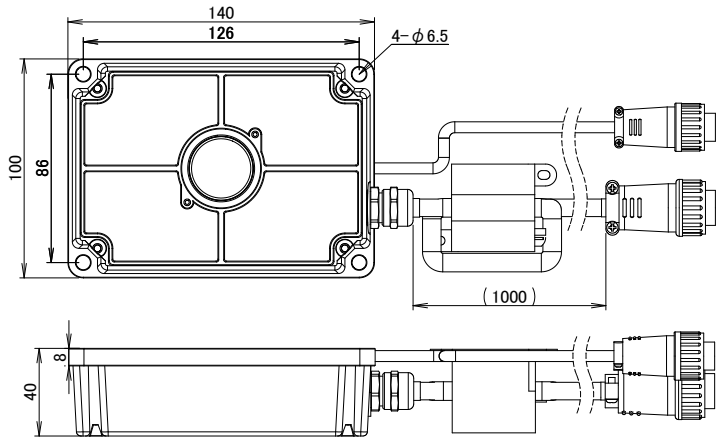


Type code		RCS240-AC1
Apply active Head		RCS240AH
Rated input voltage		AC100V / AC200V
Power supply voltage		AC85～AC265V Single-phase 50/60Hz
Current consumption		4A
Display function		The status display by LED
External input		(5.About the wiring P.13 reference)
External output		(5.About the wiring P.13 reference)
Operating temperature		0℃～50℃
Storage temperature		0℃～50℃
Operating humidity		≦ 90 %RH (No condensation)
Insulation		≧ 50M Ohm
Dielectric strength		1500 VAC / 1min
Shock rating		10G, each axis to x-y-z
Vibration rating		19.6m/sec^2 (10～55Hz)
Protection class		IP20
Dimension		300x210x80 (Including mounting portion)
Weight		2.7kg
Attachment hole dimensions		8-7x15
Connection	Power supply connector	Round 3-pin
	Communication connector	D-sub 9-pin
	Power	3P inlet
	Various signal connector	(5.About the wiring P.13 reference)
Cooling method		Forced air cooling
Accessories		Power cable (2m), External device communication connector, 4 screws M6x15, One ferrite clamp

● Head

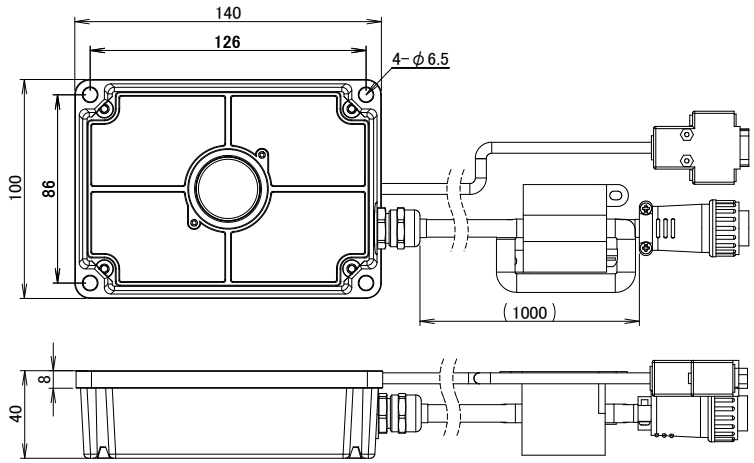
Passive Head

RCS240PH



Active Head

RCS240AH



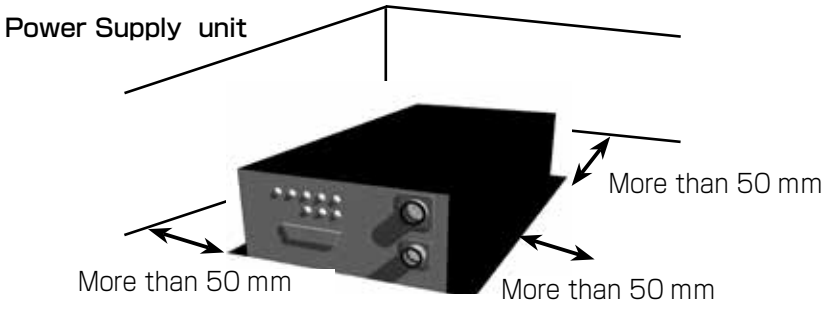
		Passive Head	Active Head
Type code		RCS240PH	RCS240AH
Application power supply unit / charging unit		RCS210-PB24	RCS240-AC1
Application head		RCS240AH	RCS240PH
Rated gap	Distance	10mm	
	Center off-set	≦10mm (4.Notes at the time of installation (at the time of attachment) P.11 reference)	
Operating temperature		0～50℃	
Storage temperature		-10～50℃	
Operating humidity		30%～90%	
Insulation		≧50M Ohm	
Dielectric strength		2000 VAC / 1min	
Shock rating		10G, each axis to x-y-z	
Vibration rating		19.6m/sec^2 (10～55Hz)	
Protection class		IP65	
Dimension		140×100×40	
Weight		1.3kg	
Attachment hole dimensions		4-φ6.5	
Connection (With the connector cable 1m)		Power : Connected to the Charging unit at the (male) 3-pin round	Power : Connected to the Charging unit at the (female) 3-pin round
		Signal : Connected to the Charging unit at the (male) D-sub9 pin	Signal : Connected to the Charging unit at the (female) 5-pin round
Accessories		4 screws M6x15, One ferrite clamp	

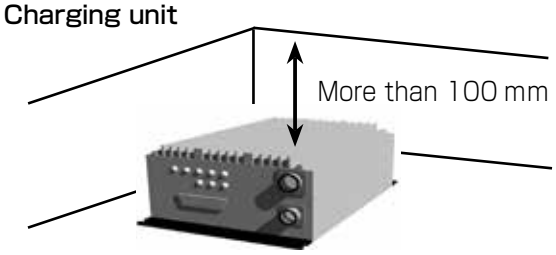
4.Notes at the time of installation (at the time of attachment)

● Notes at the time of installation of the charging unit and power supply unit

· Location

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.



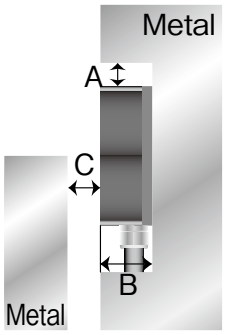


● Notes of each head when mounting

· Influence of 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.

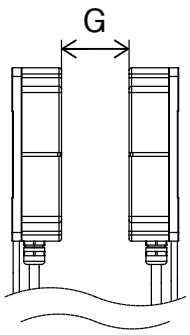


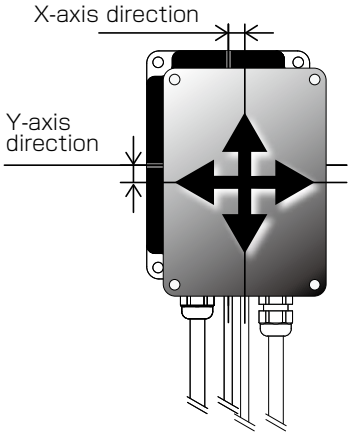
Type code	A(mm)	B(mm)	C(mm)
RCS240AH	100	40	45
RCS240PH			

· For the transmission distance and center off-set between the heads

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. (For example, X-axis equals a 10mm, Y-axis 0mm. If X-axis is 5mm, Y-axis is less than 5mm.)

If the product is used outside the range, you may or equipment degradation of transmission efficiency may be damaged.

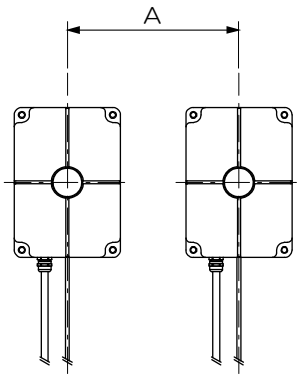




Direction	Distance
G	≦ 10mm
X+Y	

· Mutual Interference between the heads

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.



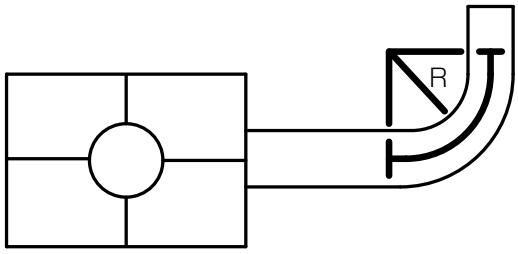
Type code	A(mm)
RCS240AH	300
RCS240PH	

· Head　For R bending of the cable line

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 : R50

· Signal Cable line : R30

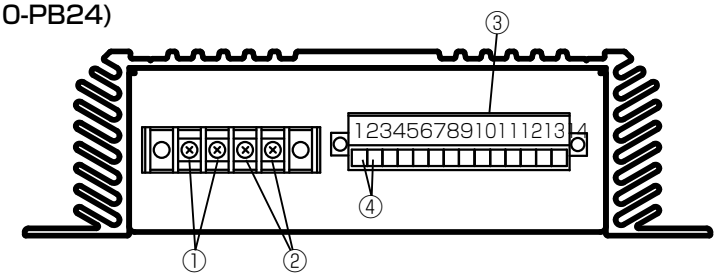


· Mounting of the ferrite clamp

Please refer to the P.15.

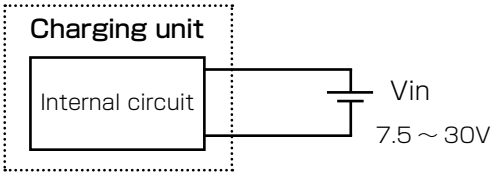
5.About the wiring

● Charging side (RCS210-PB24)



① Output terminal for Battery
② Thermistor terminal
③ Input signal (voltage monitor request signal)

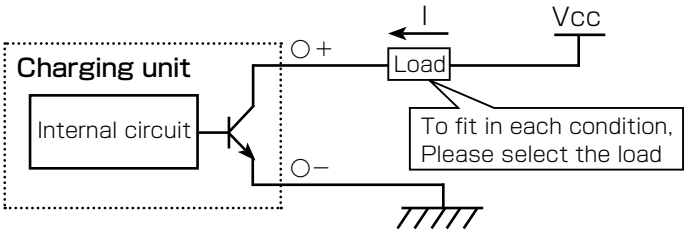
Other than at the time of charging, you can use if you want to output the battery voltage monitor signal.



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

④ Each output signal

Each output signal is an open connector.Please connect the load, such as not to exceed the maximum load voltage and current of the following whenever you want to connect. Please be careful so as not to short.



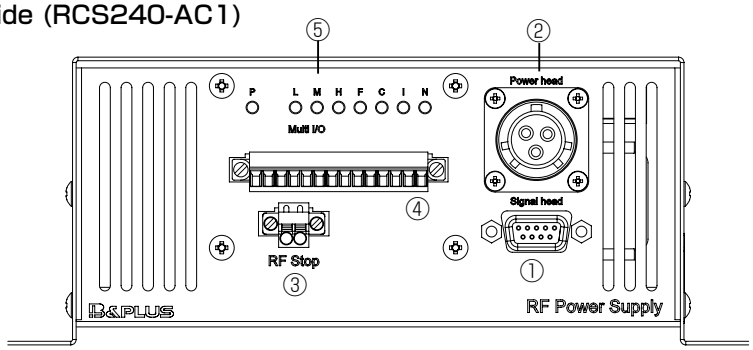
● Maximum load current : 5mA
● Maximum load voltage: 24V

<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-

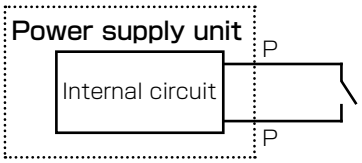
	Signal type	Pin number	Contents
Input	Voltage monitor request	1.2	It monitors the battery voltage and the voltage applied to this pin, and the output voltage monitor signal.
Output	Voltage monitor signal H	3.4	It is almost fully charged. (Charging aim:about 90%)
	Voltage monitor signal M	5.6	If the charge 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	I 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. (7.About the function P.19 reference)

● Power supply unit side (RCS240-AC1)



① Connector for the active head (Signal)
② Connector for the active head (Power)
③ Start-up signal

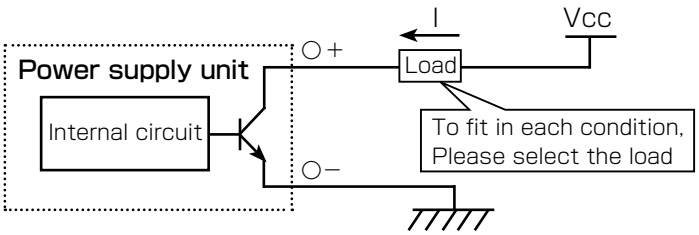
P	P



※ It is the ON / OFF signal of the power supply of the Active Head.To do with the ON / OFF operation with separate switch, please use always ON.
(It is a jumper with factory)

④ Each output signal

Each output signal is an open connector.Please connect the load, such as not to exceed the maximum load voltage and current of the following whenever you want to connect. Please be careful so as not to short.



● Maximum load current : 50 m A
● Maximum load voltage: 30V

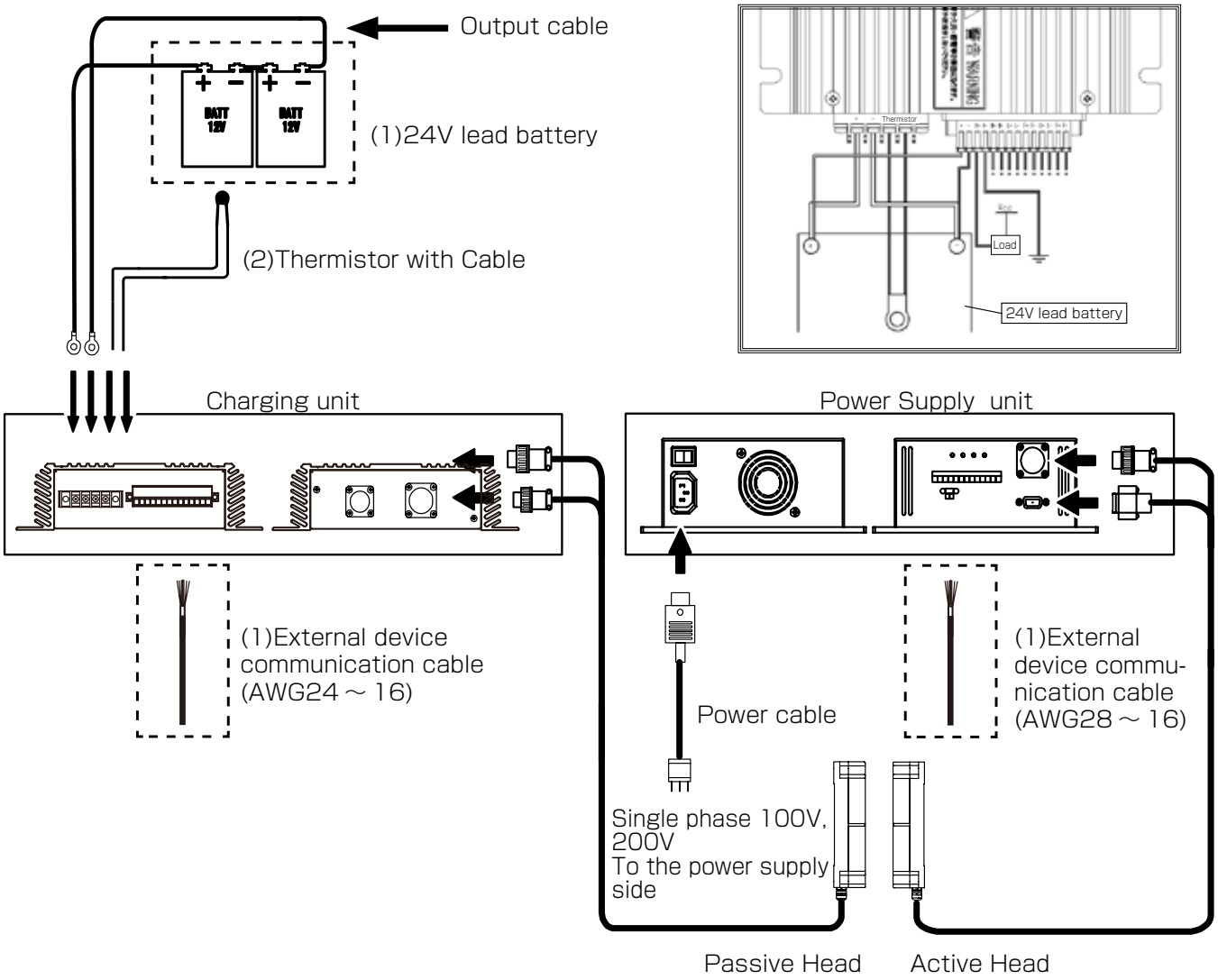
<Input signal pin assignment>

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 Power supply unit display

	Signal type	LED	Contents
Input	Start-up signal	P	Shorting this signal, make the power supply to the active head.Then, the active head starts oscillating, and then start the communication signal and power transmission to the passive head. If you do not have a Passive head, I' ll intermittent oscillation.
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	I will turn OFF during charging ON, in charge cut-off and float charging start.
	Inzone signal	I	I 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. (7.About the function P.19 reference)

Connection diagram

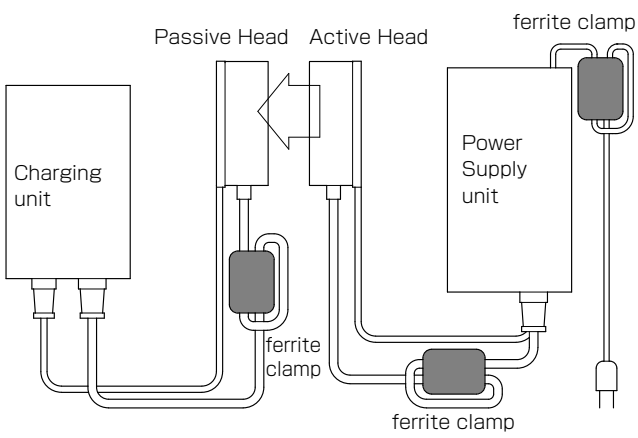


Details of the charging unit input and output

(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) That the protection function is turned on, is 40.5 ℃ or more. (The installation situation, there is a difference about ± 2 ℃ .)
In addition, I have you use the attached article always, thermistor put it on the side of 24V lead batteries Please attach. In that case, please do not touch any terminal.
(3) Each cable, please connect with the specified length. You may receive an error due to the output such as a decrease occurs.

Mounting of the ferrite clamp

The installation of the bundled ferrite clamp is necessary in addition to the upper figure 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.



6.Method of operation

How to switch on a power supply

I turn on the power switch on the power supply unit back. (It becomes the "On" and press the switch to the white dot side)

· Active head and Passive head, when the power transmission coverage area:

When the power is turned on, LED of the power supply unit (P) is lit, it will be intermittent oscillation state.

· Active head and Passive head, when the power can be transmitted within the range:

When the power is turned on, LED power supply unit (P)(L)(M)(H)(F)(I) is lit.Then, (L)(M)(H) flashes, (F) becomes OFF state, (C) is lit, it will be charged.

⚠ Attention

Active head and Passive head, when the power can be transmitted within the range, When you press the power switch, will start charging Immediately. Please note.

How to turn off the power

I turn off the power switch on the power supply unit back. (It becomes the "Off" and press the switch to the white dot side)

· Active head and Passive head, when the power transmission coverage area:

When the power is turned off, LED(P) of power supply unit turns off after about 10 seconds, the operation stopped.

· A and B, when the power can be transmitted within the range:

When the power is turned off, LED of power supply unit is All off after a few seconds, the operation stopped.(LED lit depends on the state.)

About basic charge

I will explain the non-contact power supply operation flow of the unit.

① When you turn on the power supply unit will cause the system (intermittent oscillation) wait state. Rise time is about 5 seconds.

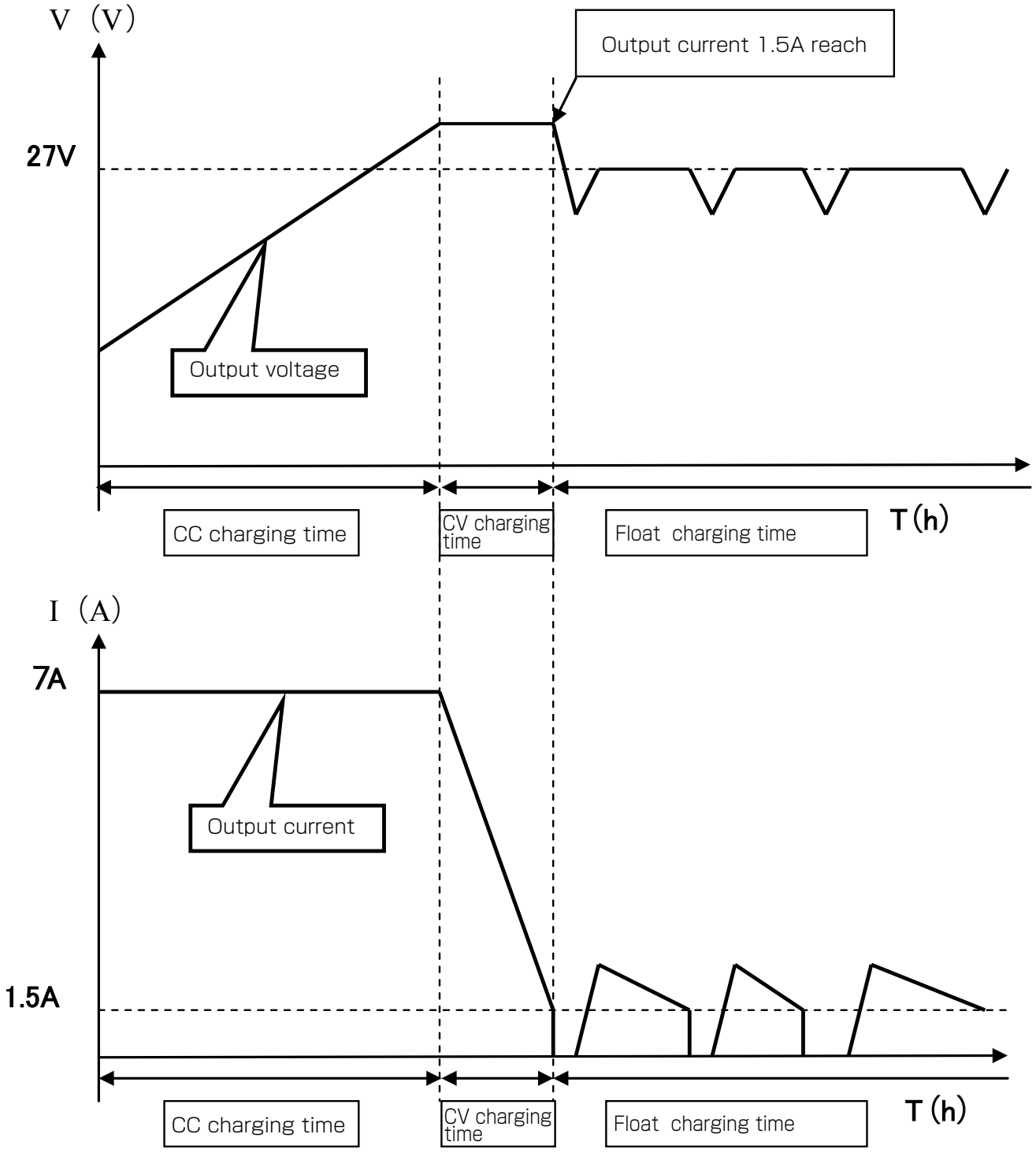
② The power can be transmitted within the scope of the (transmission side), and a state in which there is a (receiving side) passive head, communication device passive head and power supply starts to communication, to start the power transmission Active head. (Communication and power transmission,is performed by non-contact.)

③ The charge control, I will do CC · CV control in . (Refer to the next section "Image behavior of the output voltage and current value")

④ It becomes float charge state charging current drops to 1.5A battery voltage and reached a predetermined voltage. Also, stop the feeding automatically and goes into standby mode if Passive head became Active head power transmission coverage area.

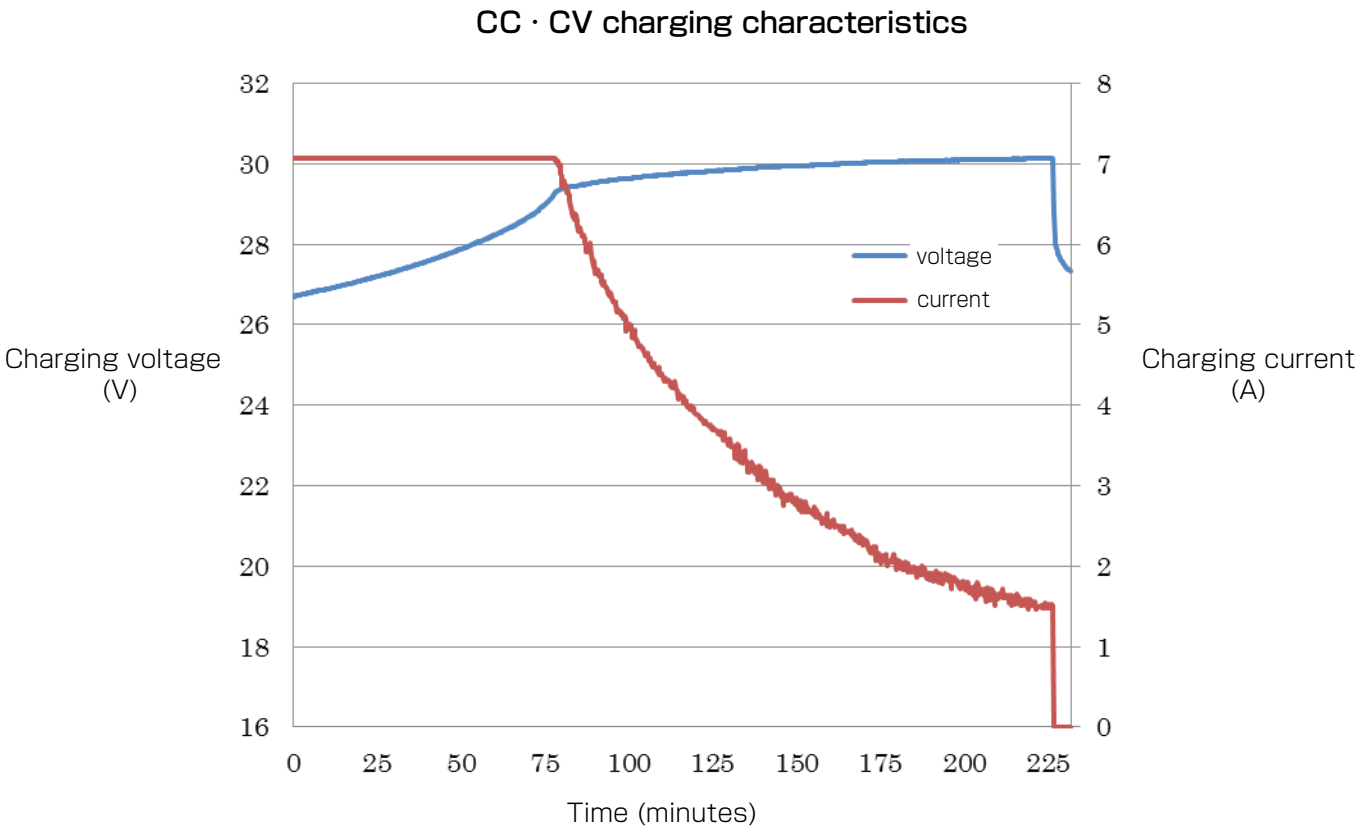
⑤ Return to the CV charge state when the float charging state, the output current becomes 3A, it does the above.

Image behavior of the output voltage and current value
(Operating to charging current 1.5A)



Characteristics (Reference)

30Ah (5 hour rate)　Battery discharge about 50%



7.About the 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 display							
			P	L	M	H	F	C	I	N
Head Non-combat time	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.	●							
Head against time	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	Battery is now the outside temperature specification. (Specification temperature = 0 ℃ ～ 40 ℃). 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 ℃) 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.

[How to reset body]
Reset can be done in one of the following methods.
· Turn OFF the power, turn ON after about a minute. (Restart)
· The 200mm or more away the head, and to face again in about one minute.
· The (OFF contact) OFF the start-up signal. After about 1 minute, turns ON the start-up signal.

<Communication function>
Communication machine is equipped with the passive head and active head of the unit.
Performs wireless communication with the communication unit, we are charging control and state control of the battery.

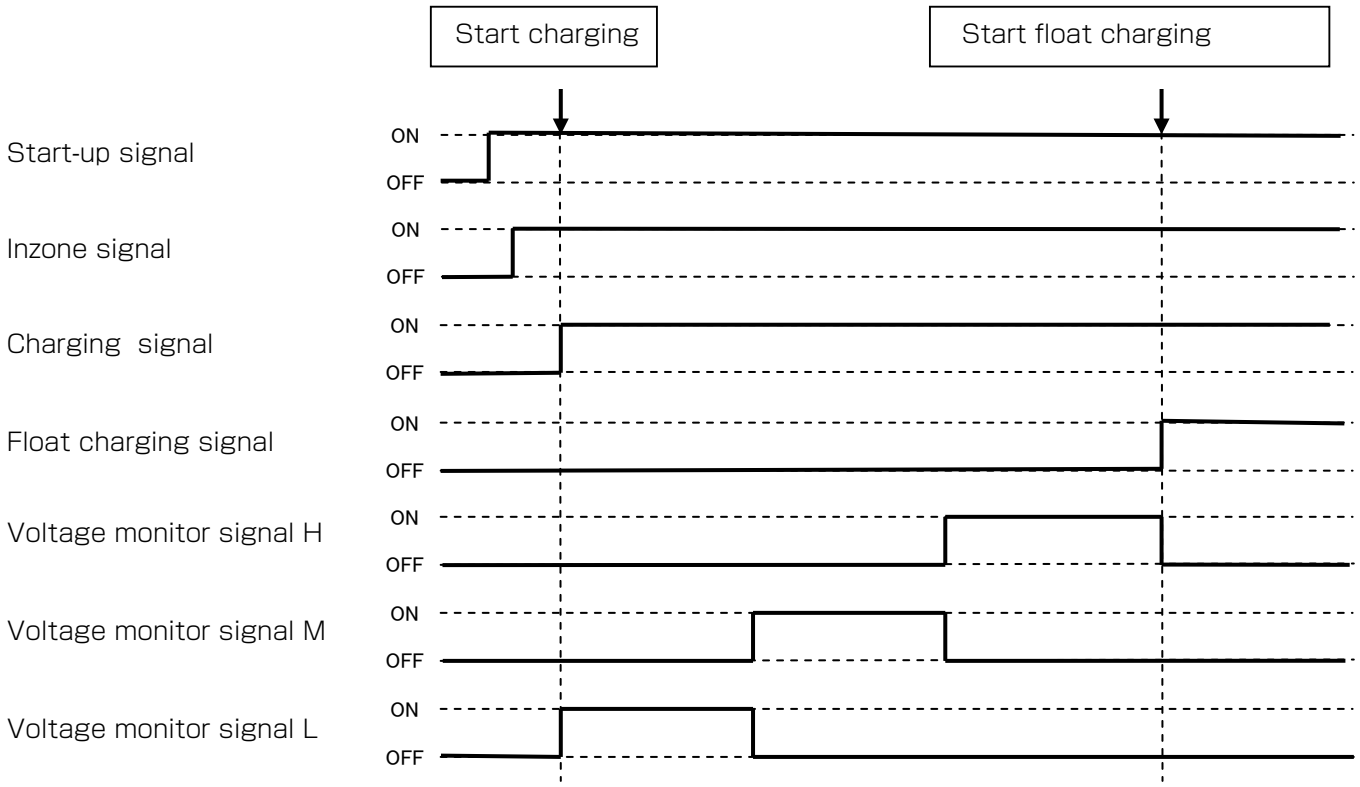
Battery voltage monitor function

A "battery voltage monitor function" is a function which a charge unit monitors battery voltage, and changes and outputs to three kinds of【voltage monitor signals】.
A【voltage monitor signal】is outputted from both a power supply unit and a charging unit.
Battery voltage monitor's timing differs <charge> <non-charging>.

<Signal output time required>
Up Inzone signal lights from entering the head transmission area　: 5s or less
To start charging from the Inzone signal lights　: 5s or less

About the battery voltage monitoring for charging

【Electric supply starting signal】After ON, if active head and passive head enter in a transmission domain (in zone), a【in zone signal】turns on, monitoring of battery voltage is started and a【voltage monitor signal】and a【charge signal】turn on. During charge, battery voltage is always monitored and the【voltage monitor signal】suitable for battery voltage is outputted.
If charging current becomes below 1.5A, a [voltage monitor signal] turns off, a [float charging signal] turns on, and it will be in an float charging state.
Below, I shows the timing chart example of battery level monitor function during charging.



◆ 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.

About the battery voltage monitoring for non-charging

During non-charging, if [voltage monitor request] of a charging unit turns on, battery voltage will be monitored and a [voltage monitor signal] will be outputted.
When a head moreover changes into the state where it does not oppose from a confrontation state in the state of ON in [a voltage monitor demand], the [voltage monitor signal] according to battery residual quantity is outputted in several seconds.
It is necessary to output [voltage monitor request] from the control apparatus by the side of a charge unit, etc. to a charging unit.

【Attention】
The battery voltage monitor function of the non-charging, is done by starting the live parts by power supply from an external power source such as a battery.

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* Contents is subject to change without notice.