



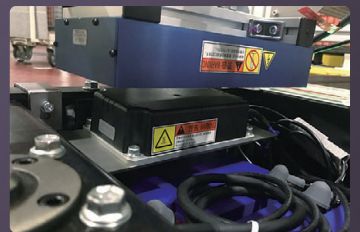
wireless power supply for AGV
B&PLUS

Wireless charging solves the problem

Charge the battery wirelessly


RCS


600
1000
2000
series




B&PLUS wireless charging solution updates your logistics system

Wide lineup

 **AGV**
 Recomendes products
120w~1kw
 RCS600 | 1000

 **electric towing vehicle**
 Recomendes products
600w~2kw
 RCS600 | 1000 | 2000

 **electric forklift**
 Recomendes products
2kw
 RCS2000

WIRELESS CHARGING!

Wireless charging for logistics transport system

The wireless charging system RCS series from wireless power Supply Pioneer "B&PLUS". It has been adopted in many logistics transportation system. Dedicated personnel select the optimal product for each customer's operation to solve on-site issues. We will guide you to a solution and help you build a battery system.

This is **PLUS**



Reduce the burden of battery replacement

Eliminates the need for frequent battery replacement, greatly reducing the number of manual replacements and maintenance by also reducing a spare battery inventory, operating costs can be reduced and inventory.



Realizes 24 hour continuous operation

By automating battery charging, you can operate 24 hours a day 365 days a year without the need for battery replacement.



Less maintenance operations

Reduces the possibility of accidents such as battery drop and short circuit, and simplifies maintenance management to do. Maintenance-related issues such as wear, disconnection, and short-circuiting of plugs that are connected each time charging. It also helps to reduce troubles that occur.



Prevent battery deterioration

Using the loading and unloading time, our product charges the battery a little by little for each cycle. Repetition of shallow charging and discharging reduces deterioration of the battery and leads to a longer life.

RCS series
output power
120w
~**2kw**

Wide range of products provide the best solution.



compact design

RCS600
RCS series

Diverse charging units And flexible operation

RCS1000
RCS series

Suitable for large equipment And Large current fast charging

RCS2000
RCS series

No.1 market share in the wireless charging industry

*2020 results

Among the market research on wireless charging systems for AGV, Achieved No.1 sales volume share in 2020 in the global Japanese market. (It is also expected to achieve the top spot in a row in the 2021 forecast number comparison.)
As a manufacturer specializing in wireless power transfer systems, we have developed products that pursue even higher quality and ease of use. We will continue to push forward with technological development.

Japanese global market | Usage (2020 results)

Japanese domestic market | sales volume (2020 results)

Features only available at B&PLUS

- Automatic recognition of the charging head Charging starts faster instantly by just facing each other.**

Recognize each other and Start charging automatically. It only takes 1.3 seconds to start charging! Does not require separate sensors, B&PLUS's Unique technology.

*Actual value during use
- The charging amplifier is powered by the wireless power**

The system works by the wireless power from station side. Therefore The battery is not consumm the current by this system, and it concentrate on the AGV operation.
- The structural design resistant to dust and water**

The head is sturdy structure by a resin mold, and IP protection class is IP65. It's maintenance-free stacture and can be used with peace of mind for a long time.
- Equipped with status LED display, and show the charging stuation**

The LED are equipped at base and charging amplifier. It display the charging progress, and 12 kinds of error conditions by combination E1~E3.

*Please check the manual for details.
- Easy display the Charging conditions by External Output**

The system has external D-sub port, output the charging progress and error conditions. LED unit and the external signals identify the charging conditions more easily.



Charging of large AGVs, electric towing vehicles and electric forklifts.
Easy and efficient maintenance.

RCS2000 Product specification				
	Charging unit	Passive Head	Active Head	Power Supply unit
Power specifications	24V type	CC-CV Charge CC: max 67A CV: max 30v	Input Three-phase 200V ±10% current consumption 12.5A	
	48V type	CC-CV Charge CC: max 34A CV: max 60v		
Size	W280*D200*H80 (mm)	W250*D150*H40 (mm)	W250*D150*H40 (mm)	W350*D240*H131.2 (mm)
Weight	4.6kg	3.0kg	3.3kg	8.5kg
Protection class	IP40	IP6X	IP6X	IP20
Other specifications	Applicable battery Lithium ion / Lead battery		Operating temperature 0~50°C	External input / output Effectiveness

Realization of fast charging

RCS2000

2kW Wireless charging system

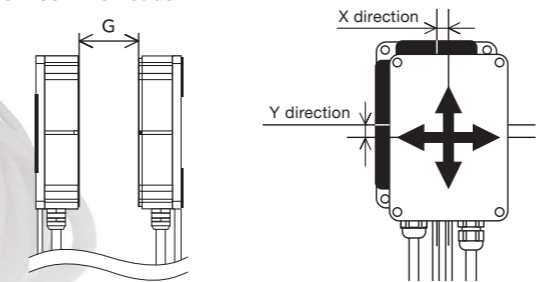


24V type
Maximum output current
67A

48V type
Maximum output current
34A

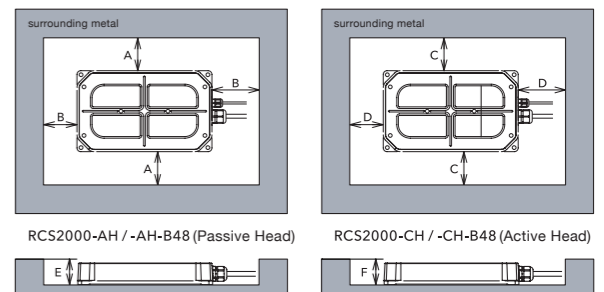
	24V type	48V type
Charging unit	RCS2000-CA24	RCS200-CA48
Passive Head	RCS2000-CH	RCS200-CH-B48
Active Head	RCS2000-AH	RCS200-AH-B48
Power Supply unit	RCS2000-AC-B24	RCS200-AC-B48

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



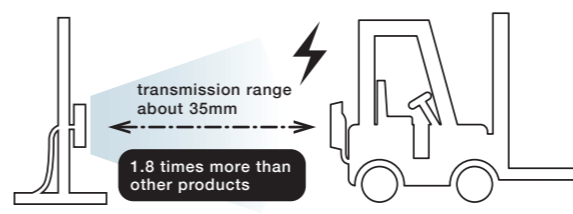
transmission distance (G)	10~25mm / 2kW	25~30mm / 1.5kW
	30~35mm / 1.0kW	35~45mm / 500W
Axis misalignment (X/Y)	X direction ±10mm	Y direction ±20mm

To avoid influence of surrounding metal, keep minimum spacing.



	A	B	C	D	E	F
Active Head	0	0	-	-	40mm	-
Passive Head	-	-	20mm	40mm	-	40mm

Resistant to distance deviation due to high output and wide transmission range.



The transmission range of RCS2000 is approximately 35mm, which is approximately 1.8 times that of the RCS600/1000 series! The transmission range has been widened assuming that it will be installed on a large vehicle, making it easy to align during operation.

Transmission Range Comparison of Wireless Charging Products		
RCS2000 series	RCS1000 series	RCS600 series
35mm	15mm	20mm

RCS2000-OP002 | RCS2000-OP002-02 Power supply unit protection filter

Compatible products **RCS2000**

Protects the power supply unit from dust. Dust filter kit. Please replace it regularly.

RCS2000-OP002	Filter	Polyester / Vinyon 2.5mm thick
RCS2000-OP002-02	Guard / Cover	Resin (PPE+PS)

*Attach to the air intake of the power supply unit. Reduces the entry of dust and mist. It doesn't prevent it completely.
*Do not cut the filter or wash it with water.



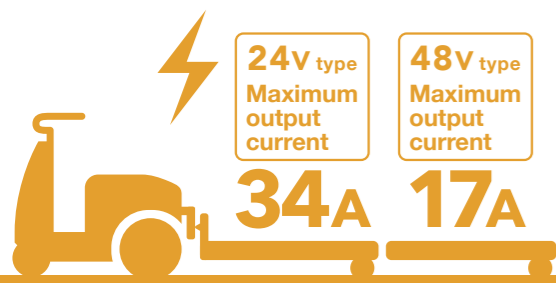
Flexible head unit configuration

Optimal charging system



RCS1000

1kW Wireless charging system



24V type
Maximum output current
34A

48V type
Maximum output current
17A

	24V type	48V type
Charging unit	Standard / RCS1000-CA24 normal close / RCS1000B-CA24 Compact / RCS1000C-CA24 Double / RCS1000D-CA24	Standard / RCS1000-CA48 normal close / RCS1000B-CA48
Passive Head	Standard / RCS1000-CH	Long Distance / RCS1000-CH-L
Active Head	Standard / RCS1000-AH	Long Distance / RCS1000-AH-L
Power Supply unit	Standard / RCS1000-AC	Long Distance / RCS1000-AC-L

New! **Compact Charging unit**

24V type RCS1000S-CA24 48V type RCS1000S-CA48

Compatible products **RCS1000** **SIPS1000A**

Same function as Standard types Compact designs for small AGV Contributes to space saving in AGV.



- 53% miniaturization!
- 24V/48V selectable according to specifications
- Compatible with existing
- Cross compatibility with standard units

	Compact Charging unit	Standard Charging unit
Power supply	1 0 0 0 W	24V type 48V type
Size	W143 x D135 x 77 (mm)	W260 x D160 x H80 (mm)
Weight	About 2.2kg	About 2.8kg
Boot	No need D-sub connector	Need D-sub connector

RCS1000D-CA24

Double head specification Charging unit

Compatible products **RCS1000** 24V **SIPS1000A**

Double head specification with more freedom of installation

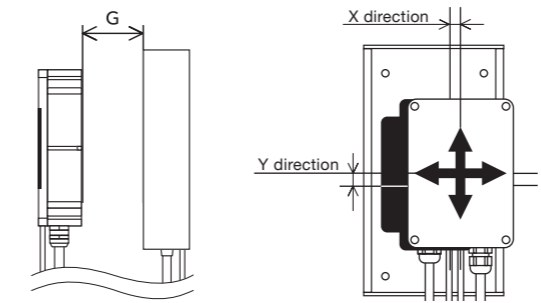


- Charging unit for double heads
- Automatically recognizes when the heads face each other. Start charging immediately.
- It is possible to connect two standard heads or two long distance heads. It can be used by replacing the charging unit and adding a receiving head.
- Two passive heads are connected, but the charging operation is one by one. Charging starts automatically when facing the active head, but charging cannot be done at the same time.

RCS 1000 Product specification

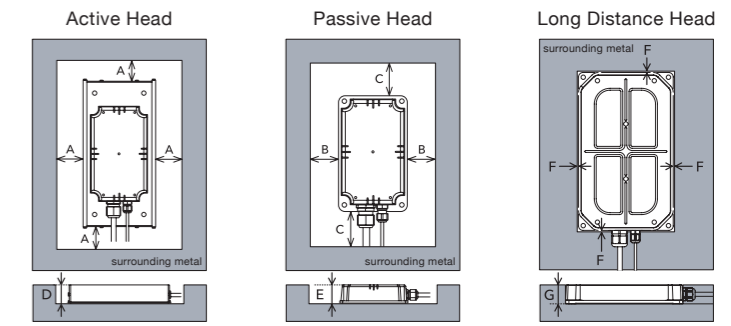
	Charging unit	Passive Head	Active Head	Power Supply unit
Power specifications	24V type CC-CV Charge CC: max 33.5A CV: max 30v 48V type CC-CV Charge CC: max 17A CV: max 60v		Input Single phase 200V current consumption 7.5A	
Size	Standard W240*D160*H80 (mm) Compact W143*D135*H77 (mm) Compact W143*D135*H77 (mm)	Standard W170*D100*H45 (mm) Long W250*D150*H40 (mm)	Standard W254*D125*H45 (mm) Long W250*D150*H40 (mm)	Standard / Long Distance W210*D350*H80 (mm)
Weight	Standard 2.7kg Compact / Double 2.2kg	Standard 2.0kg Long 3.1kg	Standard 2.8kg Long 3.3kg	3.5kg
Protection class	IP40	Standard IP65 Long IP6X	Standard IP65 Long IP6X	IP20
Other specifications	Applicable battery Lithium ion / Lead battery Operating temperature 0~50°C External input / output Effectiveness			

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



	G	X	Y
Standard head	0~15mm	±10mm	±10mm
Long distance head	20~40mm	±10mm*	±20mm*

To avoid influence of surrounding metal, keep minimum spacing.



	A	B	C	D	E	F	G
Standard head	100mm	100mm	100mm	45mm	45mm	-	-
Long distance head	-	-	-	-	-	10mm*	40mm*

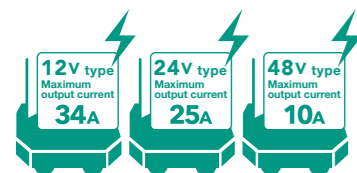
*Long distance head is not affected by surrounding metal.

Small AGV to large AGV. No. 1 selling model

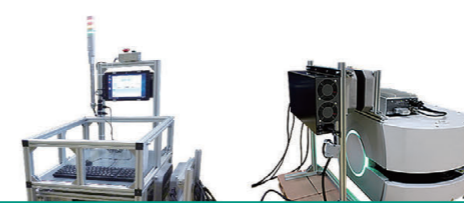


RCS600

600W Wireless charging system



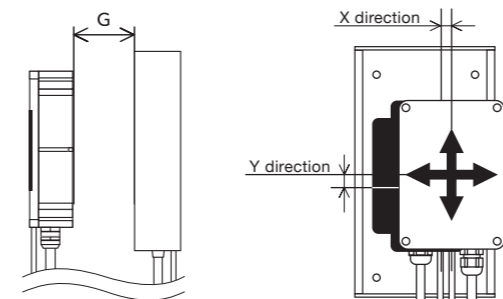
	12V type	24V type	48V type
Charging unit	Standard / RCS600-CA12 normal close / RCS600B-CA12	Standard / RCS600-CA24 normal close / RCS600B-CA24 Compact / RCS600C-CA24	Standard / RCS600-CA48 normal close / RCS600B-CA48
Passive Head	Standard / RCS600-CH Long Distance / RCS600-CH-L		
Active Head	Standard / RCS600-AH Long Distance / RCS600-AH-L		
Power Supply unit	RCS600-AC		



The definitive version of compact wireless charging!

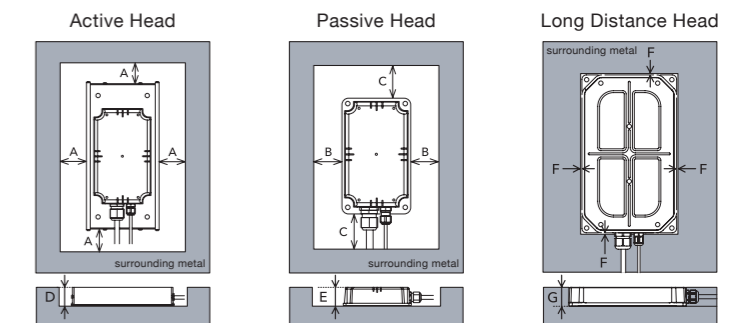
RCS600 Product specification				
	Charging unit	Passive Head	Active Head	Power Supply unit
Power specifications	12V type CC-CV Charge CC: max 34A CV: max 15v	Standard W170*D100*H45 (mm) Long W250*D150*H40 (mm)	Input AC 90~Single phase 200V current consumption 9A (at 100V), 4.5A (at 200V)	Standard / Long Distance W210*D350*H80 (mm)
	24V type CP-CV Charge CC: max 25A CV: max 35v			
	48V type CC-CV Charge CC: max 10A CV: max 60v			
Size	Standard W240*D160*H80 (mm) Compact W143*D135*H77 (mm)	Standard W170*D100*H45 (mm) Long W250*D150*H40 (mm)	Standard W254*D125*H45 (mm) Long W250*D150*H40 (mm)	Standard / Long Distance W210*D350*H80 (mm)
Weight	2.7kg	Standard 2.0kg Long 3.1kg	Standard 3.0kg Long 3.3kg	3.5kg
Protection class	IP40	Standard IP65 Long IP6X	Standard IP65 Long IP6X	IP20
Other specifications	Applicable battery Lithium ion / Lead battery		Operating temperature 0~50°C	External input / output Effectiveness

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



	G	X	Y
Standard head	0~20mm	±10mm	±15mm
Long distance head	20~40mm	±10mm	±20mm

To avoid influence of surrounding metal, keep minimum spacing.



	A	B	C	D	E	F	G
Standard head	45mm	57.5mm	87mm	46mm	45mm	-	-
Long distance head	-	-	-	-	-	0*	40mm

*Long distance head is not affected by surrounding metal.

New! 24V type RCS600S-CA24
Compact Charging unit

Compatible products: **RCS600 24V**

Same function as Standard types Compact designs for small AGV Contributes to space saving in AGV.



	53% miniaturization!	Compatible with existing
Power supply	600W 24V type	
Size	W143 x D135 x 77 (mm)	W260 x D160 x H80 (mm)
Weight	About 2.2kg	About 2.8kg
Boot	No need D-sub connector	Need D-sub connector

RCS600-OP005-SET01 | RCS2000-OP003-SET01
Multicolor Signal Beacon set

Compatible products: **RCS600 RCS1000 RCS2000**

The charging status is output and visualized with an indicator light.



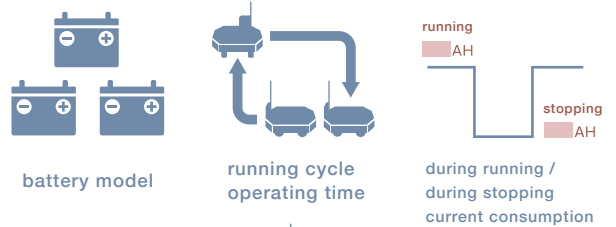
Type code	Applicable Power Supply unit	Applicable Charging unit
RCS600-OP005-SET01	RCS600-CA(12/24/48) RCS1000-CA(24/48)	RCS600-AC RCS1000-AC RCS1000-AC-L RCS2000-AC-B(24/48)
RCS2000-OP003-SET01	RCS2000-CA(24/48) RCS600B-CA24(12/24/48) RCS600S-CA24 RCS1000B-CA(24/48) RCS1000S-CA(24/48) RCS1000D-CA24	RCS600-AC RCS1000-AC RCS1000-AC-L RCS2000-AC-B(24/48)

Free simulation to confirm the effect of wireless charging

We support to confirm the effect of wireless charging by free simulations.
Based on your AGV operation details, The steps are below.

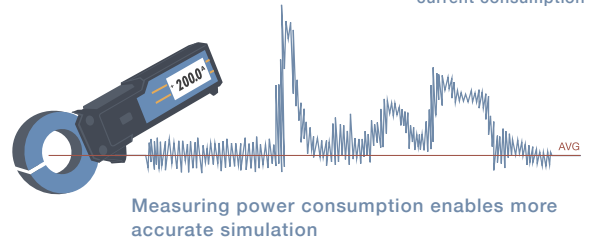
Confirmation of operation status

1. Battery model and capacity
2. Confirmation of running / stopping time per a cycle
3. Whether charging is possible when stopped
4. Current consumption when running / stopping
5. Daily operation status



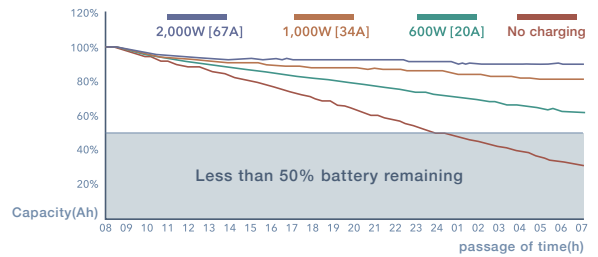
Measure current consumption

Measure the current consumption of the actual AGV. By measuring the current consumption, it is possible to perform more accurate simulations.



Proposal for charging simulation

We propose the optimal charging system that does not put a burden on the battery.



Please contact us if you have any problems with the battery.

Flow until introduction of wireless charging



»» Notice to use

- *This product is subject to the Domestic Radio Law.
- When using the product outside of Japan, please check the radio laws of each country and use it at your own risk.
- *Please be careful when operating as it may affect electronic equipment and medical equipment.

Contact



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