

Combinations

lead to

Evolution

Wireless charging system

RCS

series
RCS600 RCS1000
SIPS1000A RCS2000

Wide
lineup



AGV
120W~1kW
RCS600 / 1000



electric
towing vehicle
600W~2kW
RCS600/1000/2000



electric
forklift
2kW
RCS2000

No,1

market share

in the wireless charging industry



plenty of
Applications



auto parts manufacturer G



AGV manufacturer S



FA equipment manufacturer T



Collaborative robot manufacturer D



AGV manufacturer A



Conveyance equipment manufacturer M



Electronic equipment manufacturer B

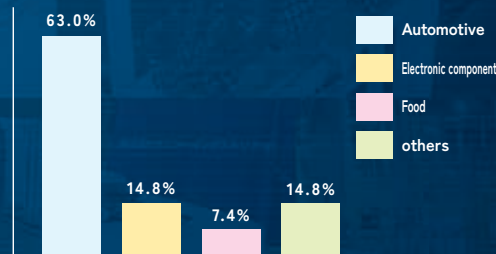


Specialized machine manufacturer Y

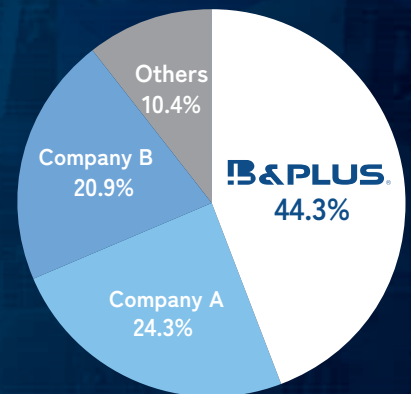


Equipment manufacturer Y

Among the market research on wireless charging systems for AGV, achieved No.1 sales volume share in 2020 in the global Japanese market.



Japanese global market | Usage (2020 results)



Japanese domestic market | sales volume (2020 results)

※researched by Fuji Keizai Co., Ltd.

This is **PLUS**



Reduce the burden of battery replacement

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



Realize 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 charge the battery little by little for each cycle. Repetition of shallow charging and discharging reduces deterioration of the battery and leads to longer life.



Free charging simulation and 4 easy steps to installation

We will check the current situation and provide a free simulation of what would happen if you went wireless. We will make the best proposal for your system. The system implementation will be carried out smoothly in 4 steps.

- 1 Checking the operational status
Measuring current consumption
- 2 Simulation
Unit selection
- 3 Product quote
and order
- 4 delivery
start of operation

B&PLUS®

unique
7 wireless
charging
advantages

output power

120w

600w



1 Overshelling lineup

In addition to a wide range of product lineups ranging from 120W to 2000W to suit various charging situations, we have developed a variety of product groups that meet customer needs and are used in a variety of situations.



600W~2000W
12V~48V compatible



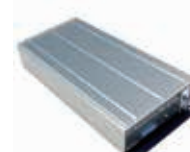
Head for
low-floor type AGV



Extremely small
Charging unit



Double head type
Charging unit

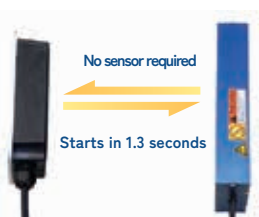


Superior environmental resistant
Power supply unit

2 Fast startup Start charging quickly

Just by facing each other, the heads instantly recognize each other and start charging automatically. The time it takes to start charging is a whopping 1.3 seconds. *B&PLUS' unique technology does not require any separate sensors.

*Actual value when using RCS600



3 Charging unit with zero battery consumption

The charging unit can be powered only by wirelessly transmitted electricity, so it does not consume the vehicle's battery. Since electric power can be used only for driving, it also contributes to improving operating efficiency.



Support battery selection !

**Set sales
is possible**



Rich
lineup

Can be connected to
lead batteries and
lithium-ion batteries.

We also accept inquiries about contact-type charging. Please feel free to contact us

RCS series

1kW

2kW

Various charging heads
flexible operation suitability

RCS1000

RCS
series

High-current high-speed charging
compatible with large machines

RCS2000

RCS
series

4 Overwhelmingly compact design

The RCS series has a compact system configuration, from the power supply unit to the charging unit, taking into consideration installation and mountability. In particular, the palm-sized charging unit is the smallest in the industry even with a high capacity output of 1kW. It can also be installed on small AGVs.



Compact !

5 High environmental resistance with IP65 certification

The charging head, which is filled with resin inside, has high protection properties and is maintenance-free. Dustproof and waterproof performance is ensured, allowing stable operation over long periods of time.



6 Small cable diameter generates less heat

B&PLUS' RCS series has a special control system that uses high voltage and low current, making it possible to minimize heat generation. Therefore, it is possible to suppress the influence on peripheral devices and the temperature rise within the system.



7 External signal output and battery detection possible

It is possible to output signals to the outside from the LED display of each power supply/receiver unit and the D-sub connector. By connecting to an indicator light, etc., you can quickly check the charging status and the occurrence of errors.



» Notes on using wireless charging equipment

- This product, which is one of those high frequency utilization equipment of Radio Law. In the case of using in Japan, please apply for a permission application for high frequency utilization equipment permission to Ministry of Internal Affairs and Communications.
- 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)
- However, please be careful when operating it as it may affect electronic devices (sensor devices) and medical devices (pacemakers, etc.).

Ideal for small and medium-sized AGV
Compatible with small charging units
for further space savings

RCS600



600W wireless charging system



AGV (Vehicle) side		Charging station side	
Charging unit	Passive head	Active head	Power supply unit
12v type Maximum output current 34A Standard : RCS600B-CA12 Old Standard : RCS600-CA12	Standard: RCS600-CH-015 Long distance : RCS600-CH-L-015 Low floor model: RCS600-CH-L2-015	Standard: RCS600-AH-005 Long distance : RCS600-AH-L-005 Low floor model: RCS600-AH-L2-005	Standard : RCS600-AC Environmental resistant type with standard head : RCS600NF-AC Environmental resistant type with long-distance head : RCS600NF-AC-L Low floor model: RCS600-AC-L2
24v type Maximum output current 25A Standard : RCS600B-CA24 Old Standard : RCS600-CA24 Compact : RCS600S-CA24 Ultra compact : RCS600S-CA24-L2			
48v type Maximum output current 10A Standard : RCS600B-CA48 Old Standard : RCS600-CA48			
for OMRON LD series 20A RCS600-CA24-OMR			
for KeiganALI 7A RCS600S-CA24-L2-KGN7			
	RCS600-CH-L2-KGN7		

*If you have selected a low-profile head, please also use a low-profile unit.

*Head cable length is standard 1.5m for passive head and 0.5m for active head (3m for others).

*Charging units are available with normal open and normal close type. Please contact your sales representative for details.

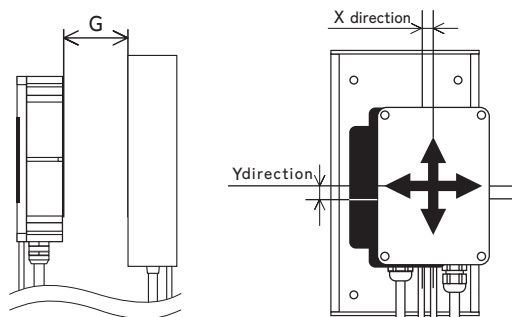
The definitive version of compact wireless charging!

**RCS
600**

Product specification

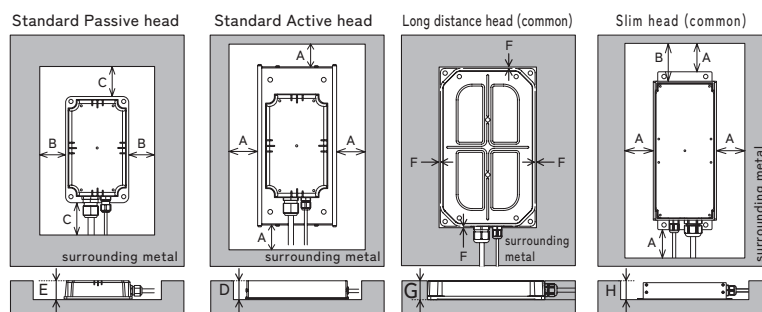
	Charging unit	Passive head	Active head	Power supply unit
Power specifications	12V type CC-CV CC: max 34A CV: max 15v		Input AC 100V $\pm 10\%$ single-phase AC 200V $\pm 10\%$ single-phase max.current consumption 9A(at 100V)、4.5A(at 200V)	
	24V type CP-CV CC: max 25A CV: max 35v			
	48V type CP-CV CC: max 12A CV: max 60v			
Size	Standard W260 × D160 × H80(mm) Compact W143 × D135 × H77(mm) <small>※Standard: common for 12V/24V/48V type ※Compact/Ultra compact: 24V type</small>	Standard W170×D100×H45(mm) Long distance W250×D150×H40(mm) Ultra compact W250×D100×H45(mm)	Standard W254×D125×H45(mm) Long distance W250×D150×H40(mm) Ultra compact W250×D100×H45(mm)	Standard/Long distance/Slim W210 × D350 × H80(mm)
Weight	2.7kg	Standard 2.0kg Long distance 3.1kg	Standard 3.0kg Long distance 3.3kg	3.5kg
Proctetion class	IP40	Standard IP65 Long distance IP6X	Standard IP65 Long distance IP6X	IP20
Other specifaions	Target battery Lead/Lithium ion battery Ambient temperature 0~50℃ External input/output signal valid			

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
Ultra compact head	20 ~ 40mm	± 10mm	± 20mm

Influence of surrounding metal



	A	B	C	D	E	F	G	H
Standard head	45mm	57.5mm	87mm	46mm	45mm	-	-	-
Long distance head	-	-	-	-	-	0 [※]	40mm	-
Ultra compact head	50mm	65mm	-	-	-	-	-	45mm

*The long-distance head is not affected by surrounding metal and can be installed surrounded by metal.

Power supply unit • Active head Mounting bracket

Assembly type

Target : **RCS600 / RCS1000 / SIPS1000A / RCS2000**

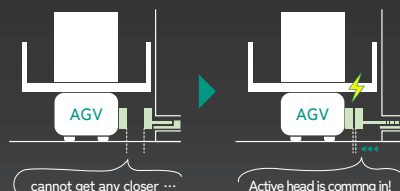
This is a bracket that fixes the power supply unit/ active head. The mounting position can also be adjusted forward and backward and up and down. It is also possible to install a power supply unit on the back. We will send you a complete set of parts, so you will have to assemble it yourself.

for standard power supply unit	RCS-STAND-01
for environmental resistant type power supply unit	RCS-STAND-02
for ultra compact head type	RCS-STAND-03



Active head push-forward unit

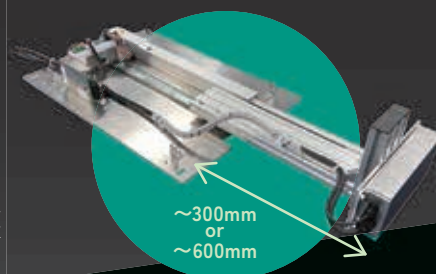
Wireless charging can be possible even if Roll box pallet is on



You can set the charging station with pushing forward the active head. The distance to push forward can be adjusted according to the customer's demand. Two stroke patterns are available: 300 stroke and 600 stroke.

Type: RCS-PUSHMAC

Target : **RCS600 / RCS1000 / SIPS1000A / RCS2000**



Is it okay to get caught durign pushing forward?

No problem!

An entrapment prevention case is also available as an op
Please contact your sales for details.



Large capacity yet compact
Build an optimal charging system
with flexible head configuration

RCS1000



1kW wireless charging system



Set pattern

Compact

Superior environmental resistant

Long distance



AGV (Vehicle) side		Charging station side	
Charging unit	Passive head	Active head	Power supply unit
24v type Maximum output current 34A Standard : RCS1000B-CA24 (normal close) Old standard : RCS1000-CA24 (normal open) Compact : RCS1000S-CA24 (normal close) Double head: RCS1000D-CA24 (normal close)	Standard: RCS1000-CH-015 Long distance: RCS1000-CH-L-015	Standard: RCS1000-AH-005 Long distance: RCS1000-AH-L-005	Standard: RCS1000-AC Long distance: RCS1000-AC-L Superior environmental resistant: RCS1000NF-AC
48v type Maximum output current 17A Standard : RCS1000B-CA48 (normal close) Old standard: RCS1000-CA48 (normal open) Compact : RCS1000S-CA48 (normal close)			

*Head cable length is standard 1.5m for passive head and 0.5m for active head (3m for others).

*Charging units are available with normal open type and normal close type. Please contact your sales for details.

Double head type charging unit

24V type Type: RCS1000D-CA24

Target : **RCS1000 24v** / **SIPS1000A**

Charging unit that can connect
2 passive head to 1 unit.

Ideal when you want to install charging stations in different directions on the AGV driving route, or when charging stop points are slightly shifted. By supporting flexible placement, the degree of freedom in station installation is expanded. Additionally, by replacing the charging unit, you can add a passive head to your existing charging system. Even if there are two heads, there is only one charging unit, so control with AGV is possible as before.

Maintains traditional functionality



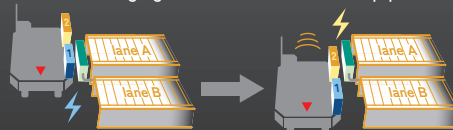
[Example①] Use an active head in a different position than the first head

Automatically recognizes and starts charging

Passive head that are not in use will be in a static state

Charging even with the active head using in a different route

[Example②] Soon after stopping in lane A, stopping again at lane B charging will be done at either stop position.



The number of active heads can be minimized

Make the most effective use of downtime

PATLITE® Set

Type: RCS- PTL-SET01
RCS- PTL-SET01-N

Target : **RCS600** / **RCS1000** / **SIPS1000A** / **RCS2000**

The "ready", "charge", "end" and "error" signals displayed by the LEDs on the side panel of the power supply unit/charging unit can be output to the PATLITE. You can monitor the charging status from a distance without having to get close to the unit.

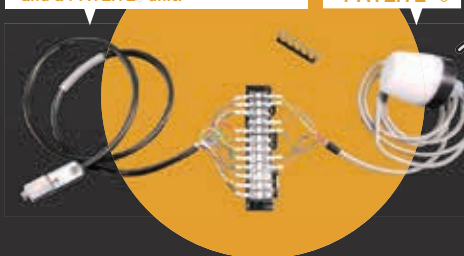
*Vehicle and charging unit are not included.

*Model depends on connected unit. Refer to the manual for details.

PATLITE® Set includes a dedicated D-sub cable, a terminal block, and a PATLITE® unit.

PATLITE®

Display charging status with light color



Recommended points!

There is no need to select a patrol light from the beginning.

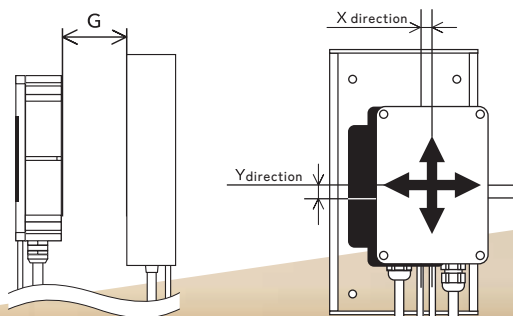
It can be difficult to find a suitable product among a large number of indicator lights. The current consumption and voltage of the PATLITE selected by B&PLUS have been confirmed, so you can save yourself the trouble of selecting one and use it with confidence.

RCS 1000

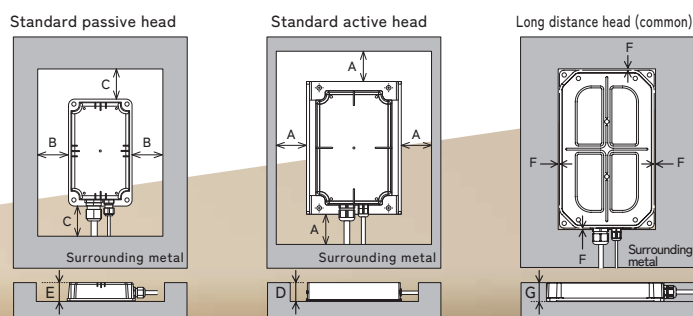
Product specification

	Charging unit	Passive head	Active head	Pwer supply unit
Power Specifications	24v type CC-CV CC: max 33.5A CV: max 30v		input AC 200V ±10% single-phase max.current consumption 7.5A <small>*別売りのACケーブル(AYS-215)をご使用いただければ、AC100V±10%単相でも使用可能</small>	
	48v type CC-CV CC: max 17A CV: max 60v			
Size	Standard W260×D160×H80(mm) Compact W135×D143×H77(mm) W head W280×D200×H80(mm) <small>*Standard/Compact : common for 24V/48V type *W head : 24V type</small>	Standard W170×D100×H45(mm) Long distance W250×D150×H40(mm)	Standard W210×D150×H45(mm) Long distance W250×D150×H40(mm)	Standard/Long distance W350×D210×H80(mm) Superior environmental resistant W450×D200×H80(mm)
	Standard 2.7kg Compact 2.2kg W head 4.7kg	Standard 2.0kg Long distance 3.1kg	Standard 2.8kg Long distance 3.3kg	Standard 3.3kg Superior environmental resistant 6.1kg
Protection class	IP40	Standard IP65 Long distance IP6X	Standard IP65 Long distance IP6X	IP20
Other specifications	Target battery Lead/Lithium ion battery Ambient temperature 0~50℃ External input/output signal valid			

Transmission distance and center-offset between the heads



Influence of surrounding metal



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

*For long-distance heads, the total XY center-offset is up to 20mm.

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

*Long distance head can be embedded in metal. When using surrounding metal F with 0mm, G is 30 and a protrusion of 10mm is required.

Achieves high-speed charging
with the highest output*
in **B&PLUS** history.

*As of October 2021, this indicates the maximum output of our wireless charging products.

RCS2000

2kW wireless charging system



When installing a charger on a large vehicle, etc.

Double the charging current by multiple parallel connection

Achieves high power and speedy charging

Please contact your sales for details.

Charging time

can be

shortened!

AGV (Vehicle) side		Charging station side	
Charging unit	Passive head	Active head	Power supply unit
<div> <div>24v type</div> <div>Maximum output current</div> <div>67A</div> </div> RCS2000-CA24	RCS2000-CH-015	RCS2000-AH-030	RCS2000-AC-B24
<div> <div>48v type</div> <div>Maximum output current</div> <div>34A</div> </div> RCS2000-CA48	RCS2000-CH-B48-015	RCS2000-AH-B48-030	RCS2000-AC-B48

*Head cable length is standard 1.5m for passive head and 0.5m for active head (3m for others).
*The charging unit is available with normal open type. Please contact your sales for details.

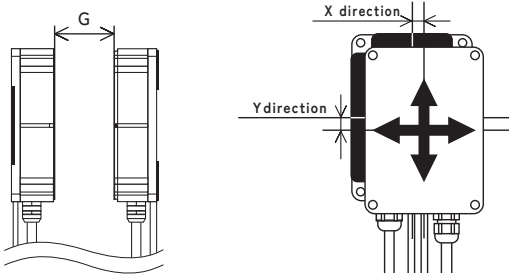
Easily and efficiently charge and maintain large AGVs, electric towing vehicles, and electric forklifts.

**RCS
2000**

Product specification

	Charging unit	Passive unit	Active unit	Power supply unit
Power specifications	24v type CC-CV CC: max 67A CV: max 30v		input AC 200V $\pm 10\%$ single-phase Maximum current consumption 7.2A	
	48v type CC-CV CC: max 34A CV: max 60v			
Size <small>*24V/48V common</small>	W280×D200×H80(mm)	W250×D150×H40(mm)	W250×D150×H40(mm)	W350×D240×H131.2(mm)
Weight <small>*24V/48V common</small>	4.6kg	3.0kg	3.3kg	8.5kg
Protection class <small>*24V/48V common</small>	IP40	IP6X	IP6X	IP20
Other specifications	Target battery Lead/Lithium ion battery		Ambient temperature 0~50℃	External input/output signal valid

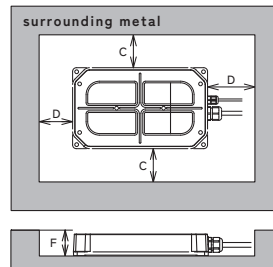
Transmission distance and center off-set between the heads



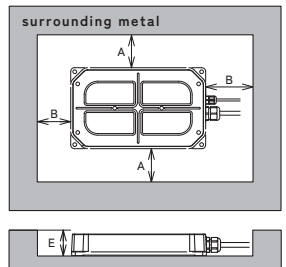
Transmission distance (G)	10~25mm / 2kW 25~30mm / 1.5kW 30~35mm / 1.0kW 35~45mm / 500W
Center off-set (X·Y)	X direction ± 10 mm Y direction ± 20 mm

Influence of surrounding metal

Passive head RCS2000-CH / -CH-B48



Active head RCS2000-AH / -AH-B48



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

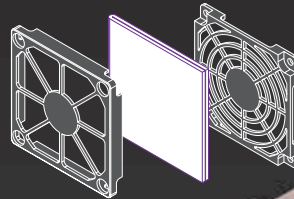
Protection filter for power supply unit

A dustproof filter kit that protects the RCS2000 series power supply unit, which is equipped with an air cooling fan as standard. Protect your power supply unit by replacing it regularly.

RCS-FILTER02	Filter	Polyester/vynlon 2.5mm thickness
RCS-FILTER02-SET	guard, cover	Resin (PPE+PS)

- *This product is attached to the intake port of the power supply unit to reduce dust and mist, and is not intended to completely prevent it.
- *Do not cut or wash the filter.
- *Please check the filter regularly and replace it if it is clogged or deteriorated. A dirty filter may cause malfunction or fire.

Type: RCS-FILTER02 / RCS-FILTER02-SET
Target: **RCS2000**



Protection box for power supply unit

Block the suction of dust floating in the air!

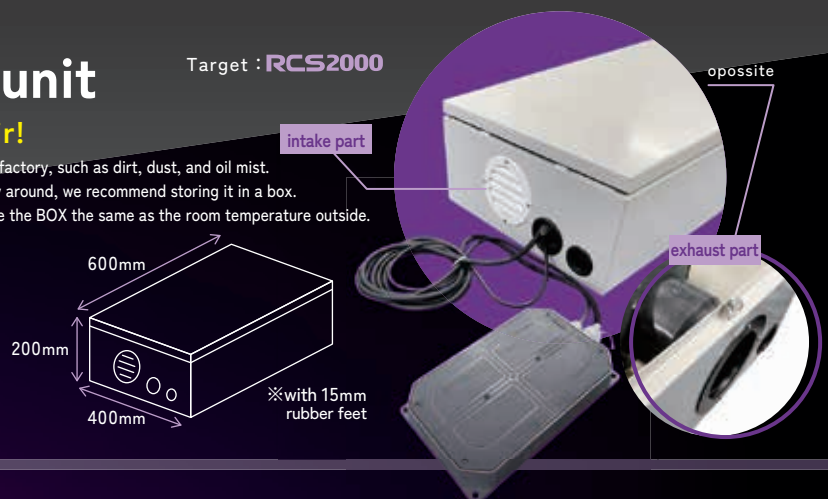
This box is designed to control the suction of foreign substances floating around in the factory, such as dirt, dust, and oil mist. If you are using the power supply unit in a location where foreign objects are likely to fly around, we recommend storing it in a box. The BOX has an intake part and an exhaust part, which can keep the temperature inside the BOX the same as the room temperature outside.

You can choose how to place it according to the floor space



*Anchor is not included.

Target: **RCS2000**










Wireless power supply system for AGV

Option list

Sries

» RCS600 RCS1000
SIPS1000A RCS2000

01 Filter for power supply unit		600 1000 1000A	A protective filter for the air intake vent on the side of the power supply unit. Please use it by pasting it on the two intake ports. Protects the inside of the device from dust and oil mist. If the surface becomes black, we recommend replacing it with a new filter. *There is one air intake on each side of the power supply unit. Please paste it on both. *As a guideline for when to replace it, we recommend replacing it before the opening of the intake part is no longer visible.
RCS-FILTER01 Filter: 24 pieces/Filter mounting tape: 8 pieces			
RCS-FILTER02 (Filter) RCS-FILTER02-SET (Filter, guard, cover set)		2000	A protective filter for the air intake vent on the side of the power supply unit. Use by pasting it on the air intake to protect the inside of the device from dust and oil mist. We recommend replacing it when the surface becomes black.
02 Cable to write charging settings to a compact charging unit			
RCS-DATA-CBL03 (cable length 2m/TypeA-TypeC) RCS-DATA-CBL04 (cable length 2m/TypeC-TypeC)		600 1000	
03 Connector cable for input/output signals			A cable that can input and output signals to the outside. Used to capture signals to external devices such as indicator lights and PLCs. Signals such as charging, charging completed, and errors can be input and output. *Can be connected to each unit.
RCS-DSUB-CBL		600 1000 1000A 2000	
04 Battery connection cable		600 1000 1000A	
M6terminal cable	RCS-CBL-M6-01 (1m) RCS-CBL-M6-02 (2m) RCS-CBL-M6-01-C (connector type 1m)	M8terminal cable	
M8terminal cable	RCS1000D-CA24 RCS2000-CA24 RCS-24CBL-M8-01 (1m) / 02 (2m)	RCS2000-CA48 RCS-48CBL-M8-01 (1m) / 02 (2m)	2000 1000D This is a cable that connects the charging unit and battery. Cable length can also be selected. The model differs depending on the unit. Please check the unit you are using.
05 Battery series/parallel connection cable		600 1000 1000A 2000	
M6 terminal cable	RCS-BTCBL-M6-003 (0.3m)	M8 terminal cable	
06 Thermistor cable		600 1000 1000A 2000	
RCS-THERM-M_-015(1.5m) / RCS-THERM-M_-025 (2.5m) / RCS-THERM-M_-C(connector type 2.5m) *In () enter "4" for standard/double-head types, or "3" for compact/ultra compact types.		Wire between the charging unit and the battery, and detect the battery temperature with the thermistor part.	
07 Extension cable This is an extension cable with connectors on both ends. It is used when you need to extend the cable from the active head to the power supply unit, or from the passive head to the charging unit. In addition to the standard cables, robot cable specifications are also available. The *** in the model number represents the cable length (e.g., RCS600AH-SIR-015 → length 1.5 m).			
	600	1000 / 1000A	
	Signal Extension Cable	Power Extension Cable	
Active head Robot cable	RCS600AH-SIR-*** 1.5m / 2.5m	RCS600AH-PWR-*** 1.5m / 2.5m	
Active head Standard cable		RCS600AH-PWN-*** 1.5m / 2.5m	
Passive head Robot cable	RCS600CH-SIR-*** 1.5m / 2.5m / 3.5m	RCS600CH-PWR-*** 1.5m / 2.5m / 3.5m	
Passive head Standard cable		RCS600CH-PWN-*** 1.5m / 2.5m / 3.5m	
	When using optional cables, the maximum length must not exceed 5.5 meters on the power supply side and 5.0 meters on the power receiving side.		
			
08 AC power cable and adapter			If the power cable diameter you are using is thicker than 2sq, please use this set to relay and connect. The relay adapter supports cable diameters from 2sq to 3.5sq. (Relay adapter model: WA3420K)
RCS-CBL04(3.0m),05(5.0m)(1000W) RCS-CBL02(3.0m),03(5.0m)(2000W)		1000 2000	
09 Stand for fixing power supply unit/active head (assembled type)		600 1000 1000A 2000	Active head push-out unit stand to secure the power supply unit and active head. The mounting position can also be adjusted forward and backward and up and down. It is also possible to install a power supply unit on the back. This product is assemble-your-self type.
RCS-STAND-01 (for standard unit) / RCS-STAND-02 (for superior environmental resistant unit) RCS-STAND-03(for power supply unit for low floor type AGV)			
10 Mounting bracket for small charging unit			
RCS-BRACKET-S		600 1000 1000A	
11 Output signal display PATLITE® set			A set includes a dedicated D-sub cable for this set, a terminal block, and a patrol light (NE type multi-color model). You can use it as is without having to select any equipment. It can also be connected to a power supply unit and can be used to visualize the situation. Please refer to the instruction manual for details.
RCS-PTL-SET01		600 1000 1000A 2000	
12 Active head extrusion unit			Please use this when you want to push the active head forward and install a charging station.
RCS-PUSHMAC		600 1000 1000A 2000	
13 Head protector		600 1000	
RCS-PROTECTOR01 (head for long distance) RCS-PROTECTOR02 (head for low floor type AGV)			

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