TO BE THE TOP OF WIRELESS POWER SUPPLY

B&PLUS®

The world unseen b

Artisan Technique

The orgin of manufatruring.
Making everything with a heart of effort.

Proud of the quality.

A confirmation system that does not allow compromise. Striving to provide stable products.

Development of new markets

Pursuing new value with an unconventional ideas.

by wireless feeding

Management philosophy

To become the world’ s best company of wireless Power!
Provide the original value (impression) to the customer
Challenge without being afraid of a change and become a talented person surpassing today’ s oneself.

Our company aims to become a company that users all over the world want to consult B&Plus about wireless power supply.
In 1984, for the first time we developed and sold products that wireless power supply and signal communication. Since then we've been selling them for industrial applications, for manufacturing equipment, machine tools, tool changer (ATC) and automatic transport vehicle (AGV). We have developed numerous products.
We are now developing products for numerous opportunities not only for industrial applications but also for semiconductor manufacturing equipment, agricultural robots, operating doors, rotating devices, educational applications, medical equipment and cancer treatment.
Wireless power supply is a very interesting technology, the possibility of this technology is very large. Our company is growing and getting new discoveries from customers.
We would like to continue to use this technology in the future to expand the possibilities of the new world. I hope you will reach out to B&PLUS and let us know now we can support you.

Atsushi Kameda, CEO
B&PLUS K.K.

Technology of B&PLUS

Precise product MADE IN JAPAN coming out of reliable technology and rich ide.

Accumulated technology creates meaningful and impressive product

We have continued to develop the product of wireless power and producing for more than 30 years. To offer the product along the needs of the customers. Our integrated system, development operation to sales in-house and prepare the best facilities and bring out the product.

Products that carry out wireless power supply and signal transmission are our original technology, and we have registered a number of patents and utility models. We are proud that the number of products is the top in the world. We are supported by the visitors of domestic and foreign companies such as a car manufacturer and a work machine maker.

Personal skills are improved in the team and leads to creating a new product!

Development section

Development and production of B&PLUS

“Produce valuable items from us"
The passions become together, and the product becomes completed.

Good environment leads to new manufacturing

In the development section, the expert employees who knows everything about the essence of the product and younger members with a new idea to challenging mind are working together as a team to develop the products.

Handling small to large electricity and variety of shapes. The wide development of products including of the wireless power. The knowledge and the technology exchanges between the university to share the information as well.

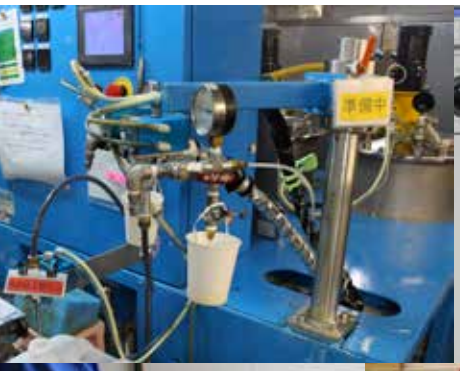
The production section has a high critical mind toward individual duties and works in meticulous attention.

By exchangihg opinions with each other, Always want to provid products of the high qualities to the customers.

Production section

We manufacture the products by helping and checking each other.

It is the workplace that anyone can speak to build the better process of manufacture!





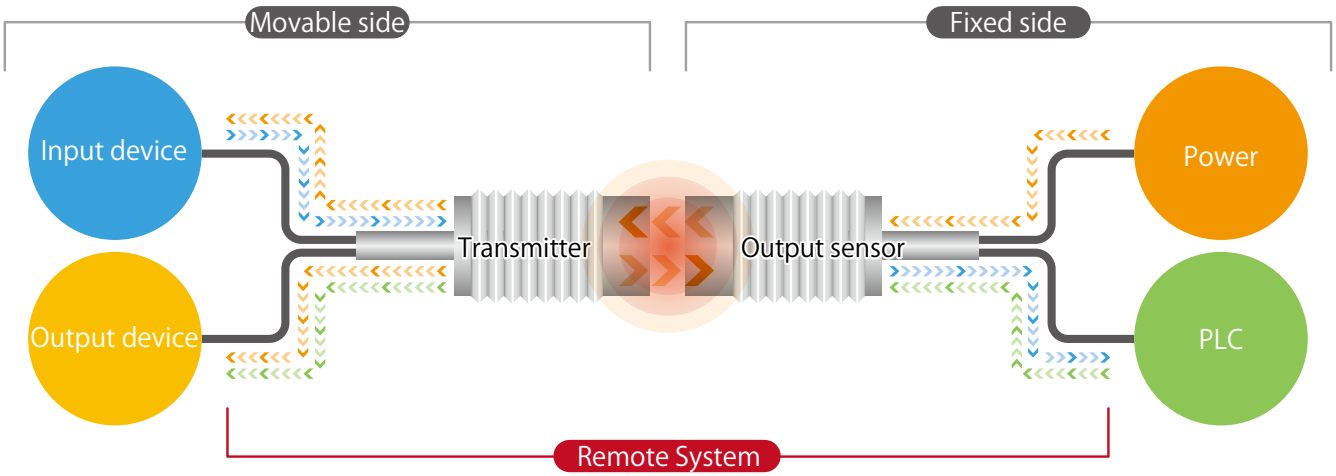




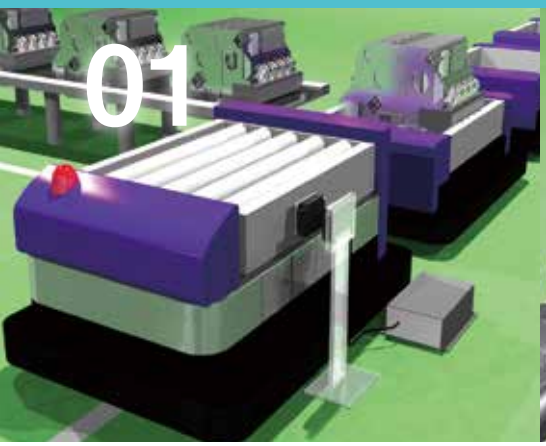
Product information

What is the Remote System ?

The Remote System is a system of our original, that supplys power and transmits signal wirelessly by an inductive coupling method. (Many related Patents)



Industrial applications using remote systems



Wireless charge to the work conveyance AGV

Before introduction

While charging, taking the battery out and disconnect the connector to bring it to the charging station.

× Connection problem and the labor of taking off of the battery
× Risk of the electric shock

After introduction

Enable to receive and feeding while loading or stopping. Just by facing the feeding head part, possible to charge. Contributes to reducing the man-hour.

○ **Easier to charge**
○ **Possible by automatic charge and operates for 24 hours**
○ **It is safe as there is no exposure of the current-carrig part.**

The sitting confirmation of the body and start of the clamp use electromagnetic valve.

Before introduction

To feeding and signal transmission to various sensors and drive units, each time it had to connect the connector.

× Mounting and dismounting the connector.
× The contact failure due to foreign matter and slag

After introduction

Just by facing the remote system, it is possible to transmit and feeds to various signals (e.g. CC-LINK) Succeed by the automation process.

○ **Able to autonate work and save the time.**
○ **Unnecessary of maintenance of the connector.**
○ **Dissolves the malfunction of the sputtering.**

Thermometry inside of the stirring apparatus in the food factory

Before introduction

Not being able to stir without being able to turn consecutively for cable guidance.The lifetime was limited because it was contact process and not strong against water.

× Appropriate stirring processing, temperature management is difficult
× Not strong against water, and the lifetime was short

After introduction

By using the remote system, as it is non-contact, a consecutive turns were enabled because they could stir it without worrying about a cable.Also, strong against water and lifetime prolonged as well as saving the cost.

○ **Appropriate temperature management is possible**
○ **Life was prolonged and led to a cost cut**

Product information

Remote Power Supply System

Wireless Power Supply/ Power Charge

Wireless Power Supply

Voltage: 12VDC/24VDC
Current: 1A...5A

Wireless Power Charge

Voltage: 14VDC/28VDC/30VDC
Current: 1A...8.5A
(due to the state of the battery)

Remote SensorSystem

Wireless power supply & signal transmission

Wireless Power Supply

Voltage: 12VDC/24VDC
Current: 5...550mA

Signal transmission

Input signals: 1,2,4,8,12,15,16 signals

DC 2-wire sensor
(Proximity sensor, limit switch etc.)

DC 3-wire sensor
(Proximity sensor, photoelectric sensor etc.)

Thermocouple, Resistance thermometer, load cell type
Analog sensor (0...10V)

Remote coupler system

Wireless power supply & Bidirectional Signal transmission

Wireless Power Supply

Voltage: 24VDC
Current : 300mA ～ 2A

signal transmission

Input + Output signals : 4+4 · 8+8 · 64+32signals

DC2/3 wire sensor
(Proximity sensor, photo switch etc.)
solenoid valve etc.

RS-232C、CC-Link、DeviceNet、PROFIBUS-DP、IO-Link

RFID system

Writing a variety of information in the ID tag attached to the "object" , and ID antenna, installed at any location, reads and writes its information.
ID system to integrate the "information" and "object" is the key technology that can accommodate from automated mass production system to a flexible high-mix low-volume production system.

Detector sensor

We provide high frequency transmission sensor which detects metallic object, electrostatic capacity sensor which detects all object like as non-mental, photoelectric sensor for long distance detection by infra-red rays or laser, single or multi limit switch suitable for high-precision positioning of processor.
Also various accessories are prepared.

Linear sensor

Linear sensors to detect linear displacement and rotary sensors to detect angular displacement which are used in various field like as industrial machines or constructional machinery, various work vehicle or wind power or solar power generation.
Both non-contact-type and contact type are prepared in linear and rotary.

Automatic removable connectors

Automatic removable connectors which adopts ODU original technology, which keep stable contact of long duration. Various types of pins or housings are prepared.MAC series is a module type to use a various combinations of any pins.

Auto coupling unit

Auto coupling unit for liquid which adopts CEJN original technology for valve design.
It is possible to detach automatically under air or water pressure.

OEM development

We will suggest or design to suit the costomers' application not only in the field of wireless power supply but also in other field.
Please fill free to contact us.

Applied technology – Prototype development

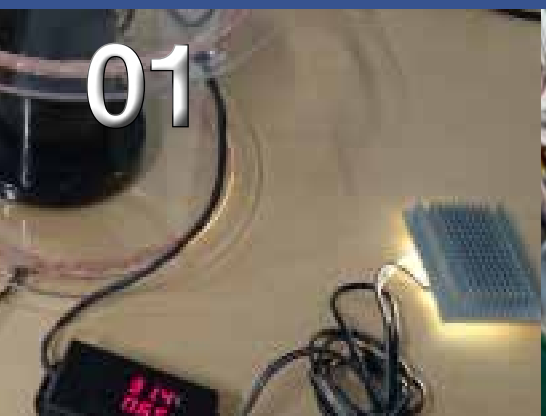
It is possible to prototype wireless power supply according to your request. Applied technology staff will support you in total!

In response to customer's requests for interest in wireless power supply, we accept various consultations such as sample preparation to examine the image of movement, prototype development for structural review, actual design for mass production, etc. B & PLUS has established the new section "Application Technology Department", we propose the optimum step according to the customer's request, and the staff totally support, the examination of wireless power supply.

Startup prototype of B&PLUS『Lean start-up』

Based on lean startup, B&PLUS provides customers with prototypes of wireless power supply in a short period of time. From the initial stage we are doing a startup that will become a foothold for function confirmation of wireless power supply, structure examination and market review. Our "Lean start-up" is a typical start-up method in Silicon Valley and it is a method that realizes the shortest possible cost by reducing customer's request to the minimum function (MVP: Minimum Value Products).
We will prepare the best suggestions based on more than 35 years of know-how and over 1,000 product development results.

Startup prototype example



Medium distance wireless power supply to lighting LED

Special shape wireless power supply

Standard board set for wireless power supply

Wireless power supply from linear shape to ring shape

Wireless power supply for embedded devices for medical use

Ring coil + "C"shaped coil power supply to torque sensor

Applied technology – Prototype development

Wireless power supply　Flow of development

Introduction of the flow from startup trial production to mass production development.

Confirmation of request

We will confirm the application, power, communication method (contact signal, serial communication such as RS232C etc.) , shape, environmental performance, communication distance or offset.

Customers who want to try out wireless power supply.

Startup Prototype

We make first rough prototypes based on our existing products,to understand the function,structure points, and verify the effect. We corresponds to wireless power supply of various shapes and specifications.

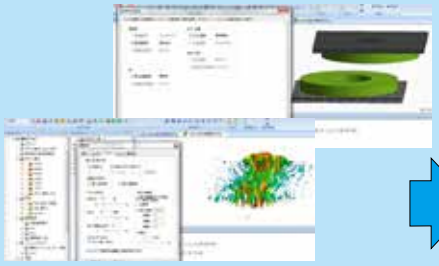
Power supply to wearable devices

Power supply to rotating equipment

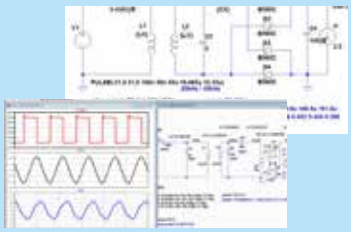
Customers who want to judge more details in size or transmission distance before the request of prototype or mass production.

Simulation

More detailed introduction effect is carried out by simulation and construct the final shape.



Magnetic field analysis/ simulation



LCR circuit simulation / Transmission power simulation

Function prototype(ES)

Create a new PCB. It is a wireless power supply sample assuming the state that it is incorporated.
(Circuit design, soft design, pattern design, PCB initial cost, prototype creation, verification, management etc.)

Mass production prototype (MP)

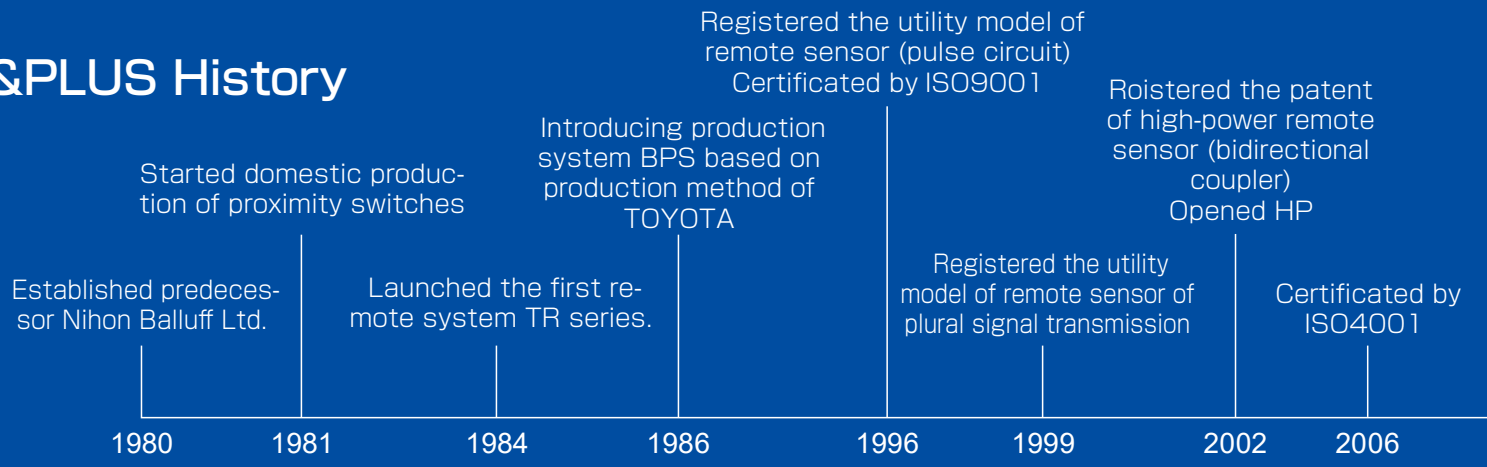
We will revise for mass production based on problem in prototyping functions.
Production preparation for creating molds also applies.
(Circuit design, soft design, pattern design, PCB initial cost, prototype creation, Jig tool preparation, mold, EMC test, verification, management etc.)

WPT (Wireless Power Transfer) Applied Technology Center Omiya Office

Since October 2018, we established the WPT applied technology center in Omiya. The applied technology department statts reside and anybody can visit the demo-exhibition of various products. In addition, the factory tours is availalble at the headquaters.

B&PLUS Profile

B&PLUS History



1984

Launched the first remote system
Realized wireless of the proximity sensor by the remote system

Plural signal transmission
Corresponding to the plural signal transmission (max. 15)

Downsizing
Small size remo
signals which c
on tool changer.

Corresponding to the temperature signal
Wireless power supply and signal transmission of the analog signal from thermocouple or resistance thermometer

1997

Corresponding to wireless power supply and bidirectional signal transmission
Realized the driving solenoid valve as well as 24V/1A wireless power supply

Launched the C
1KW(OEM) Ren
izing in power cha




Profile

Company name　B&Plus
Established　in September, 1980
Capital stock　100million yen
CEO　Atsushi Kameda

Business

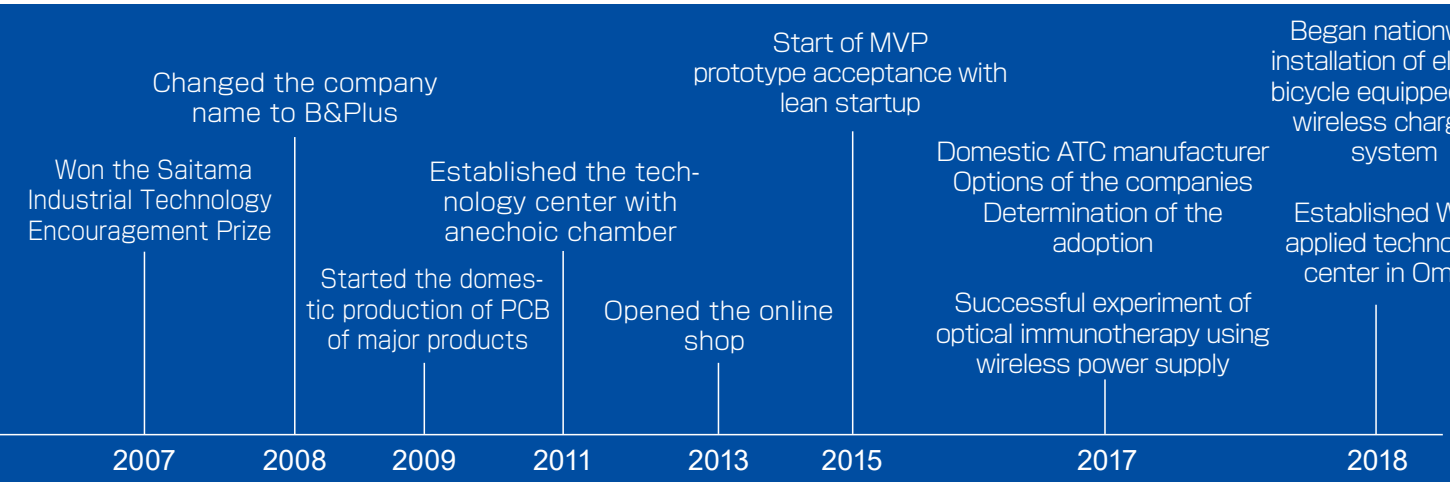
- Development, manufacture and sale of wireless power supply and chage systems
- Development, manufacture and sale of sensors for FA
- Development, manufacture and sale of system equipment for FA
- Sale of FA parts
- OEM business

Office

Head office & Technology center
WPT applied technology center
Nagoya office
B&PLUS USA CA Office

Main Customer

- AISIN AW CO., LTD.
- AIDA ENGINEERING, LTD.
- AMADA CO., LTD
- Isuzu Motors Limited
- Okuma Corporation
- Ono Sokki CO., Ltd.
- Kawasaki Heavy Industries, Ltd.
- KITAGAWA IRON WORKS CO.,LTD.
- KOSMEK LTD.
- KOBELCO CONSTRUCTION MACHINERYCO., LTD.
- Komatsu NTC Ltd.
- Komatsu Ltd.
- KOMORI Corporation
- Kondo Seisakusho Co., Ltd.
- JTEKT Corporation
- SHIBUYA KOGYO CO., LTD.
- SHIMIZU CORPORATION
- JATCO Ltd
- Showa Aircraft Industry Co., Ltd.
- SHIN NIPPON KOKI CO., LTD.
- SUZUKI MOTOR CORPORATION
- STAR SEIKI CO., LTD.
- Sumitomo Heavy Industries, Ltd.
- Daihatsu Motor Co., Ltd.
- DENSO CORPORATION
- Tokyo Electron Limited
- TOSHIBA MACHINE CO., LTD.
- TOYOTA MOTOR CORPORATION
- Toyota Industries Corporation
- TOYOTA AUTO BODY CO.,LTD.
- Toyota Technical Development Corporation
- NISSAN MOTOR CO.,LTD.
- Nisshinbo Holdings Inc.
- Nitta Corporation
- The Japan Steel Works, Ltd.
- Pascal Corporation
- BL AUTOTEC, Ltd.
- Hino Motors, Ltd.
- FANUC CORPORATION
- SUBARU CORPORATION
- Bridgestone Corporation
- FURUKAWA ROCK DRILL CO.,LTD.
- Press Kogyo Co.,Ltd.
- Bosch Corporation
- HORKOS CORP
- Honda Motor Co., Ltd.
- MAKINO MILLING MACHINE CO., LTD
- Maxell Holdings, Ltd.
- Mazda Motor Corporation
- Miki Pulley Co., Ltd.
- Mitsui Seiki Kogyo Co., Ltd.
- Mitsubishi Motors Corporation
- Mitsubishi Heavy Industries, Ltd.
- MIWA LOCK Co., LTD.
- Murata Machinery, Ltd.
- DMG MORI Co.,Ltd.
- YASDA PRECISION TOOLS K.K.
- Yamazaki Mazak Corporation
- Yamaha Motor Co., Ltd.
- UD Trucks Japan Corporation
- YUKEN KOGYO CO.,LTD.
- U-SHIN LTD.
- Yushin Precision Equipment Co., Ltd.
- Creative Case by.YOHO
- RIKA KOGYO CO., LTD
- YKK CORPORAIONent, manufacture



te sensor of 12
an be mounted

Option adopted by domestic ATC manufacturers

Arrival of the linear shape remote system

Remote sensor system capable of wireless power supply & signal transmission while moving linearly

Charging system like as 210W,
mote power supply system special-
arge

Launched Ring remote sensor

Remote sensor system specializing in attaching to the rotating axis

Electric bicycle equipped with wireless charging system installed nationwide

※ Described only some information about patents and utility model

Wireless Power Supply by

B&PLUS K.K.

http://www.b-plus-kk.jp

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URL:http://www.b-plus-kk.com

QUALITY ASSURANCE JIC REGISTERED ORGANIZATION

MS JAB CM002

(ISO9001:2015)and(ISO14001:2015)have been certified.
(Except for the B & PLUS USA CA Office)

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