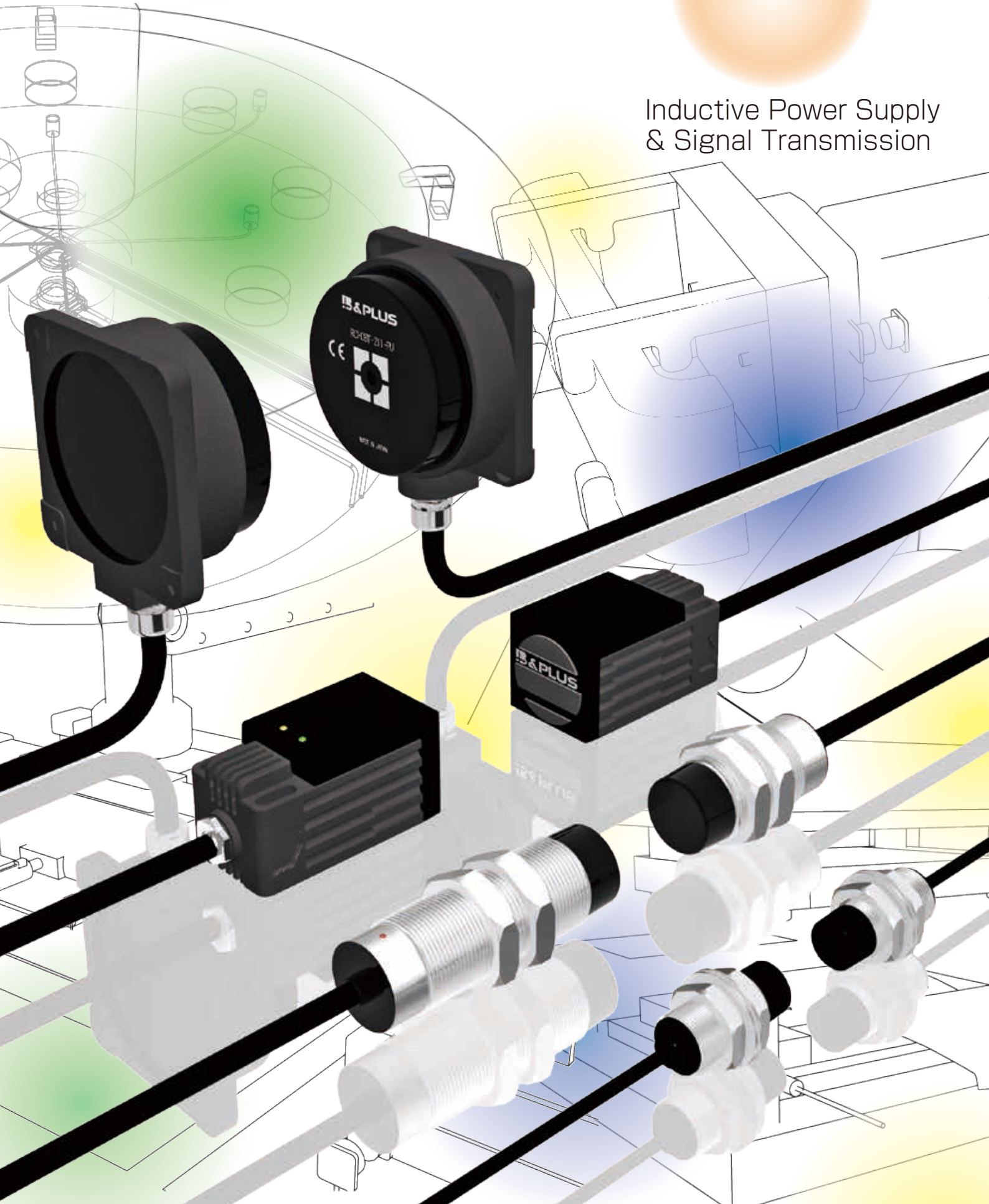
B&PLUS®

Applications for Remote Systems

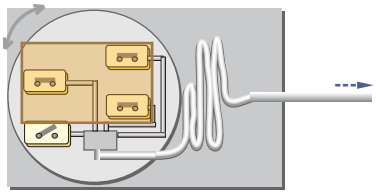
Inductive Power Supply & Signal Transmission



Ideal application for the Remote system

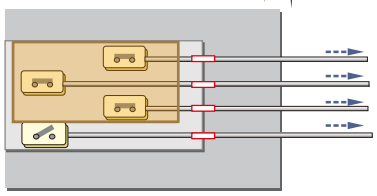
Remote system can provide unique solution to the problem area of motion applications

- ● Cable



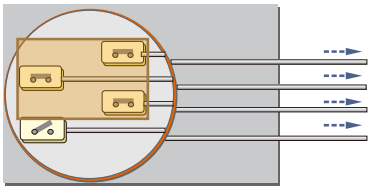
- Stress damages
- Limitation of physical movement.
- Additional space requirement

● Connector



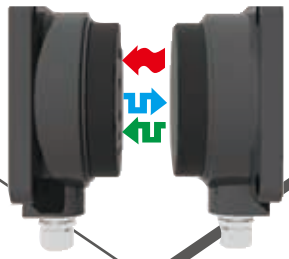
- Wear and tear (maintenance is necessary)
- Human error when connecting
- Protection requirement for exposed connectors

● Slip ring



- Limited life cycle (maintenance is necessary)
- Vulnerable to dusty and wet area
- Increased size of rotary mechanism

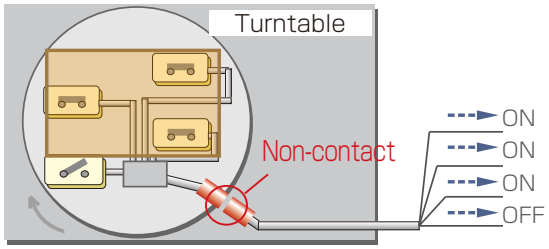
Remote System is the answer!



Remote System can transmit power and signal over a gap simultaneously, making solution beyond physical limitation possible.

Rotary unit

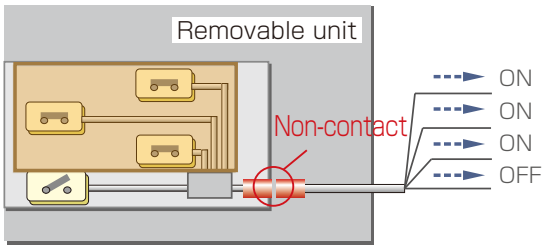
◎ No stressed cable



- No cable movement
- No limitation of turning radius

Interchangeable unit

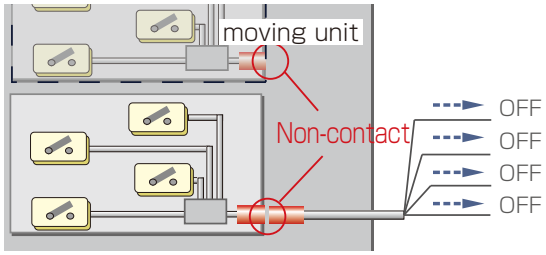
◎ Instant change out



- No connection labor
- No wear and tear
- No human error

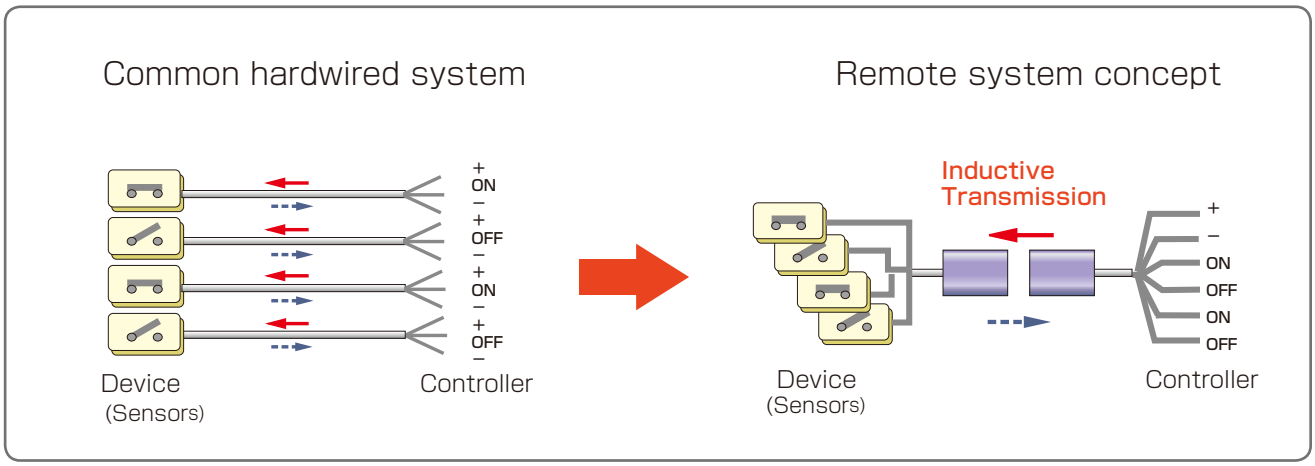
Moving unit

◎ Dust & contamination OK



- No cable movement
- No physical connection
- Protection class IP67

Wiring through Air Gap



Advantages of Remote System

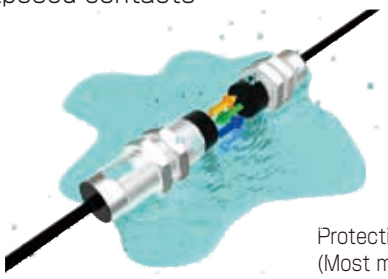
Power and signal transmission at a set of Remote system

The multiple signal transmission is possible by one system.

Possible transmission through partition

Power and signal transmission limited to non-metallic partitions.

No exposed contacts



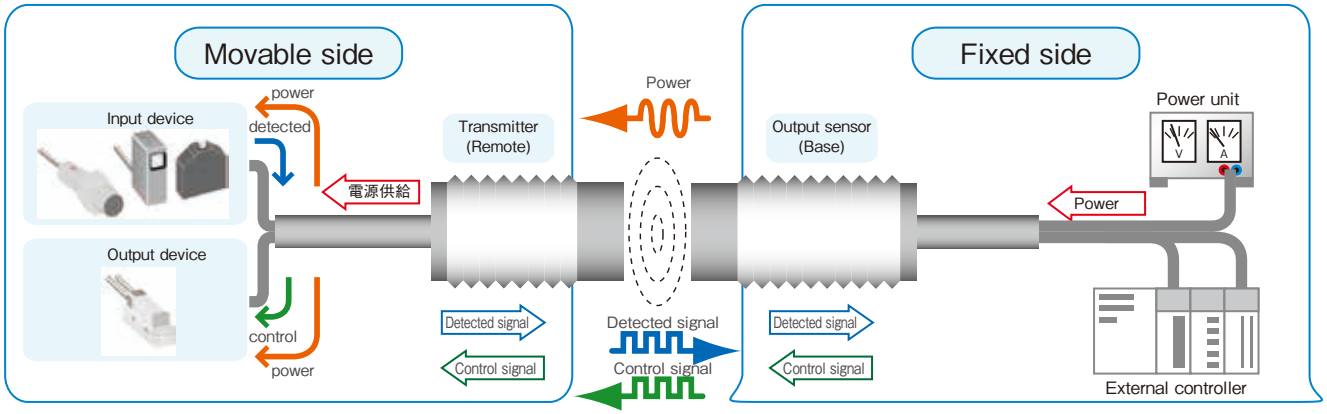
Protection class IP67
(Most models)

Direct connection of Output signal to PLC I/O

Signals :
Switch signal (parallel)
Analog signal (4...20mA or 0...10V)
Data (RS232C, CC-Link and other)

Concept of Remote System

Remote System consists of the Transmitter mounted on the movable side and the Output sensor installed on the fixed side.
When the Transmitter comes into the transmittable field of the Output sensor, inductive power is supplied to the Transmitter, and signal transmission is performed.



Transmitter (Remote)

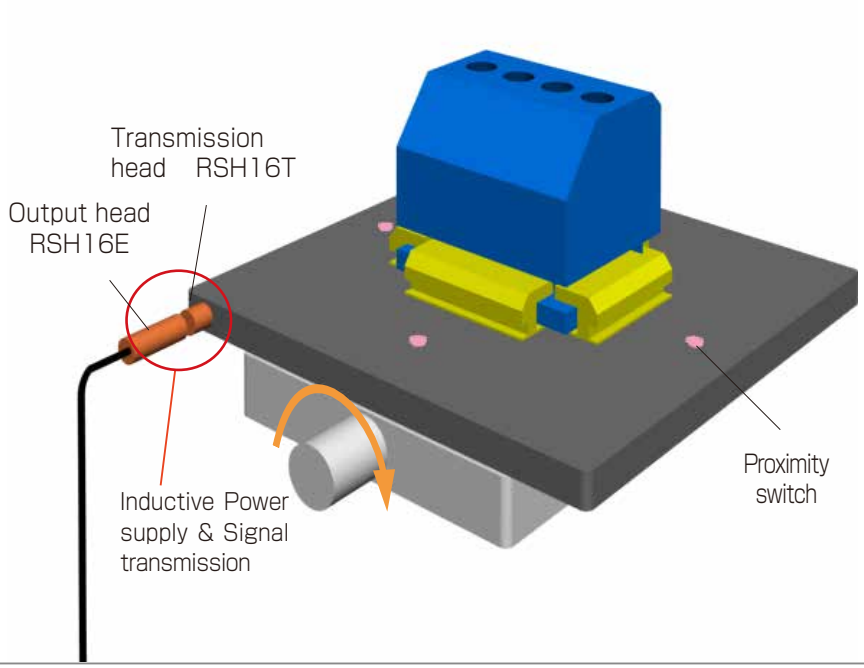
Receives power and command from the Output head supporting connected devices and send feedback to Output head simultaneously.

Output sensor (Base)

Hardwired to Power supply and Controller.
Inductively supplies power to the Remote head as well as 2-way communication with Remote head simultaneously.

Multi surface process turning Jig, Work piece mount verification

rotating



Previous problems

- Cable breakages from stress

Solution

Rmote System

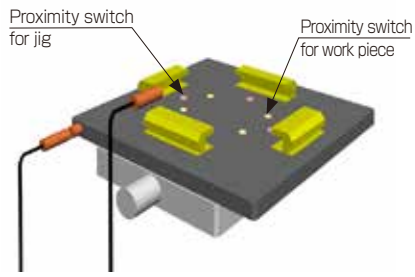
After improvement

- Eliminated stress points, eliminated cable breakage problems.
- Also contributed to space saving inside of the machine.

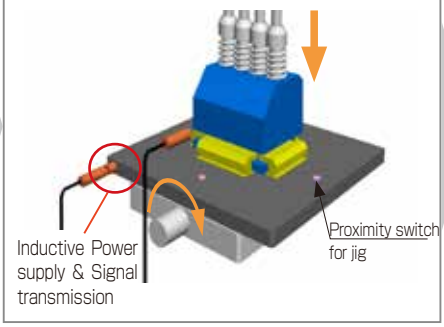
Application

Machining 2 faces of the work piece on the pallet which turns 90 degree.
Remote system supplies power to 12 proximity switches and transmits their switching state.

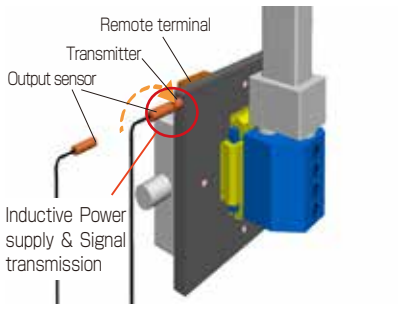
Detecting work piece and jig



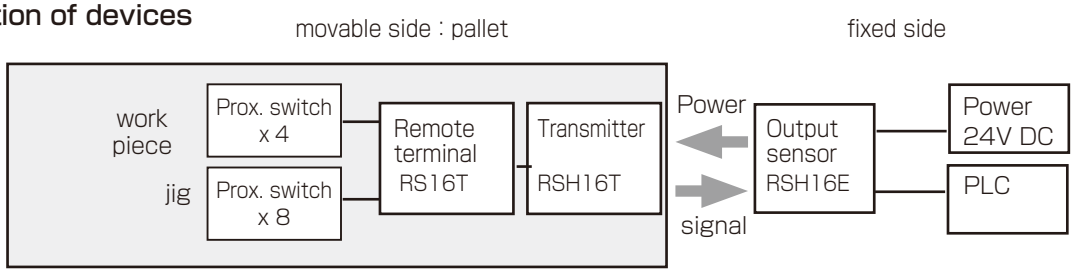
Mount confirmation and machining upper surface



Pallet turns to machine the side surface

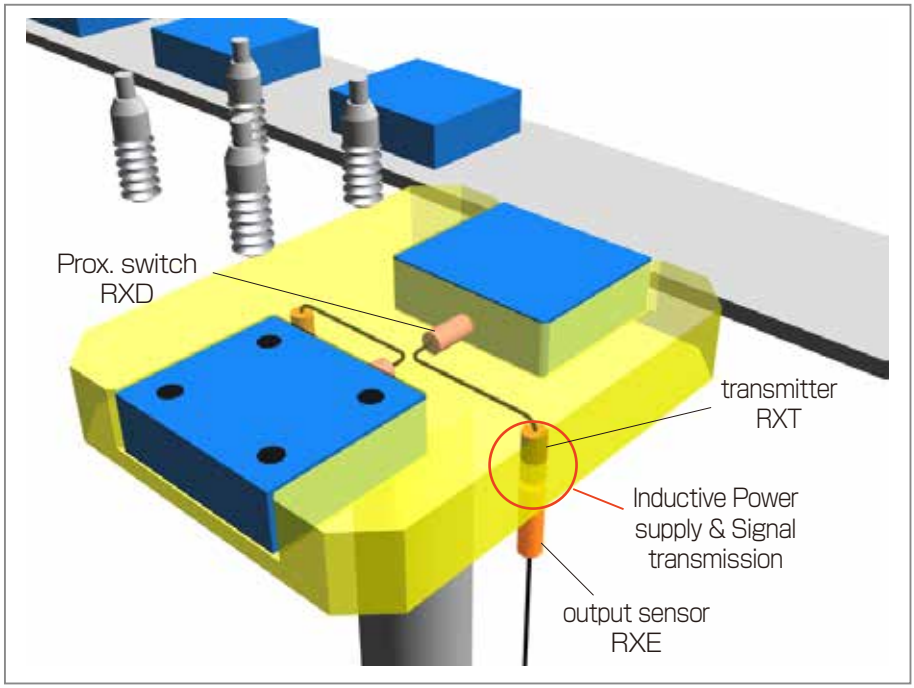


Construction of devices



Work piece detection on a turntable

rotating



Previous problems

- Cable breakages from stress

Solution Rmote System

After improvement

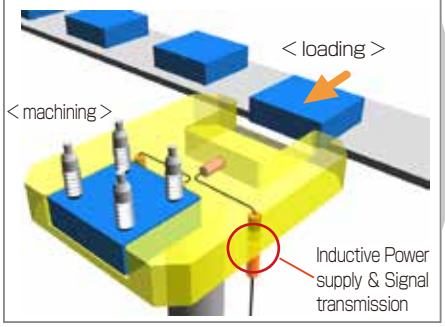
- Eliminated stress points, eliminated cable breakage problems.
- Free from limitation of cable movement, no need to return to the home position.

Application

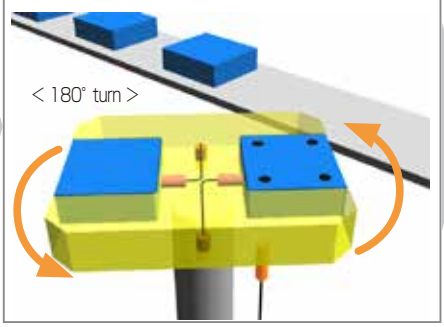
Machining and loading/unloading are performed continuously by turning the turntable which has two jigs

Remote System supplies power to proximity switched and transmits the switching state of the sensor.

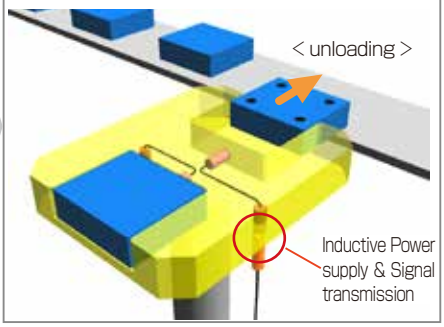
Machining and loading



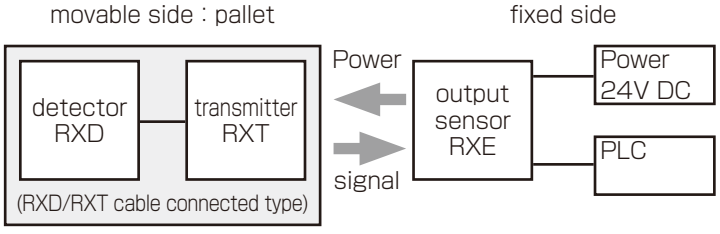
Pallet turns 180 degree after verifying new work piece



Unloading and machining

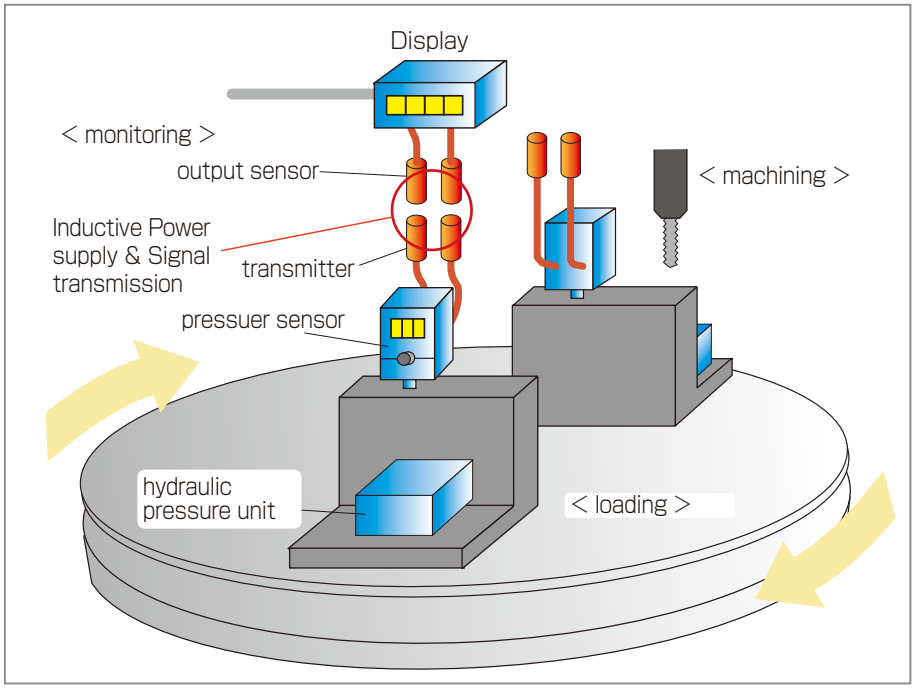


Construction of devices



Confirming pressure of hydraulic unit on turntable

rotating



Previous problems

- No productive method to check pressure of the fluid on turntable.
- Lack of fluid pressure causing defective products.

Solution — Rmote System

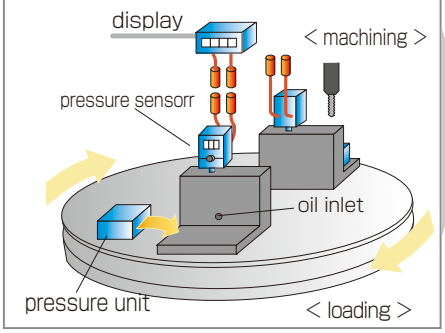
After improvement

- Productively confirming fluid pressure on turntable.
- Confirming the fluid pressure of work piece right before machining, eliminated defective products due to the leakage of pressure.

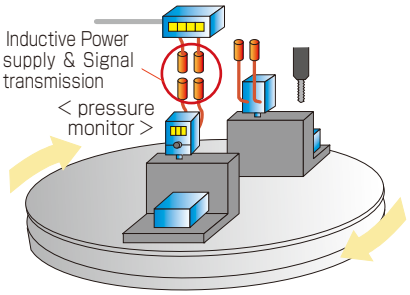
Application

Confirming pressure sensor sensor signal before machining each work piece on the turntable.Remote sensor RGP provides power to the pressure sensor and RN transmits the signal of sensor.

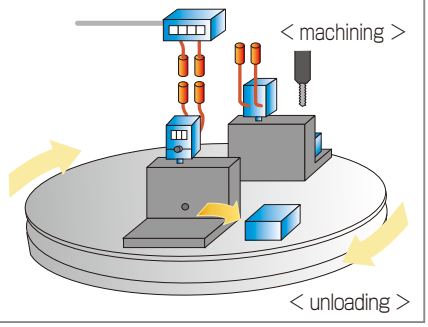
Loading and pressuring the work piece



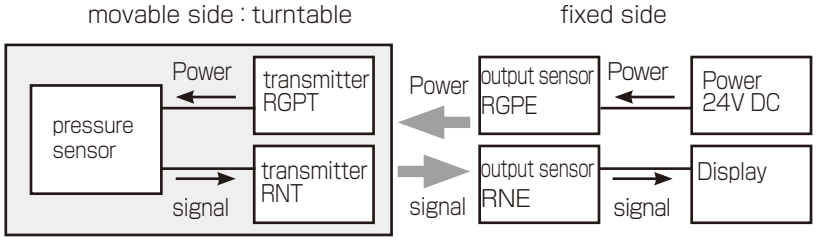
Turntable turn to machining position, after pressure confirmation



Unloading machined work piece

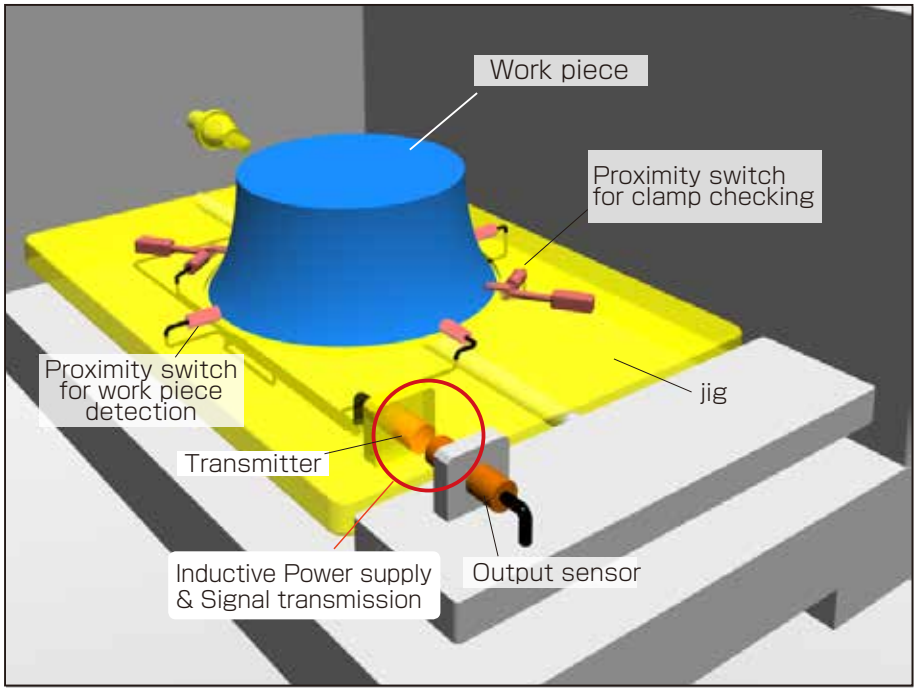


Construction of devices



Confirmation and verifying work piece on moving table

rotating



Previous problems

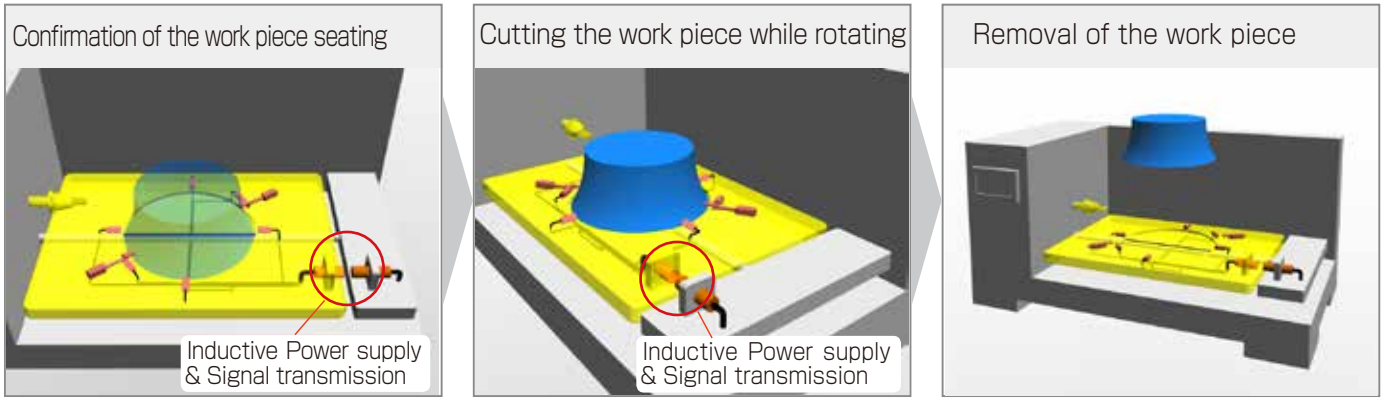
- Cable breakages from stress

Solution Rmote System

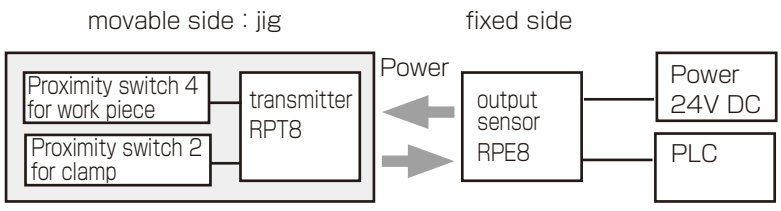
After improvement

- Eliminated stress points, eliminated cable breakage problems.
- Reduced maintenance work

Application Before and after the processing of work pieces, it verifies the work pieces seating and confirm the clamp.

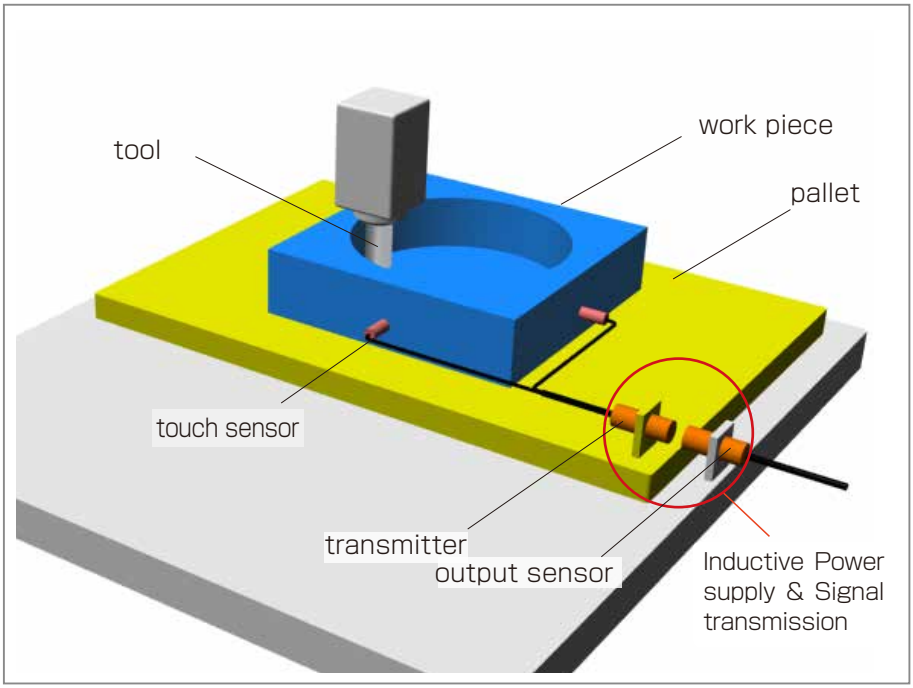


Construction of devices



Detection of misalignment of work piece on pallet

removable



Previous problems

- Cable breakage problems from stress.
- Difficult to use multiple styles of pallets.

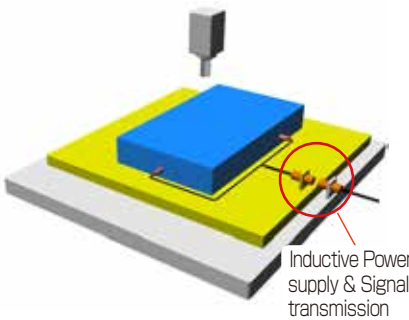
Solution — Rmote System

After improvement

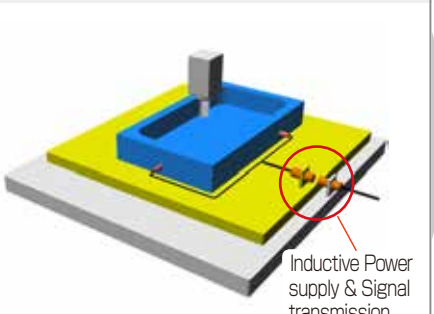
- Eliminated cable breakage problems
- No limitation to increase numbers of pallets, easy change-outs.

Application Change pallet to match work piece.
Detect work piece misalignment during machining with touch sensors.
Remote System sends power to sensors and transmits their signals.

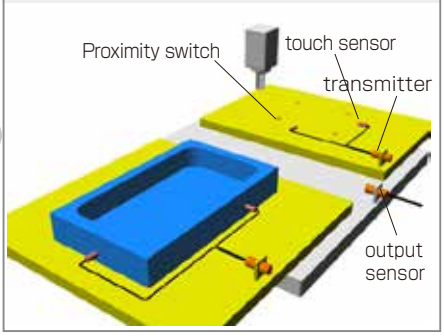
Confirm work piece seating and start machining



Misalignment detection while machining.

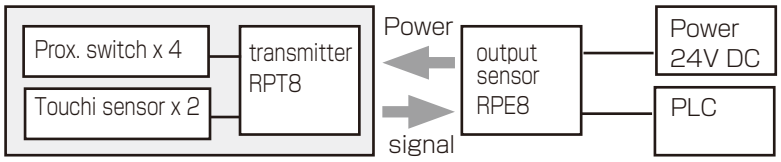


Replace pallet to match different work piece shapes



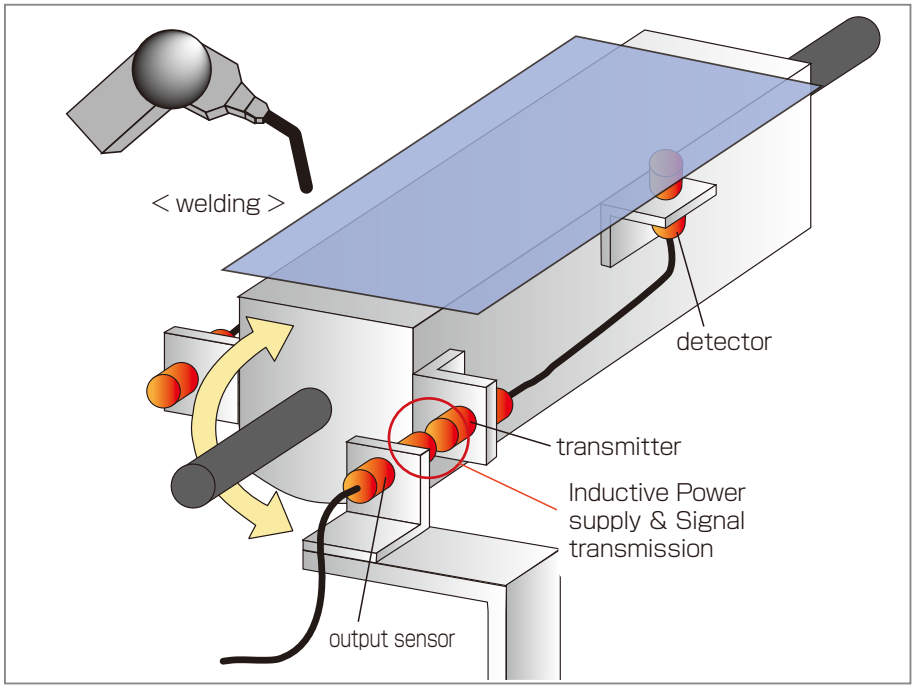
Construction of devices

movable side : pallet　　fixed side



Confirming presence of work piece on a two sided jig

rotating



Previous problems

- Cable breakages due to turning stress

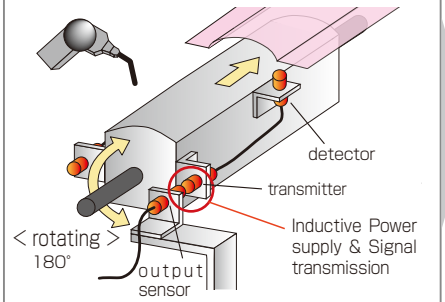
Solution Rmote System

After improvement

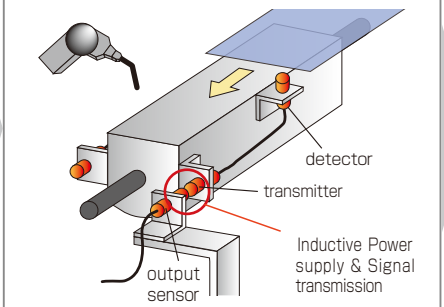
- Eliminated stress points, eliminated cable breakage problems.
- Also contributed to space saving inside of the machine.

Application Two sided jig is used to accept different profile of work piece.
Remote System supplies power to proximity switch for detection and transmits the switching state of sensor.

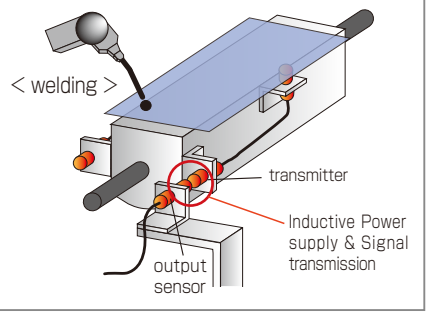
Jig rotated to match work piece profile



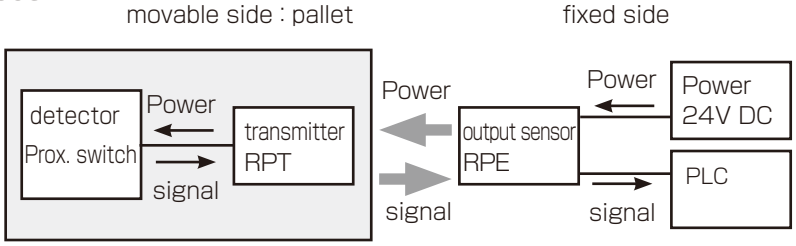
Load new work piece



Welding after detecting the work piece

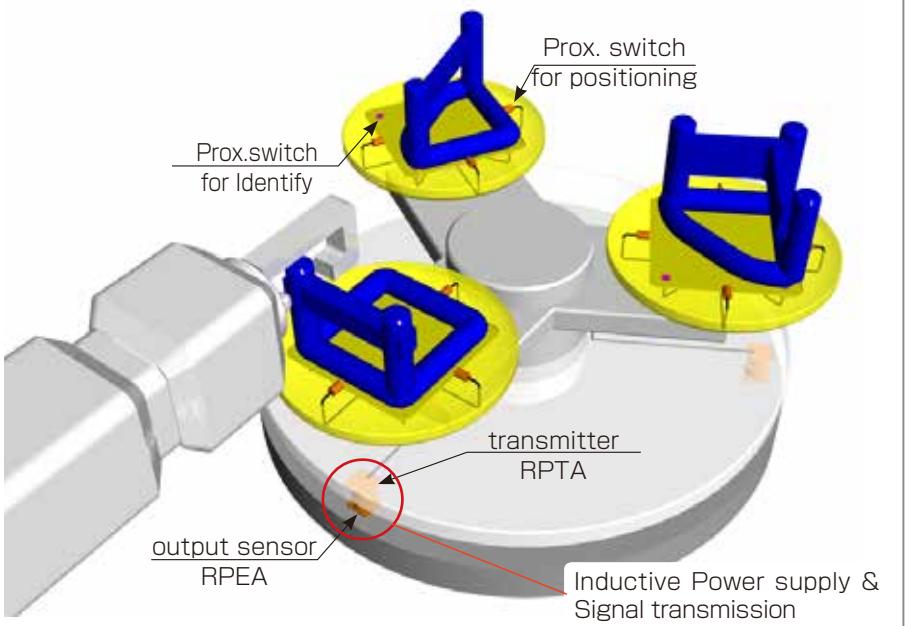


Construction of devices



Identifying and verifying work piece on a turntable

rotating



Previous problems

- Cable breakage from stress
- Time loss from home positioning due to physical limitation of the cable.

Solution  Rmote System

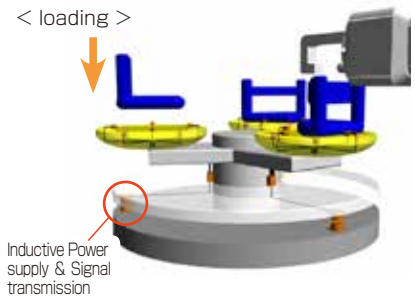
After improvement

- Eliminated stress points, eliminated cable breakage problems.
- Turntable can turn continuously, without homing. Improved efficiently.

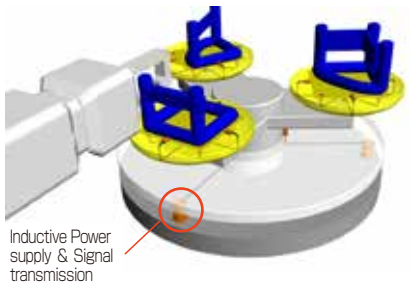
Application

Continuous cycle of Loading, welding and unloading. By using 3 jigs mounted on a turntable turning 120 degree at a time.
Remote system supplies power to 8 proximity switches and transmits their switching state.

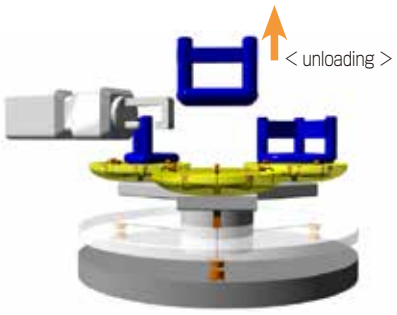
Work piece ID and seat confirmation



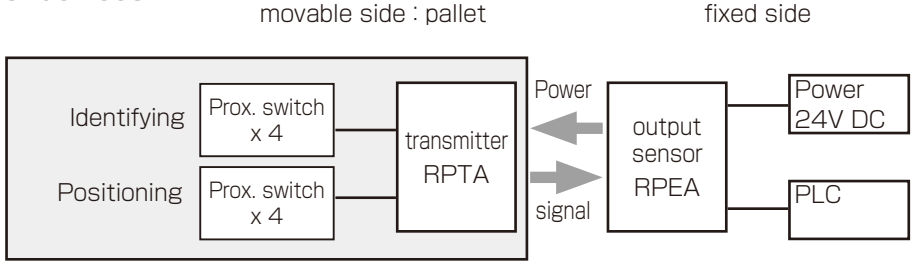
Spot welding



Unloading work piece

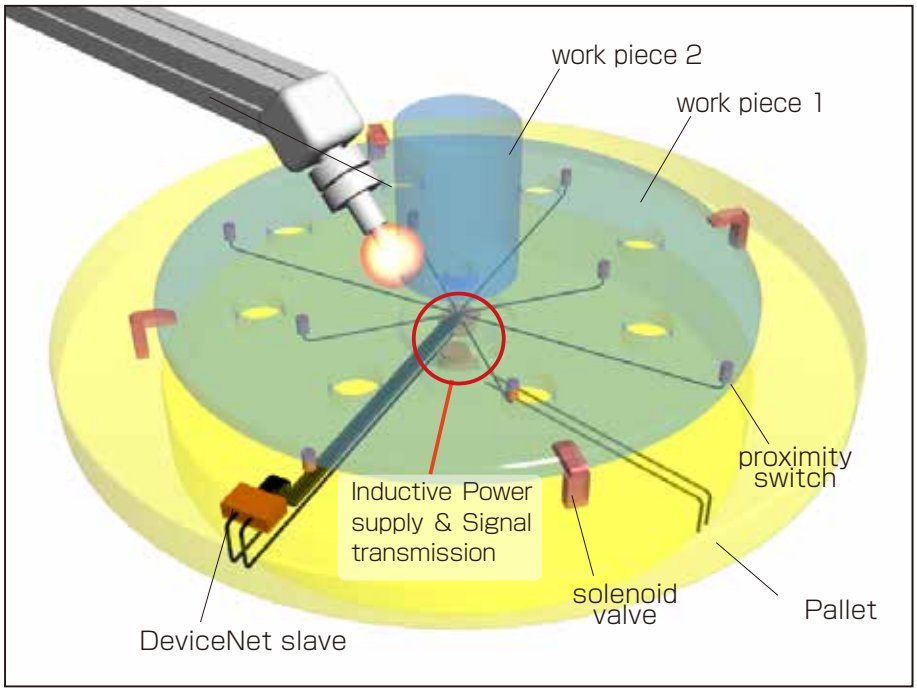


Construction of devices



Confirming presence of work pieces on rotating pallet

Rotating



Previous problems

- Slip ring was vulnerable to dust, oil and other contaminants.
- Increased size needed for additional signal lines.

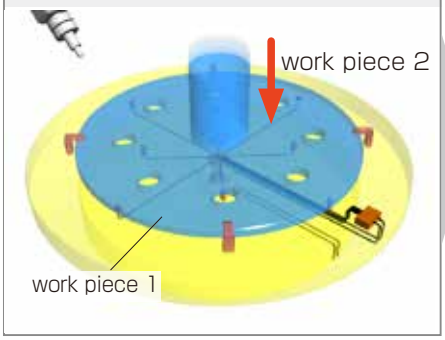
Solution Rmote System

After improvement

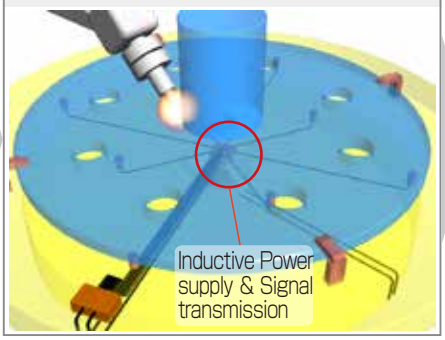
- Directly replaced the slip ring.
- Turn and weld made the welding process evenly balanced.
- Easy to replace the pallet for another application.

Application Detect work pieces with proximity switches, Direct communication with controller through DeviceNet slave-remote coupler system. Whole table can easily be swapped for different application, accommodating different number of lines and locations. DeviceNet makes the direct communication from the controller possible.

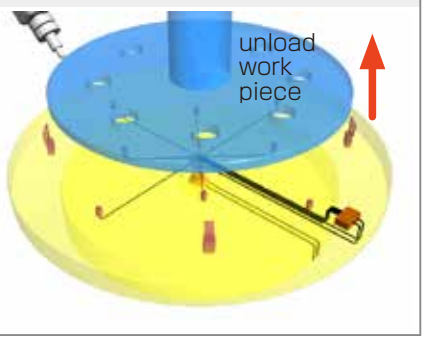
Placement of work pieace 1 and work piece 2.



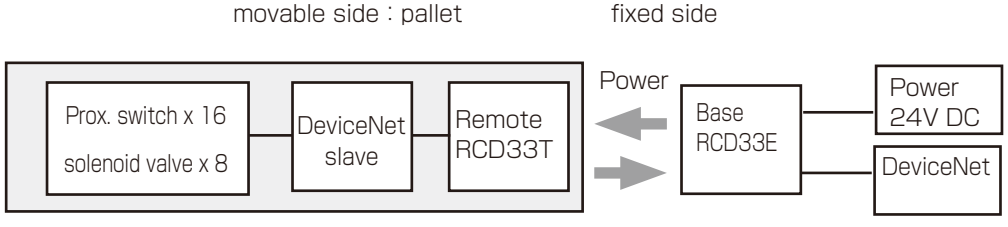
Welding rotating work pieces.



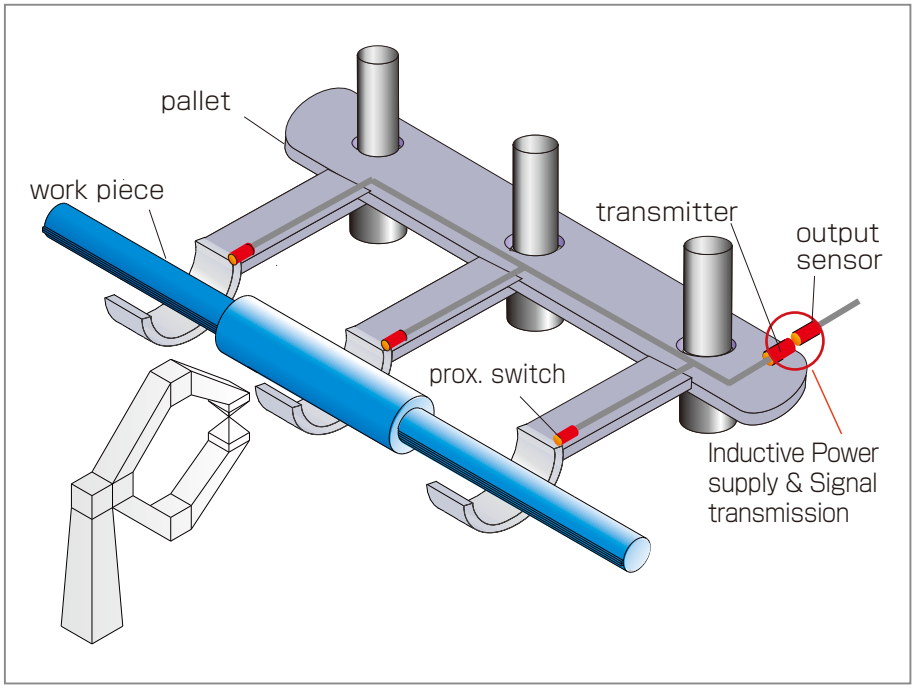
Removal of the work piece.



Construction of devices



Confirming work piece on a removable jig



Previous problems

- Manual disconnection and connection of the connectors required for every jig replacement.

Solution  Rmote System

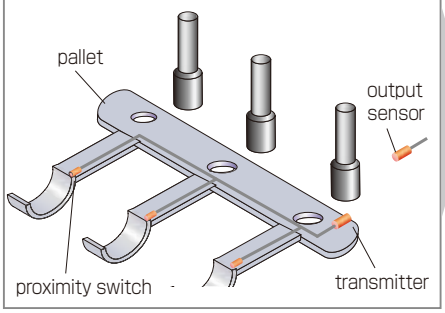
After improvement

- Eliminated connection process.
- Faster change out time.
- Eliminated wear and tear components.

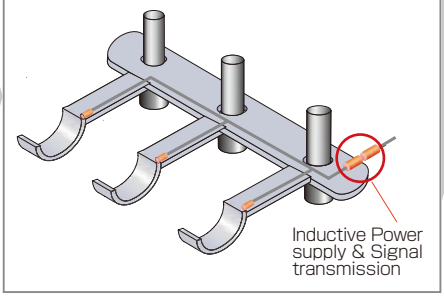
Application

Replace welding jig according to the shape of the work piece.
Confirm the seating of the work piece, and weld.
Remote system sends power to proximity switches and transmits their switching state.

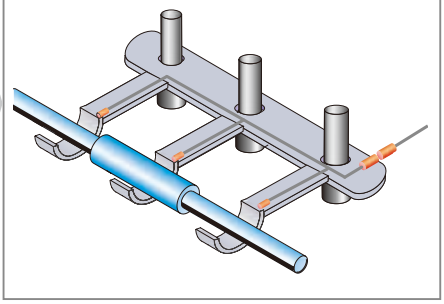
Replacing pallet per shape of work piece



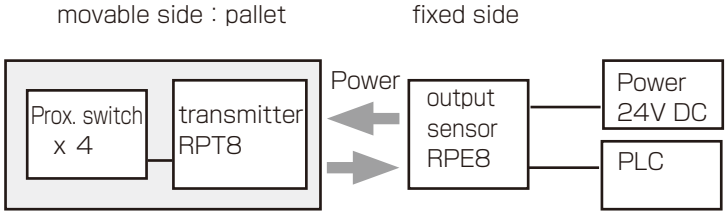
Placement of the jig and activation of sensors at the same time



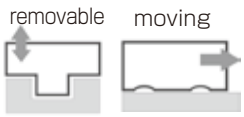
Confirming the seating of work piece and start welding.

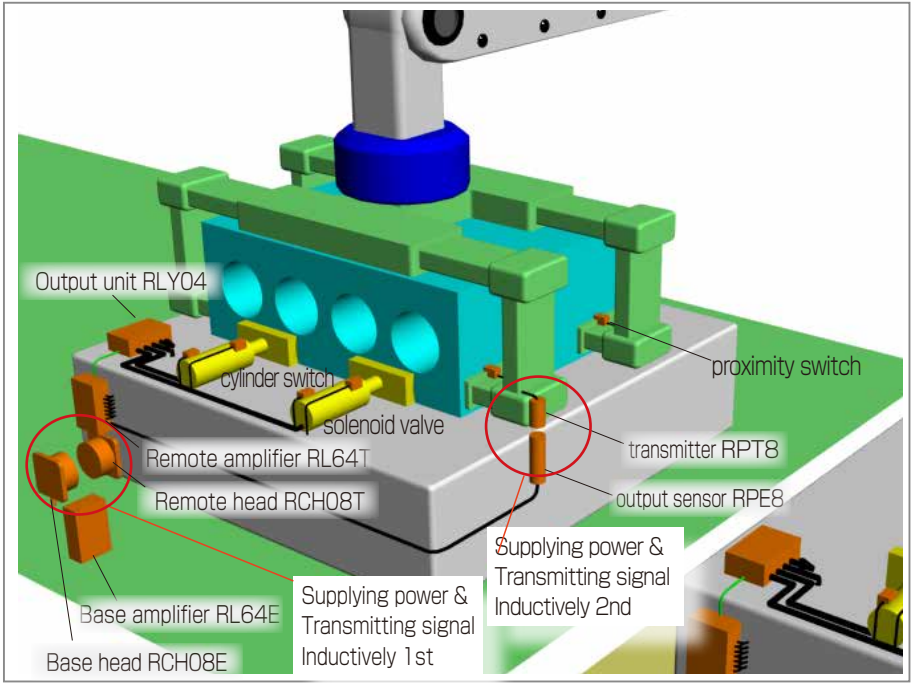


Construction of devices



Confirmation of work piece on pallet and robot hand (2 air gaps transmission)





Previous problems

- Desire to eliminate connection lead time of sensors and solenoid vales on the pallet.
- Also have desire to eliminate connection time for robot hand change-outs.

Solution  Rmote System

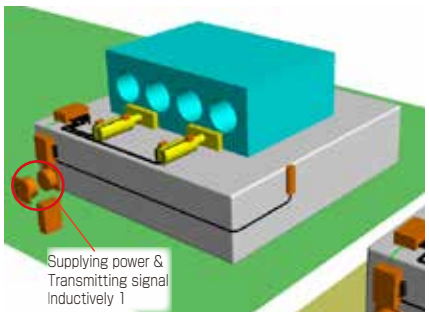
After improvement

- Eliminated connection labor on the pallet eliminated time loss. Also eliminated connection labor on robot hand change-outs.
- Production line was fully automated.

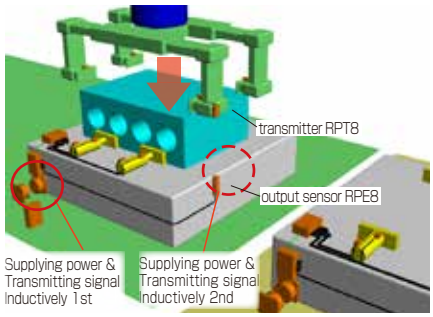
Application

Confirm and mount work piece by utilizing sensors and solenoid valves, also work piece recognition on robot hand transmitted through pallet. 2 air gap transmission.

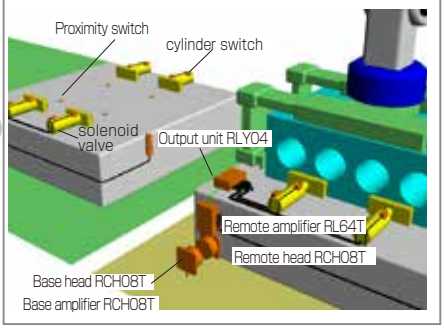
Confirming work piece on pallet



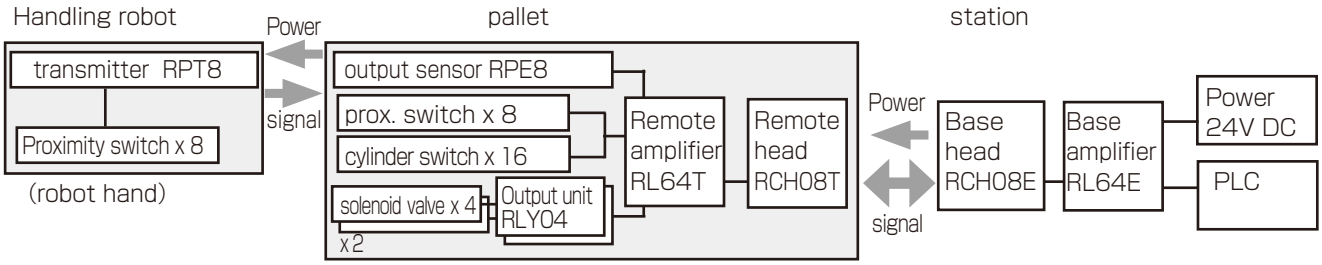
Confirming work piece on robot hand



Feeding work piece to following process

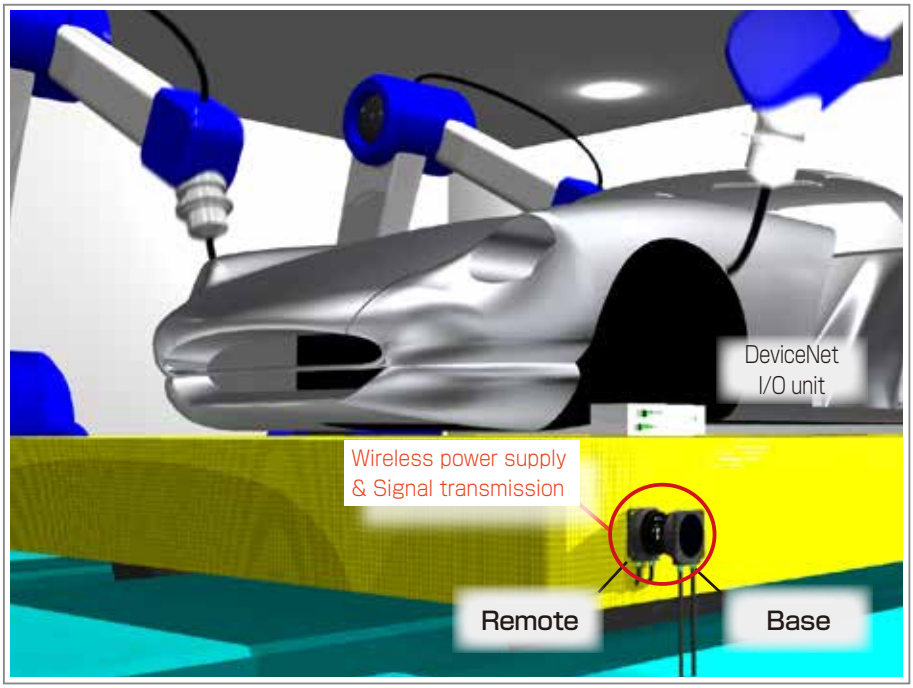


Construction of devices



Work confirmation on a pallet in the welding process.

Move



Previous problems

- A customer needed a maintenance for pins of contact type connectors.

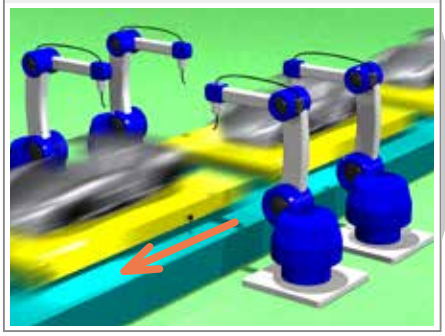
Solution — Rmote System

After improvement

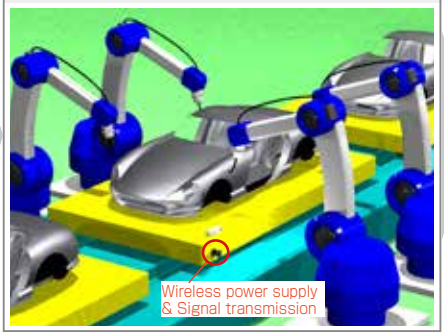
- Becoming automation with no maintenance such as a spatter of interruption.
- Resolution of the connector and the cable breakage because of no physical contact.

Application It is an application that welds a car body on a pallet.There are I/O devices of Device-Net on the pallet, the devices detect the signals of workpiece confirmation on the pallet. Transmitting 24V DC/ 2A + Device-Net signals over a short air gap.Just face the remote sensors, they transmit the power and the Device-Net signals without contact.

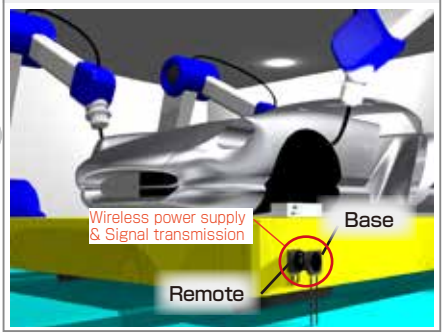
Transferring of a workpiece and stop.



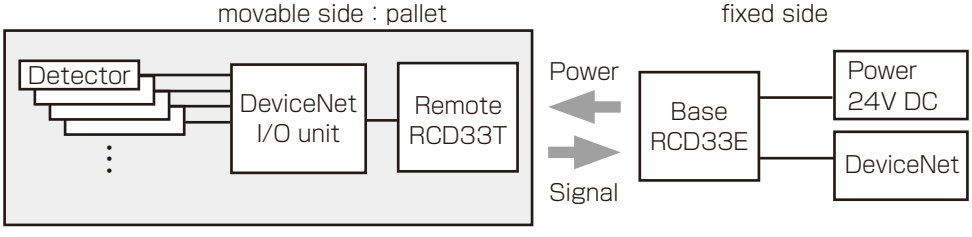
Confirmation of the workpiece.



Welding

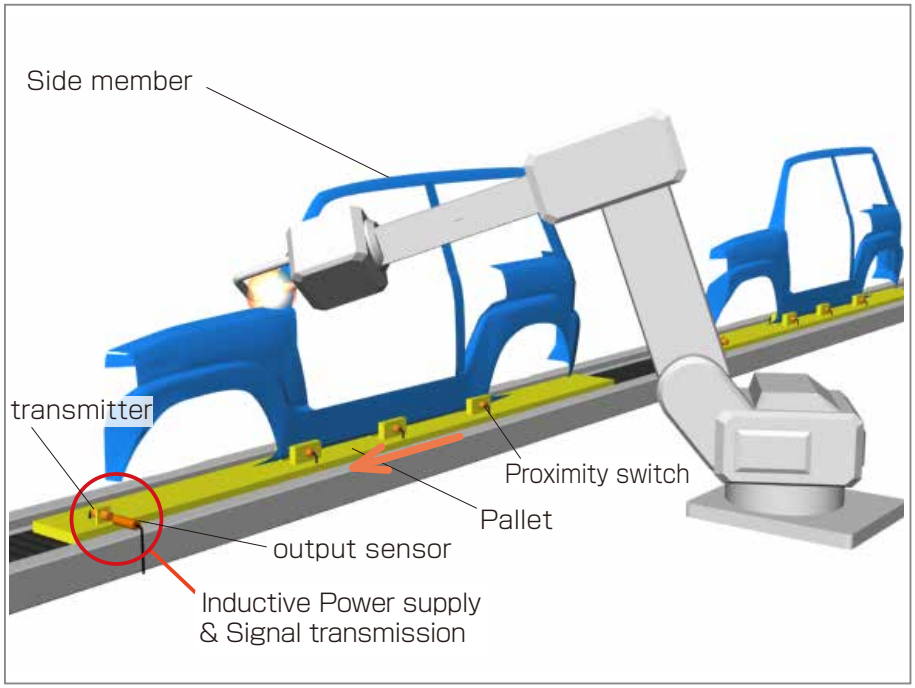


Construction of devices



Confirmation of work piece on moving pallet

moving



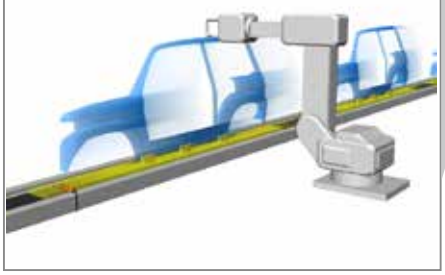
Previous problems
- Connection failure caused by spatter and other contaminants caused unnecessary stop of the production line.
- Maintenance required for contact pins.

Solution  Rmote System

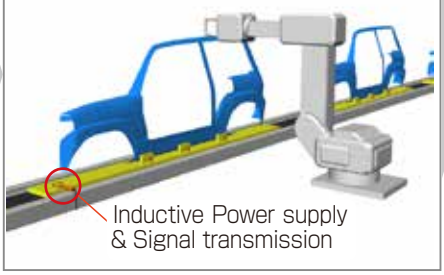
After improvement
- Eliminated unnecessary stop of the production from spatter and other contaminants.
- Eliminated maintenance of the contact pins with the non-contact system. Sputter resistant surface eliminated sputter accumulation.

Application Weld Side member placed on pallet.
8 proximity switches are used to confirm seating of the Side member on the pallet. Spatter resistant surface makes the cleaning easy, even in event of spatter contamination.

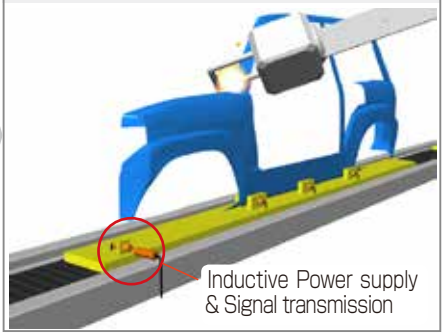
Moving of the pallet / work piece to welding station



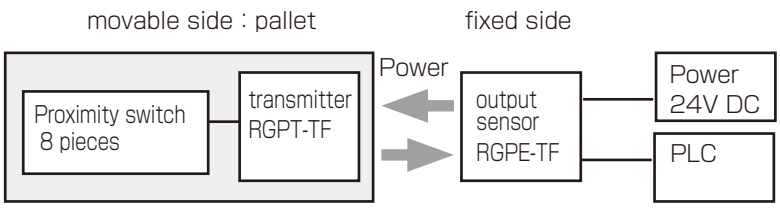
Confirmation of the work piece seating.



Welding

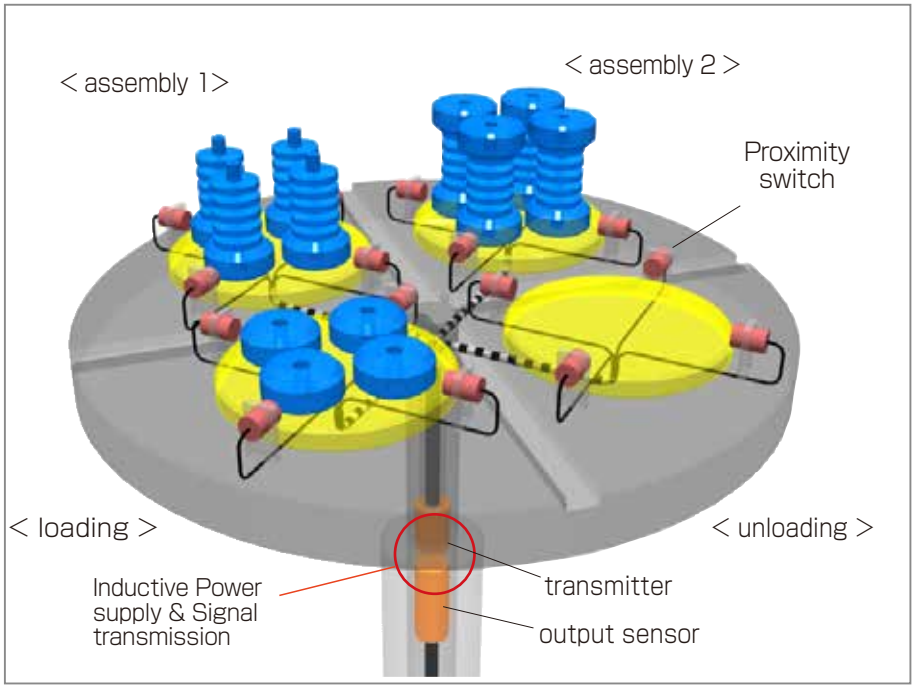


Construction of devices



Confirming presence of work piece on a turntable (transmitting continuous revolutions)

rotating



Previous problems

- No productive method to install sensors on a turntable available.
- Seating of work pieces visually confirmed by operator every time.

Solution — Rmote System

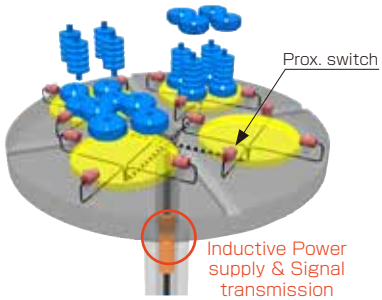
After improvement

- Successfully installed 16 functional sensors.
- Eliminated visual confirmation enabled full automation. Continuous use of all sensors possible by heads installed in the center.

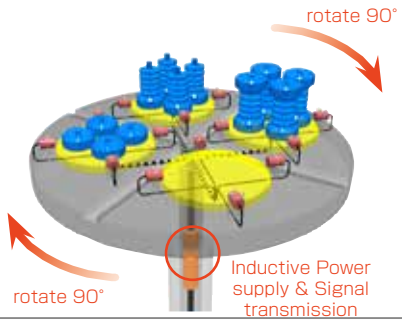
Application

Load, assembly and unload process, by using 4 jigs on a turntable. Turning 90 degree at a time.
Remote system is installed on the center. Providing power to 16 sensors and transmits their signals simultaneously.

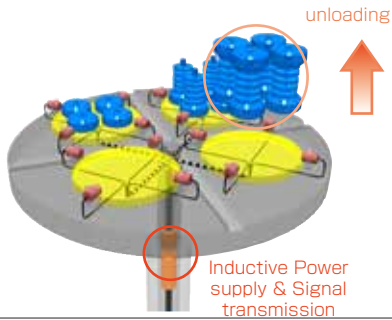
Confirming seating of work piece and assembly



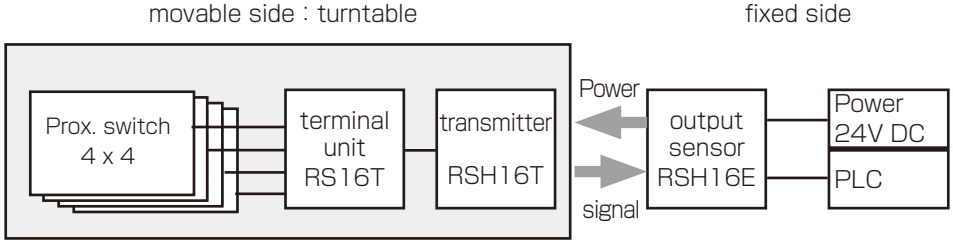
Revolution of the turntable



Unloading of the work pieces

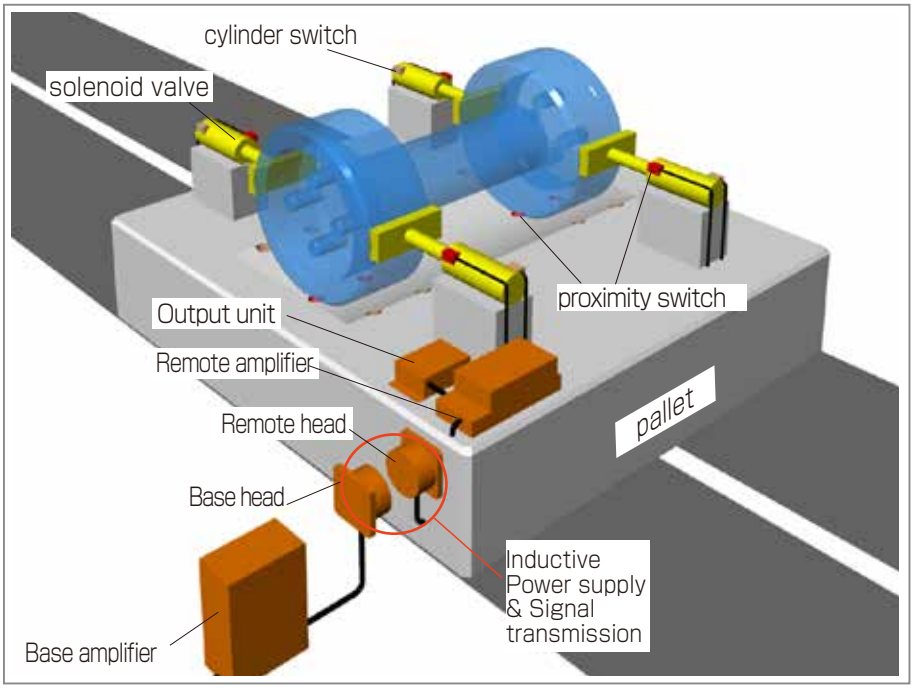


Construction of devices



Work piece identification, solenoid valve actuation and clamp confirmation on pallet

moving



Previous problems

- Change-out of large pallets is time consuming and labor intensive.

Solution — Rmote System

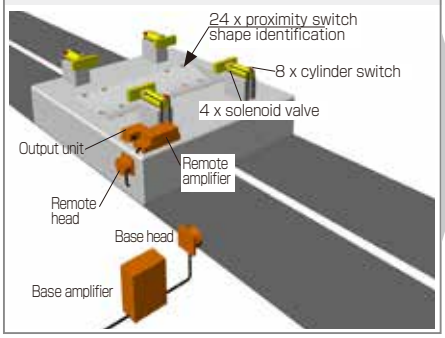
After improvement

- Identification, mount and seating confirmation of the work pieces are automated, preparation time was reduced drastically.

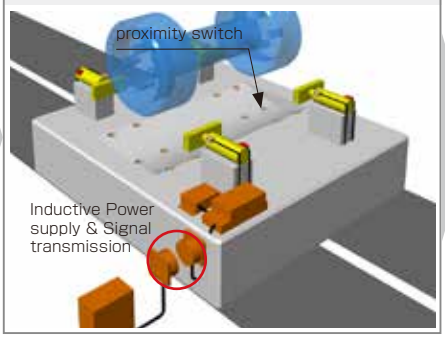
Application

Automatically identify and mount the work piece from its shape.
Remote System sends power to 32 proximity switches and 4 points solenoid valves also transmits their signals.

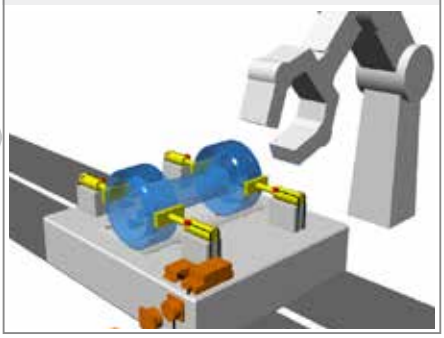
Work piece identifying jig



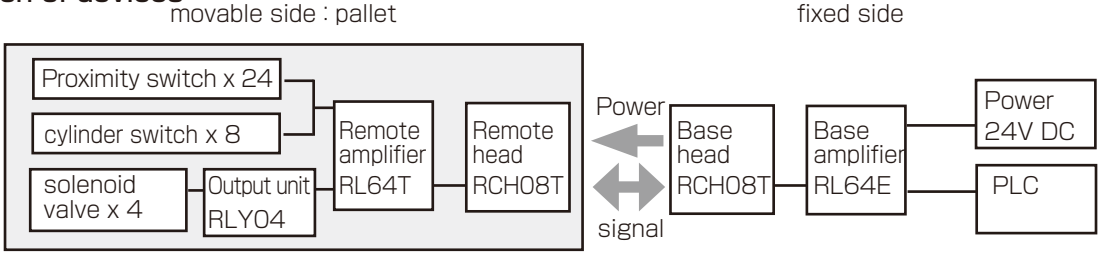
Work pieces are identified by sensors at seating points



Work piece seating confirmation, and start assembly

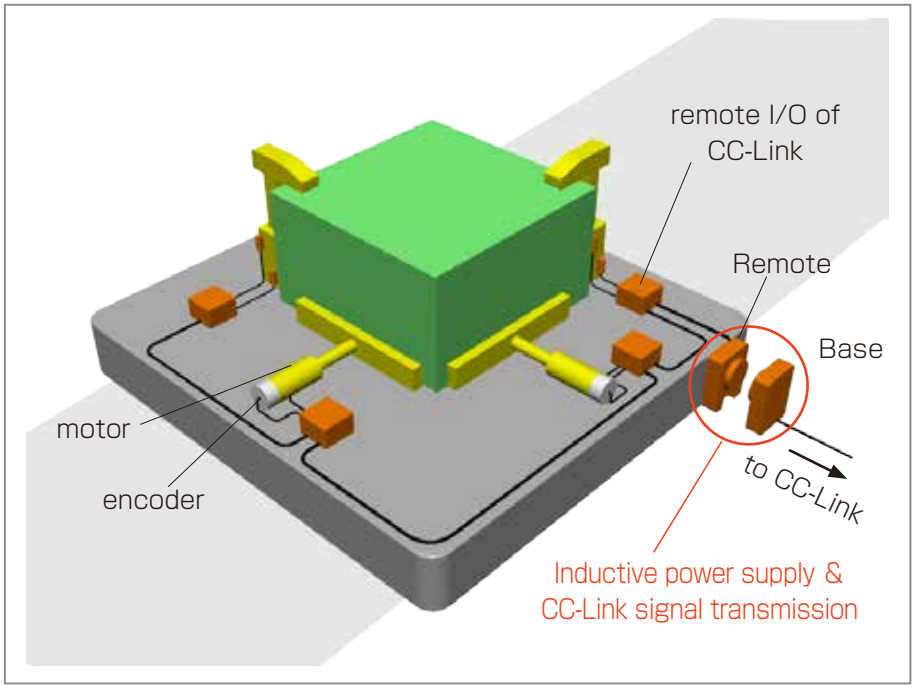


Construction of devices



Jig adjustment and clamp confirmation on pallet

moving



Previous problems

- Desire to manage whole assembly line with CC-Link.
- Mount adjustment manually done by operators.

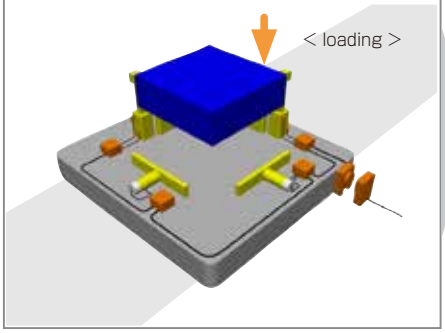
Solution — Rmote System

After improvement

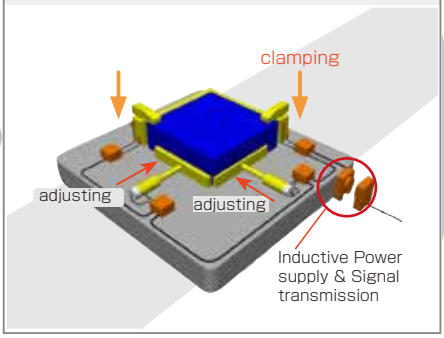
- Sending of power and the data communication of CC-Link are performed simultaneously without hardwiring.
- Automated adjustment of the jig improved loading efficiency.

Application Control a Motor, an encoder, a solenoid valve and a sensor installed on the pallet. Utilizing Field BUS CC-Link.
Remote System sends power to CC-Link remote I/O on a pallet and transmits CC-Link data.

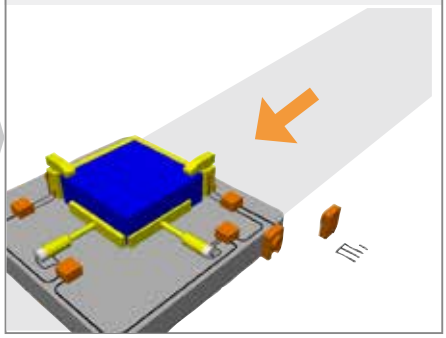
Loading a work piece



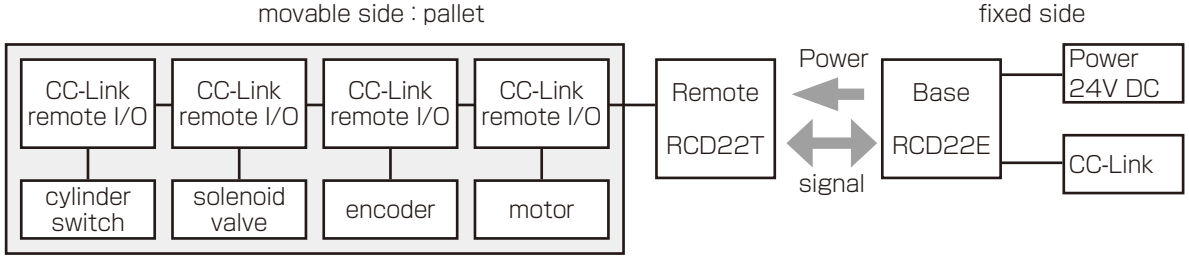
Work piece mount adjustment



Moving to assembly process

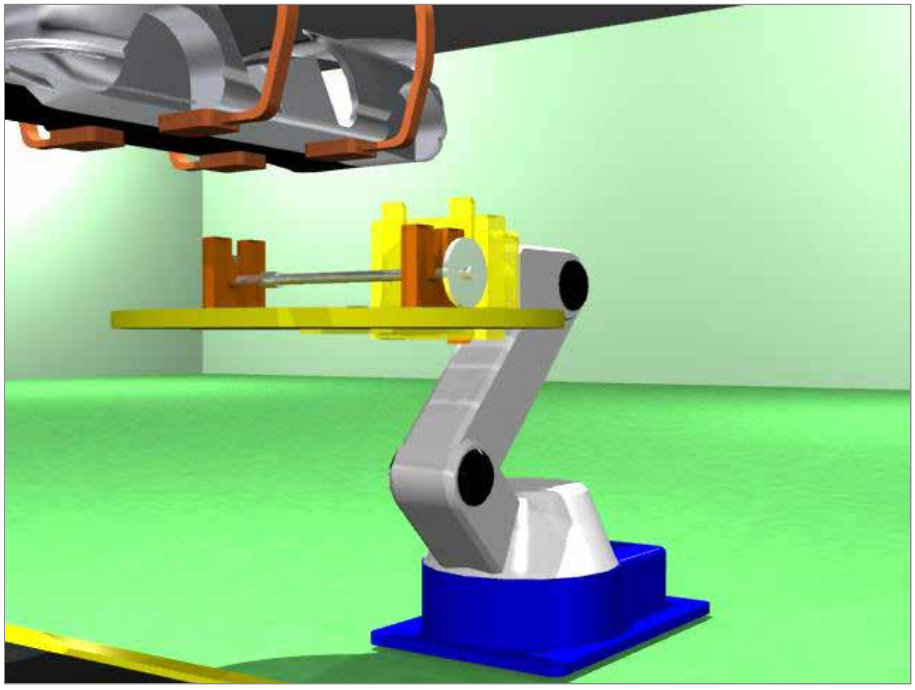


Construction of devices



Confirmation a workpiece on jig

Moving



Previous problems

- It takes time for a worker to set the shaft on the jig and to adjustment position of the shaft to fit onto the car
- body.
- The maintenance cost of the connector was required

Solution  Rmote System

After improvement

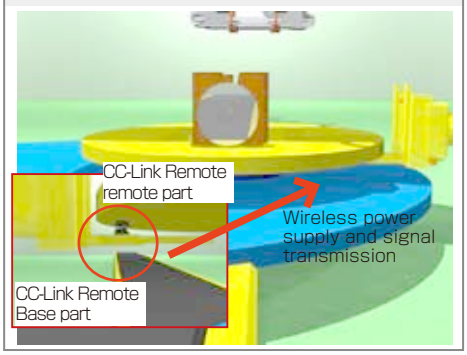
- Seating confirmation, activation, grasp confirmation, shaft movement and assembly are automated.The setup time can be greatly reduced. Also, fitting is uniformly completed.

Application

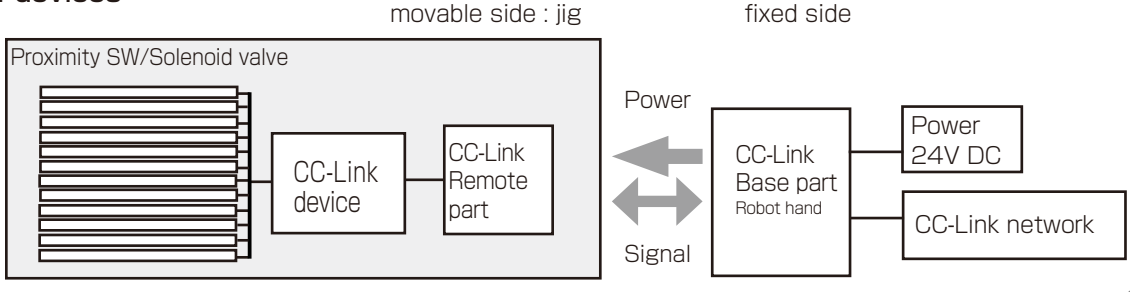
Wireless power feed to movable side and data transmission of CC-Link become possible. Communication speed is 156k...MAX 10Mbps. Movable side is attached on the jig and supply power to as well as transmits bidirectional signals to and from proximity switch or solenoid valve.

Seating confirmation , turn, move

Seating confirmation , move, assemply

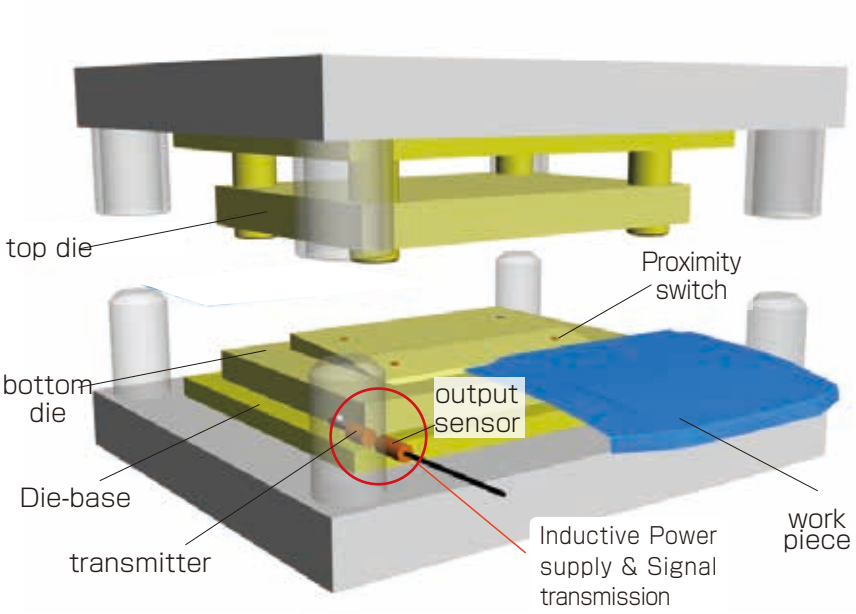


Construction of devices



Confirming work piece on stamping die

removable



Previous problems

- Connector connection at Die change-outs is difficult. Also time consuming.
- Wear and tear on connectors and cable.

Solution  Rmote System

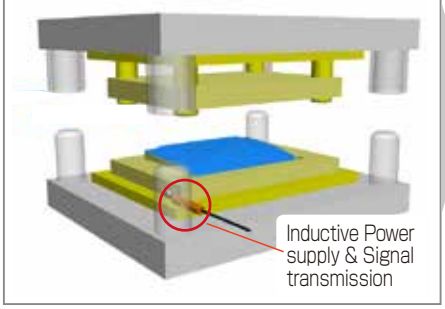
After improvement

- Eliminated manual wire connection at die change-outs. The process has been simplified.

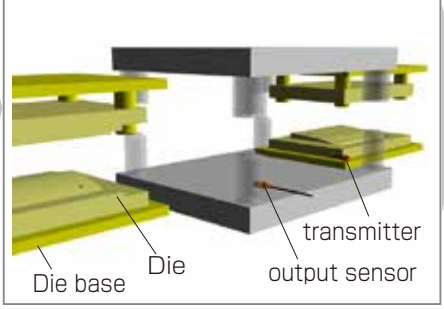
Application

Detecting work piece on the die to prevent empty shot or double sheets.
Remote system sends power to 8 proximity switches and transmits their switching state.

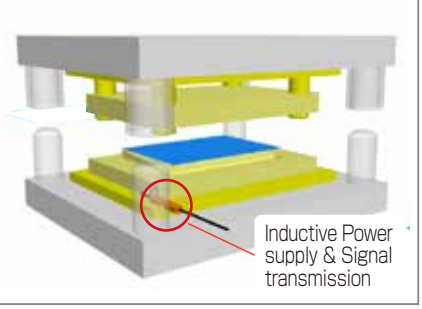
Confirm work piece on die and extract



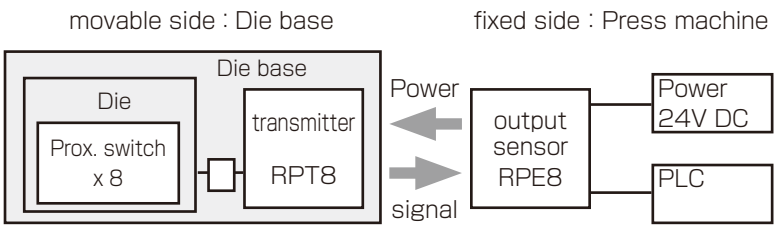
Stamping die change-out



New work piece placed on die

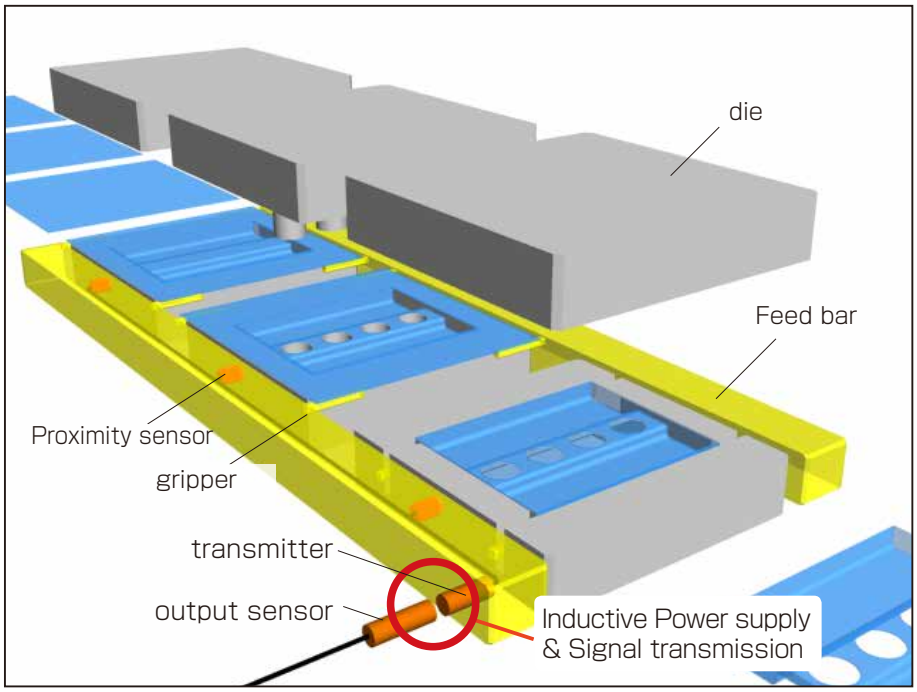


Construction of devices



Confirming presence of work pieces on a feed-bar

moving



Previous problems

- Cable breakages from stress.
- Time loss for connection/ disconnection of the connector at changing feed-bar.

Solution  Rmote System

After improvement

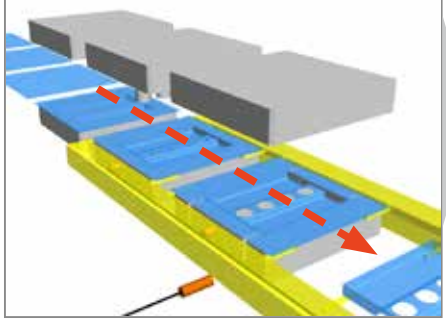
- Improve the efficiency in feed-bar exchange.
- Eliminated cable breakage problems.
- Eliminated water/oil trouble.

Application

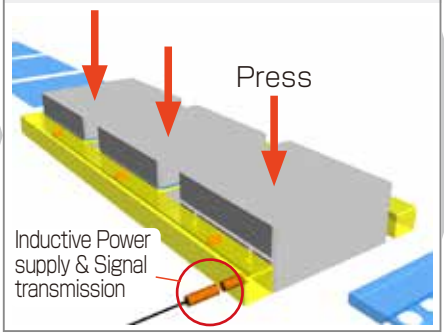
In the press line where feed-bar is used, type and position of the gripper are vary according to type of work pieces

In the die exchanging, feed-bar also need to be changed. Exchange process has been deduced by Remote sensor system.

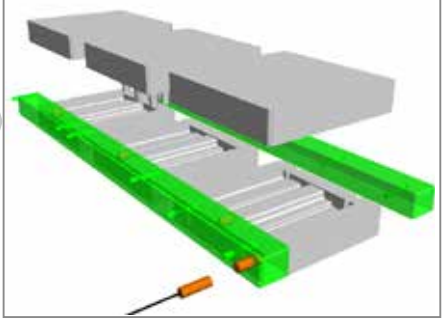
Feeding work pieces.



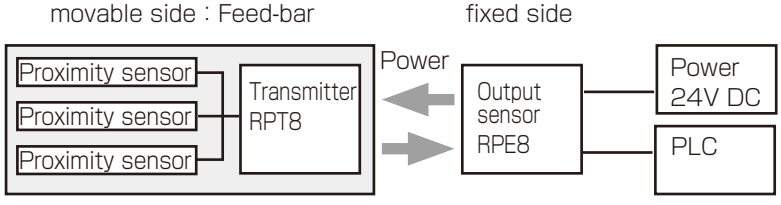
Work pieces are confirmed and pressed



Feed-bar exchange according to type of work pieces are changed

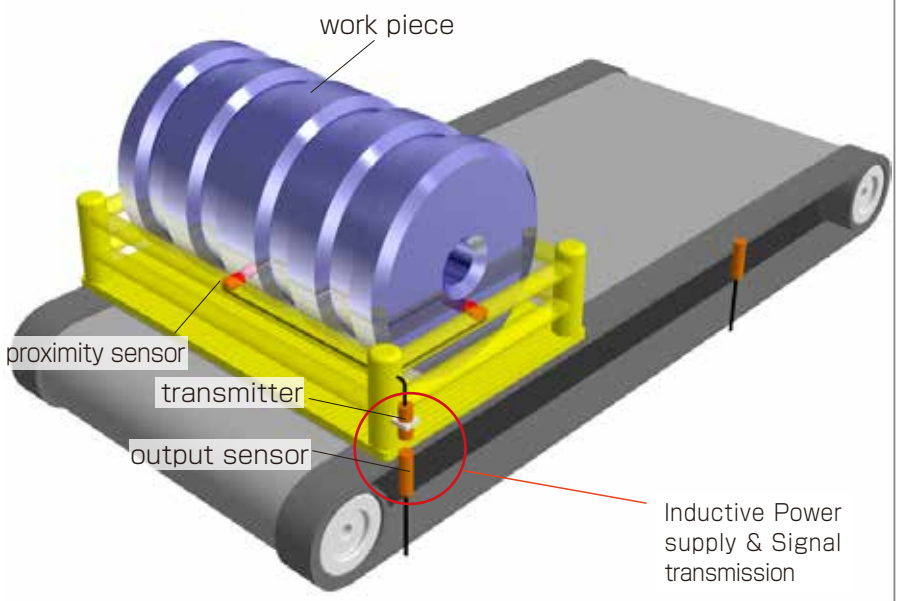


Construction of devices



Work piece confirmation on a conveyor shuttle

moving



Previous problems

- Cable breakages from stress.
- Visual confirmation required for places impossible to hardwire.

Solution — Rmote System

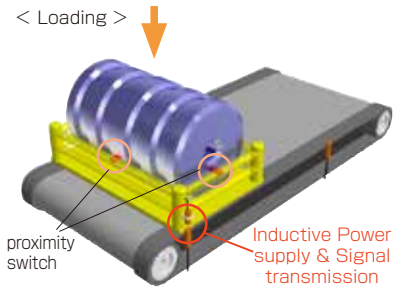
After improvement

- Eliminated stress points and cable breakage problems.
- Full automation made possible.

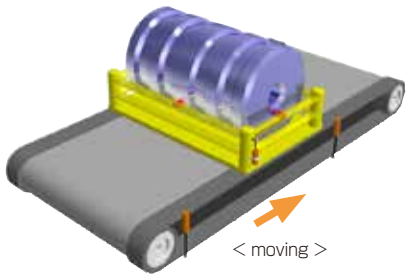
Application

The conveyer shuttle motion triggered by confirming loading or unloading of the work piece.Remote System sends power to proximity switches and transmits their signals.

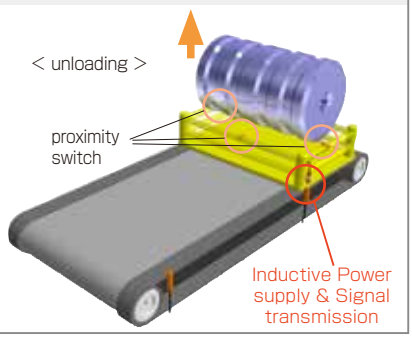
Loading and confirming work piece



Shuttle conveyor in motion

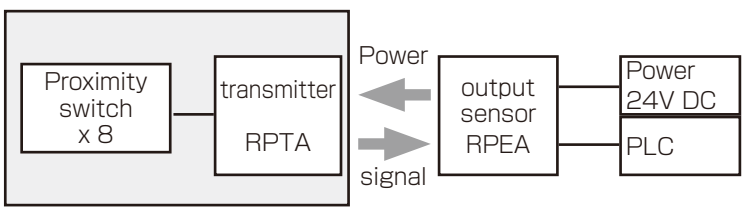


Unloading work piece

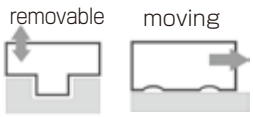


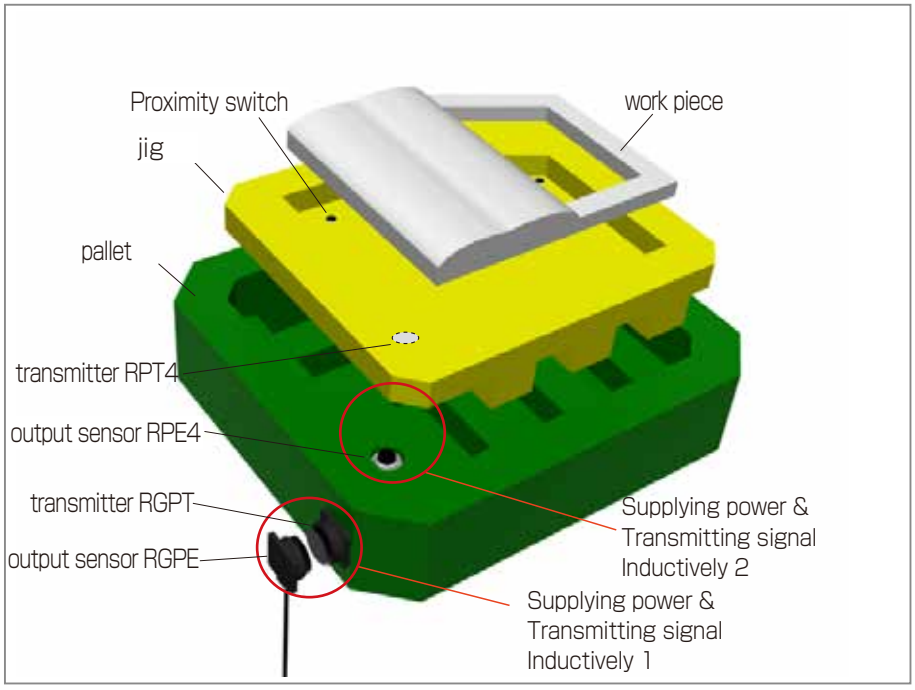
Construction of devices

movable side : shuttle　　fixed side



Confirmation of work piece on removable jig placed on pallet. (2 air gaps transmission)





Previous problems

- Desire to share same pallets for multiple designs of work pieces by changing jigs.
- Desire to confirm seating signals from jigs.

Solution  Rmote System

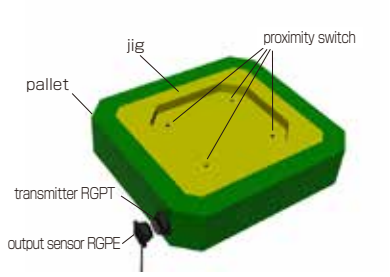
After improvement

- Cost saving by sharing same pallets.
- Simple no hardwired and fast change-outs of jigs.

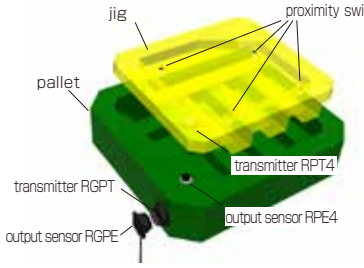
Application

Jigs are replaced according to shape of work pieces, reducing preparation time.
Remote System sends power to proximity switches on the jig and transmits their signals through 2 steps of< fixed side>-<pallet>-< jig>.

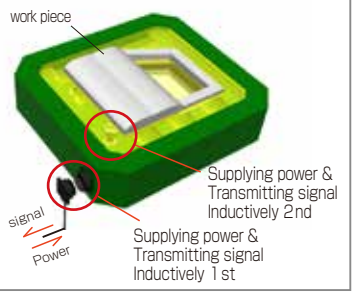
Removable jig on pallet



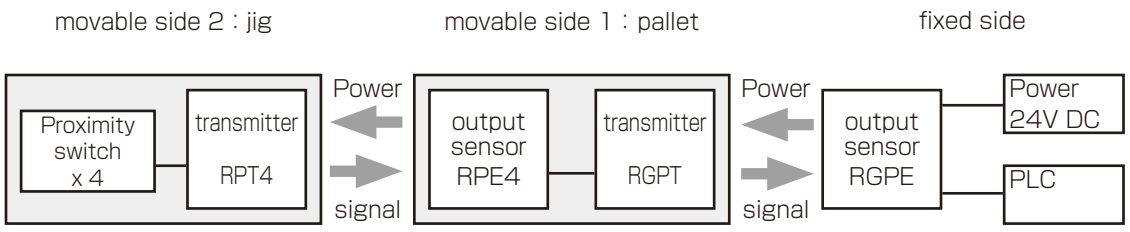
Common pallet for different jigs



2 stage transmission of work piece seating signal

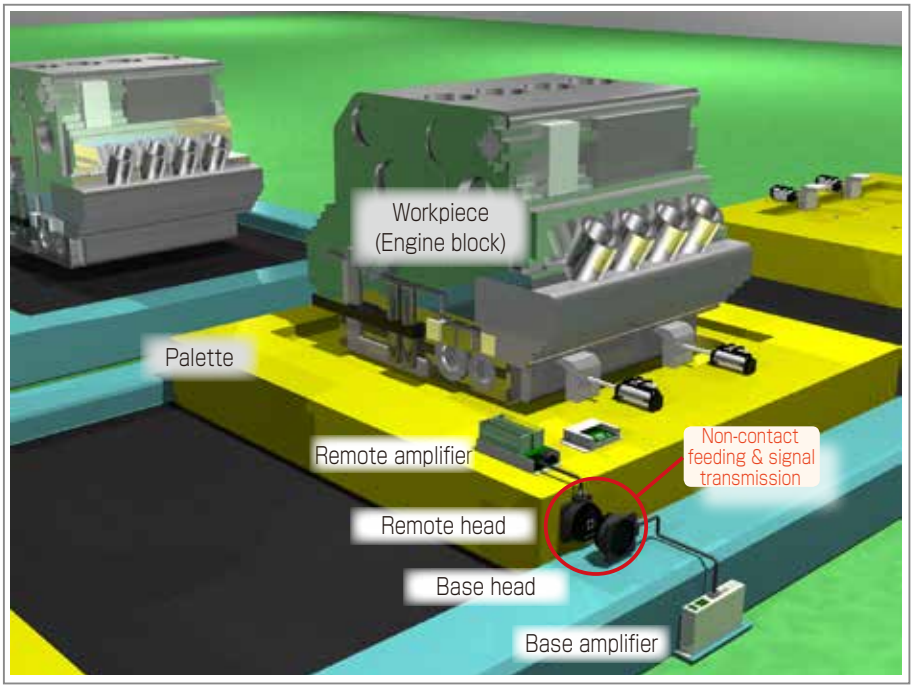


Construction of devices



Seating confirmation of the engine block and start of the clamp confirmation

Transfer



Previous problems

- Because of the connection to the palette in a connector, there was a limit in the excursion.
- There were troubles on the pin buckling up of the connector putting on and taking off.

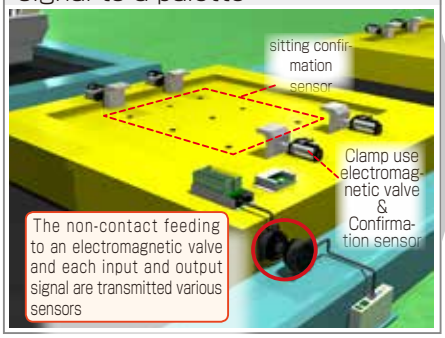
Solution — Rmote System

After improvement

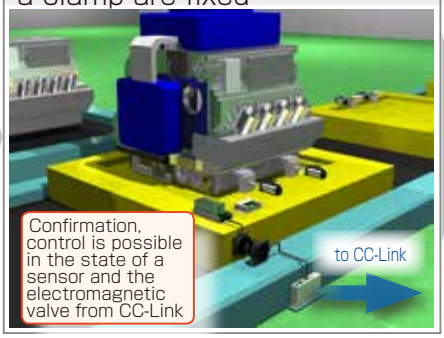
- A limit of the excursion disappeared by non-contact and succeeded in the automation of the line.
- Save the time of mounting / dismounting and resolved the issue with the connector.
- The base amplifier becomes remote device station, and the direct control from CC-Link master is possible.

Application Non-contact feeding to an electromagnetic valve and the output from a sensor to input and the electromagnetic valve of the sitting signal are enabled various sensors on the palette when let heads face, there is no limit of the excursion such as a connector and the cable raise of wages.
Be able to build more inputting units and outputting units, and cope easily when needing to increase a sensor and electromagnetic valves.

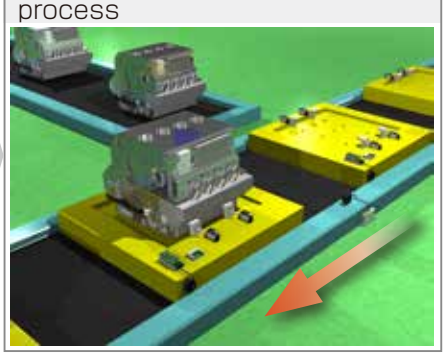
Transmit non-contact feeding & signal to a palette



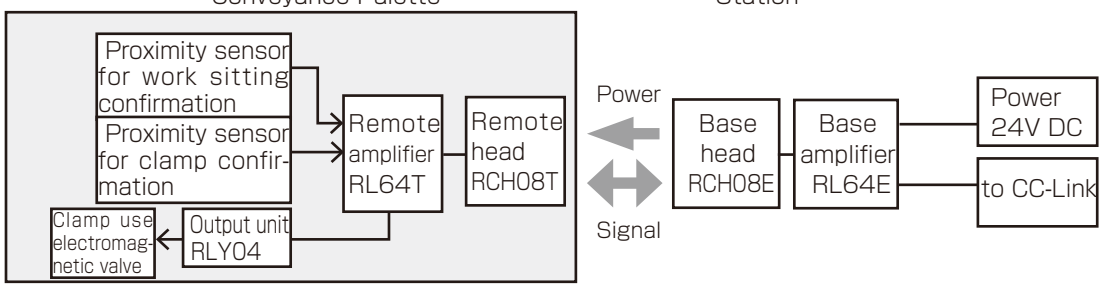
Work sitting confirmation and a clamp are fixed



It supplies work to the next process

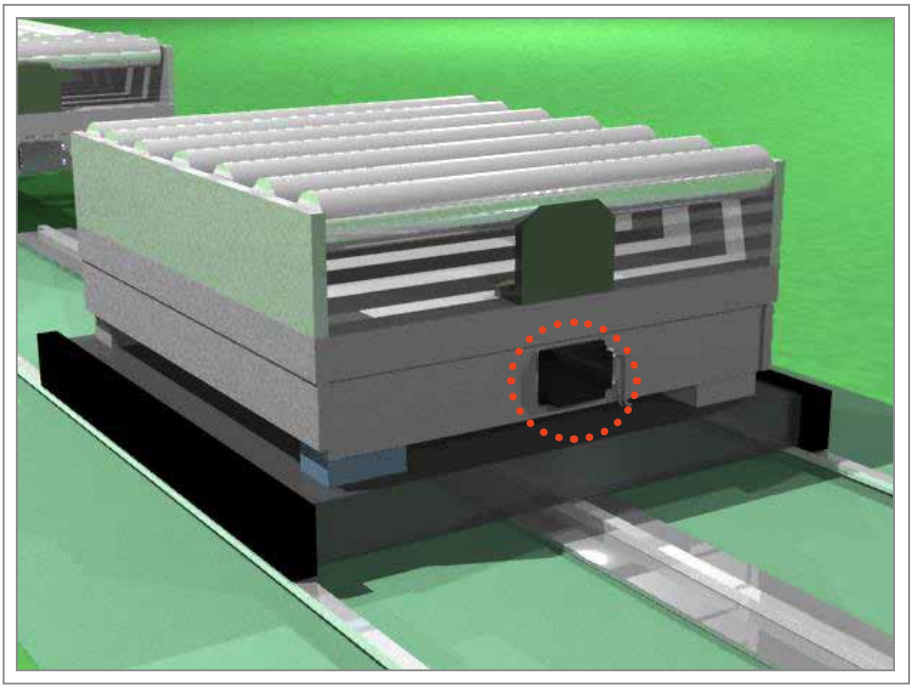


Construction of devices



Supply power to Moller (Mortor driving roller)

moving



Problems

- Cable installation space is limited and cable breakage often occured.
- In the case of a charging battery , it takes time for charging and exchanging battery.
- In the case of operation outside of working hour, the operatoin could be stopped due to charging shortage.

Solution  Remote system

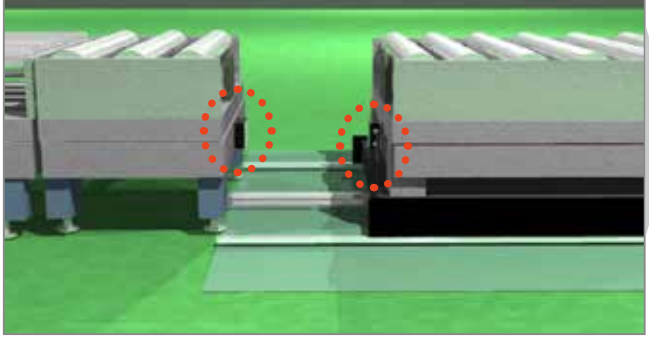
Advantages

- Installation space became unlimited
- Cable trouble improved due to wireless
- Reduce worktime because it became unnecessary to change the battery.
- Time for charging became unnecessary.
- Continuous operation for 24 hours become possible by automatic charging

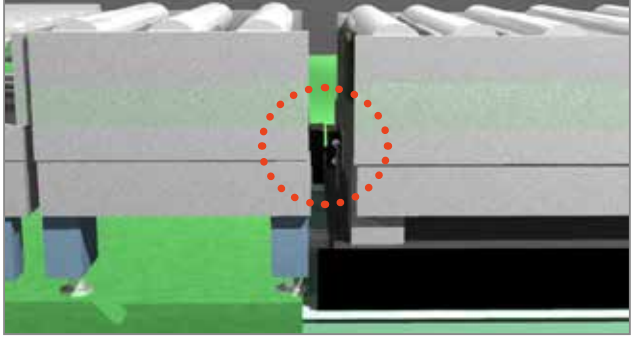
Application

① Attached Base part to A and B（Fixed part）.
② Attached Remote part to both end of traverser.

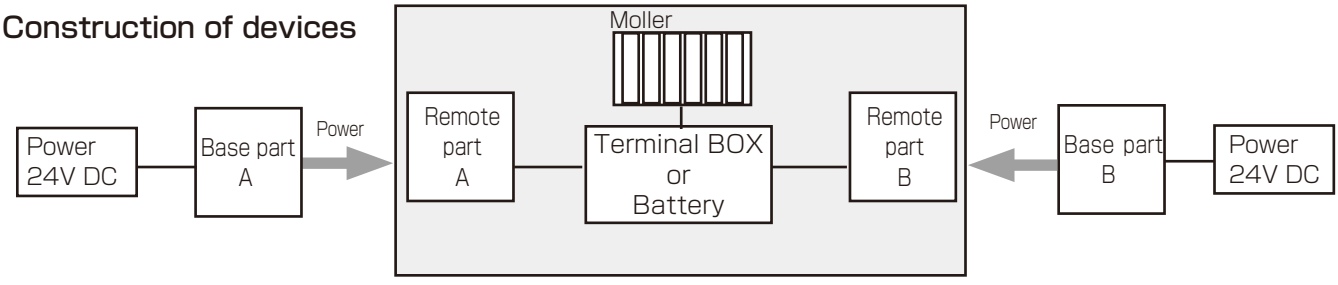
Attached Base part to A and B (Fixed part) and Remote part to both end of traverse.



When it stopped, power is supplied to the moller wirelessly or charge power to the battery.

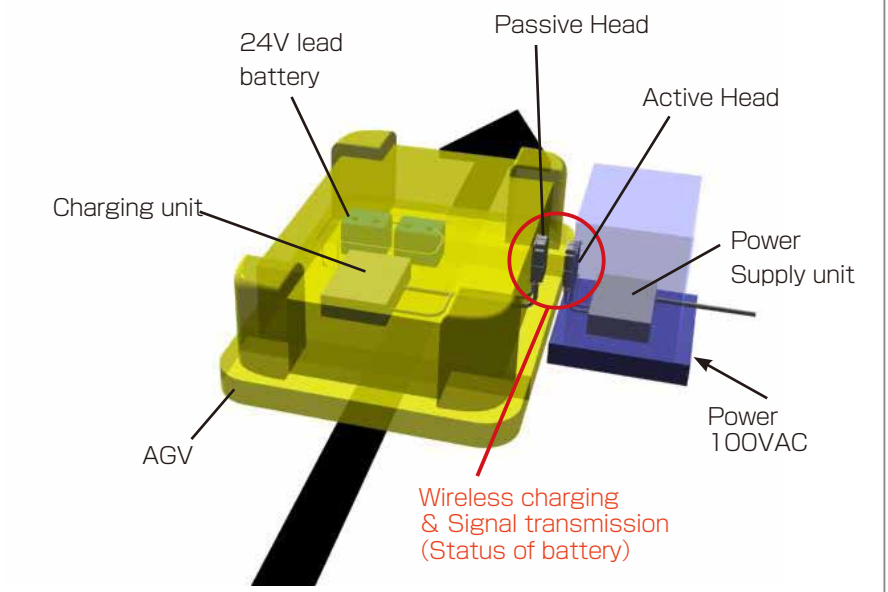


Construction of devices



Non-contact charging of batteries

moving



Previous problems

- Desire to eliminate battery change-outs during operation hours.
- Desire to extend interval of the battery charges.

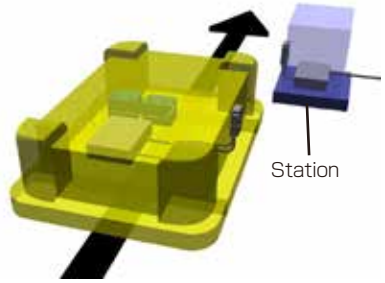
Solution  Rmote System

After improvement

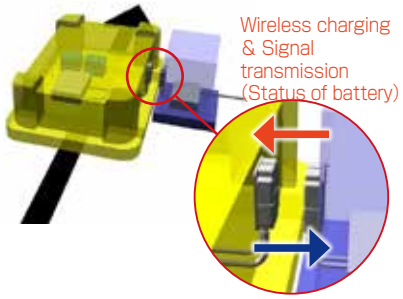
- Eliminated need for battery change-outs. Extended interval of full charging, improved efficiency.
- No exposed terminals, no risk to operators.

Application The battery of AGV units is partly charged during the waiting time at stops.

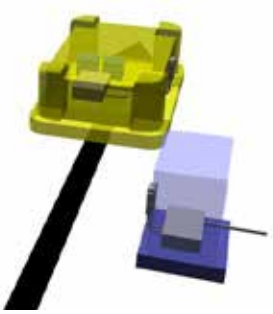
Moving to stop points



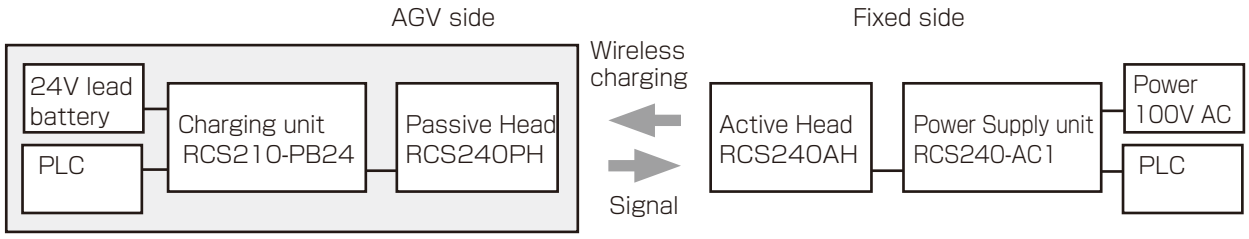
Charging battery while waiting



Moving to next stop point

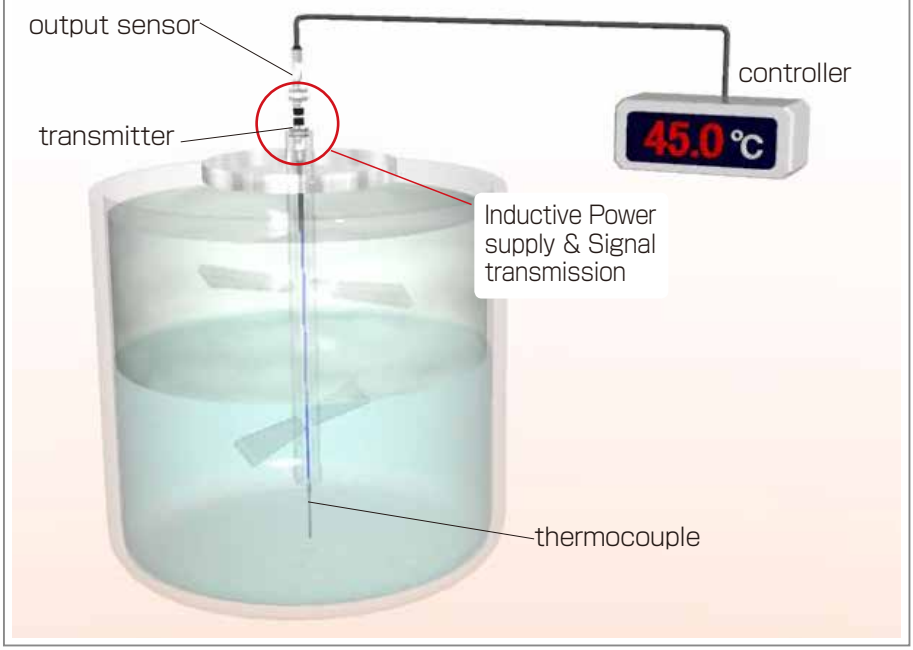


Construction of devices



Monitoring temperature at the center of a stirring tank

rotating



Previous problems

- Very difficult to properly mix the materials without knowing center temperature of the tank.

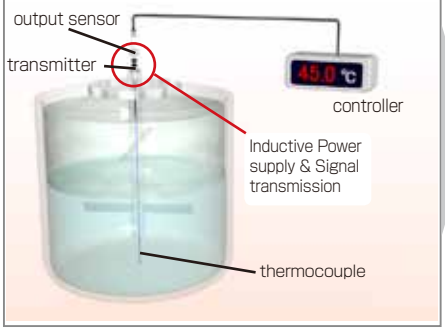
Solution Rmote System

After improvement

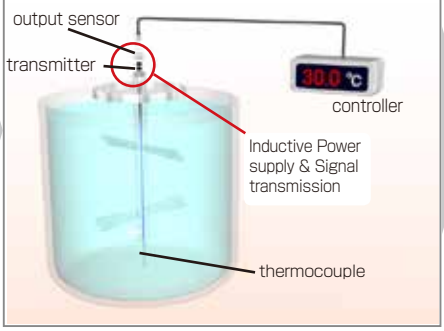
- Placed thermocouple in the center, measuring accurate temperature.
- Measured data of a thermocouple is transmitted, while agitating.

Application Monitor center temperature of the content in the tank, adjust the speed of agitator accordingly.
Remote sensor is installed on top of the agitator shaft, and transmits the measuring data of the thermocouple.

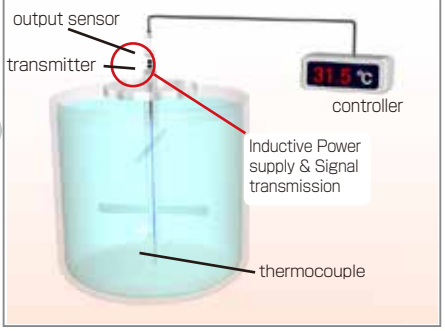
Tank filled with materials, initiating mixing



Agitation with monitoring temperature

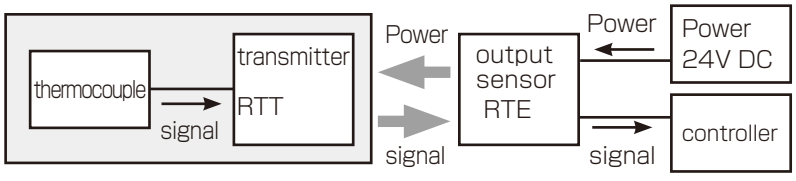


Adjusting speed of the agitator according to temperature



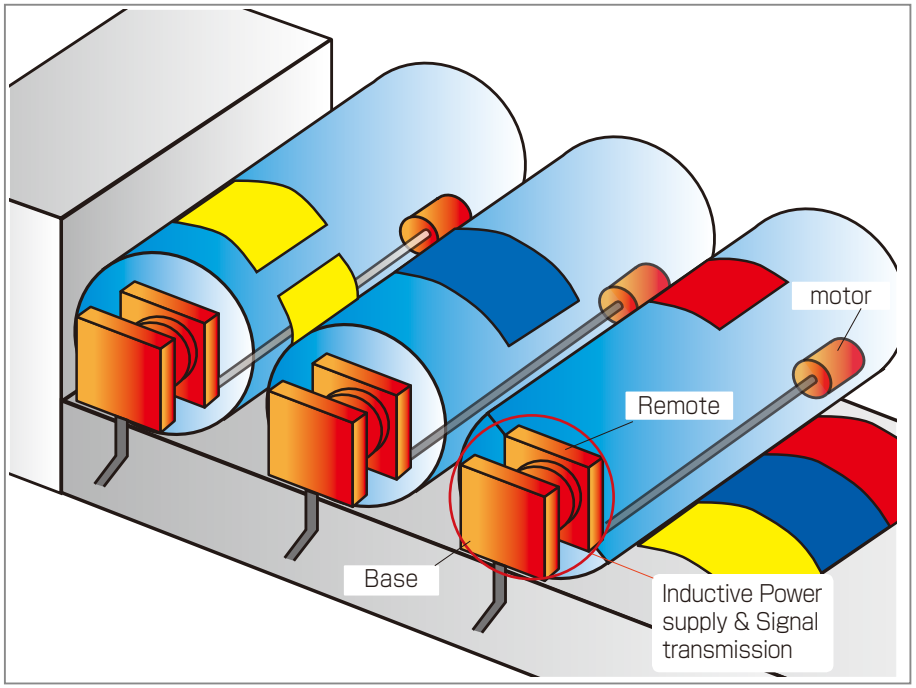
Construction of devices

movable side : mixing tank　　fixed side



Initiating motors for print positioning adjustment

rotating



Previous problems

- Impossible to adjust the alignment without stopping the rollers. Time loss from stopping the machine for adjustment.

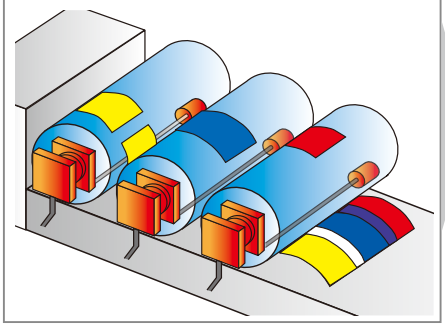
Solution — Rmote System

After improvement

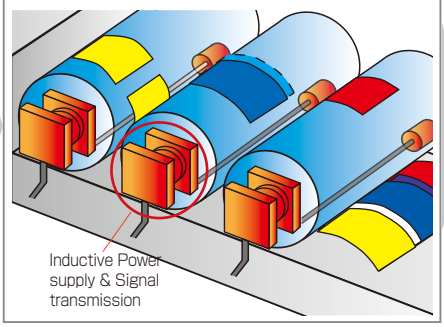
- Adjustment of the alignment in motion made possible, due to power and signal being sent to motor inside of the rotating drums.
- Improved efficiency.

Application Adjust the positioning while the drums are in motion.
Remote System sends power and signal to motors installed inside of the drum.

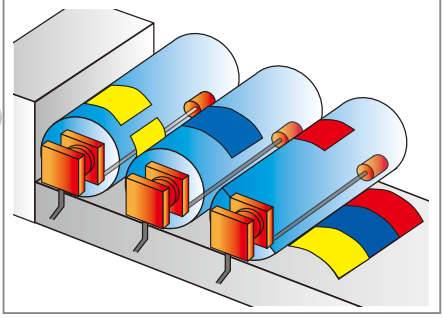
Test print



Alignment adjustment

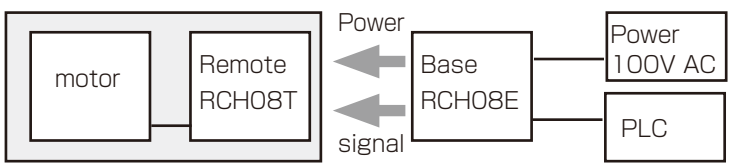


Start printing



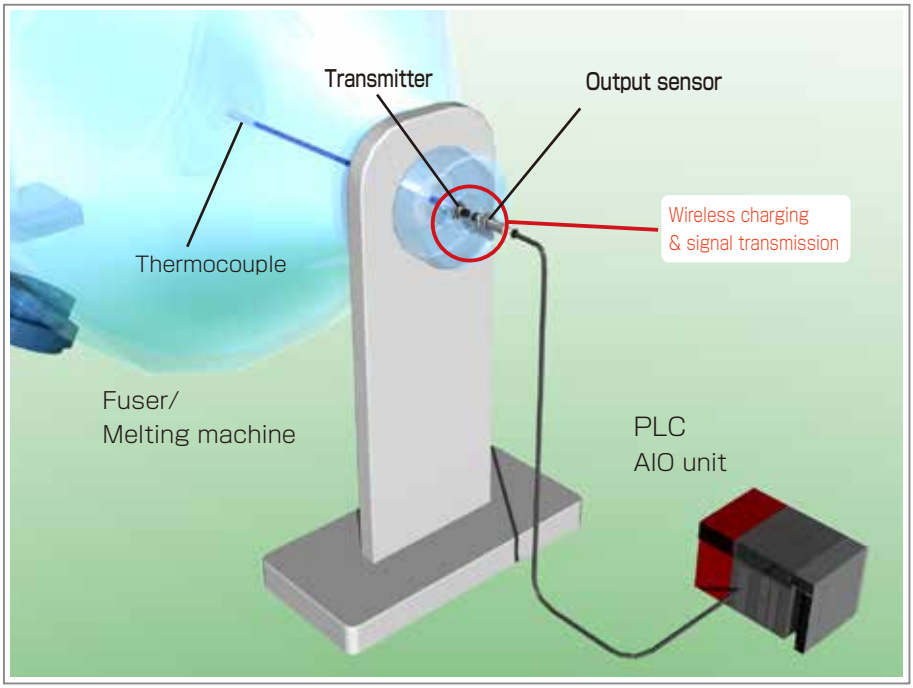
Construction of devices

movable side : drum　　fixed side



Temperature monitor of the pellet melting machine

Rotation



Previous problems

- A collector ring breaks down to repeat the expansion and the shrinkage by temperature.

Solution

Rmote System

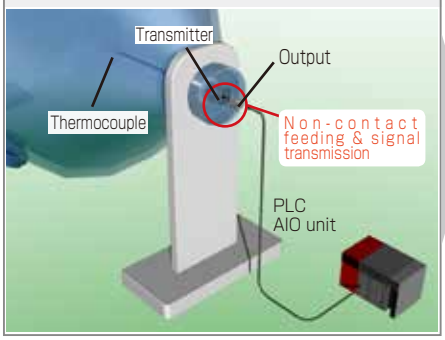
After improvement

- With a remote sensor, it can prevent the trouble. by the expansion, the expansion and contraction by securing a transmission distance widely.

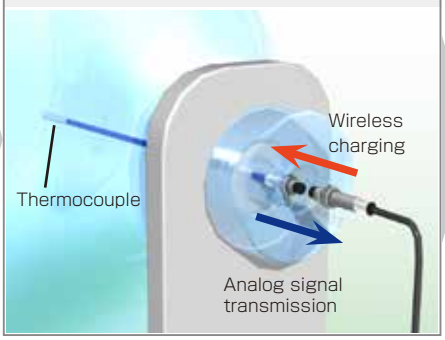
Application

Manage and measure the temperature in a fuser dissolving a pellet.
The remote system is attached on an axis and outputs data to a temperature control apparatus.

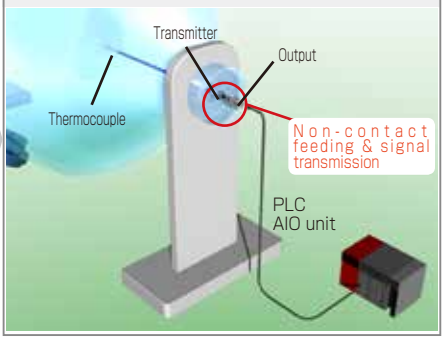
Throwing the material and start melting.



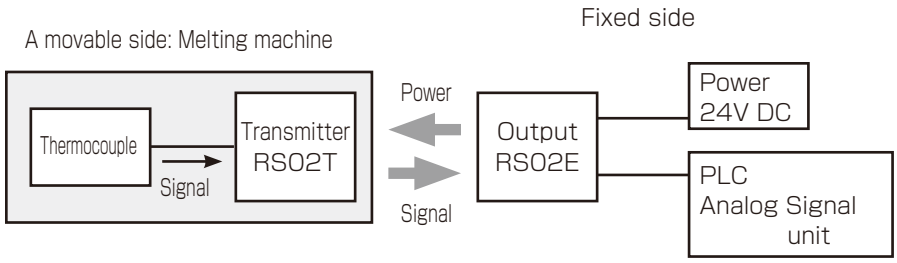
Stirring while monitoring temperature



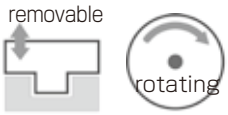
Temperature is controlled by data

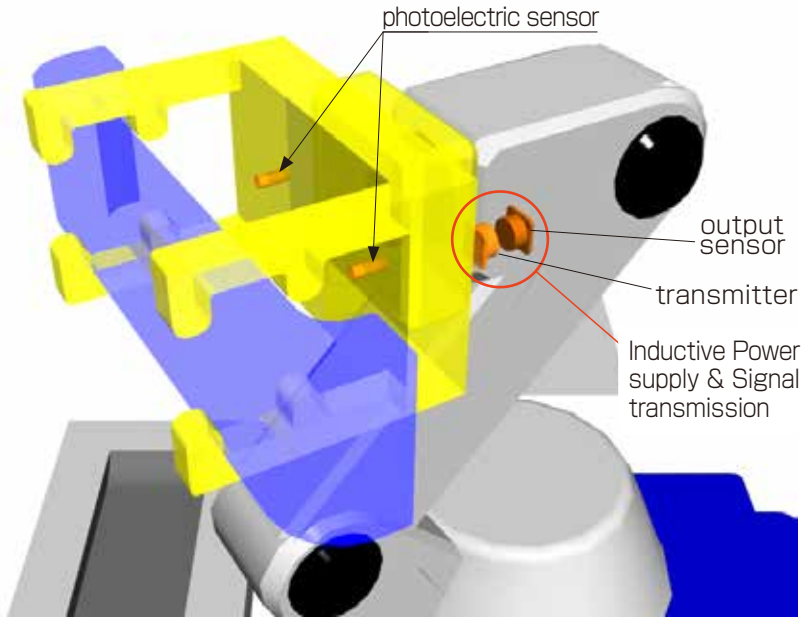


Construction of devices



Confirming work piece on a removable robot hand





Previous problems

- Manual exchange of the hands by operator is required.
- Coiled cables used were breaking from motion stress.

Solution  Rmote System

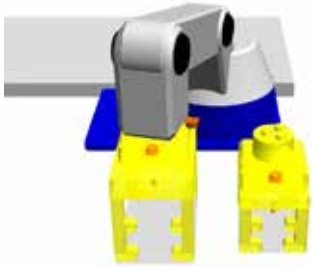
After improvement

- Eliminated manual exchange process by an operator.
- Eliminated coiled cable, Eliminated cable breakage problem.

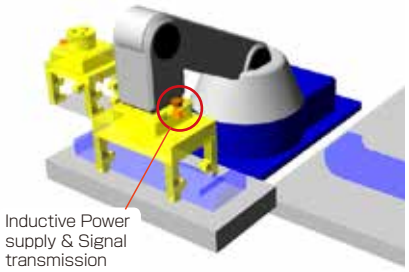
Application

Confirming presence of work piece in a robot hand picking up work pieces from a die.
The robot hand rotates and replaced for the shapes of the work piece.
Remote System sends power to photoelectric sensors and transmits their signal.

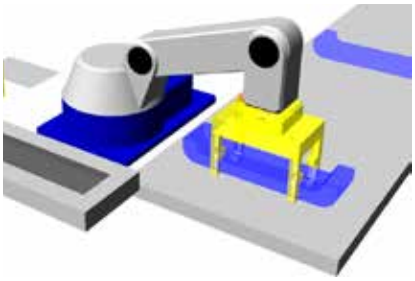
Exchanging robot hand



Confirming and picking up work piece

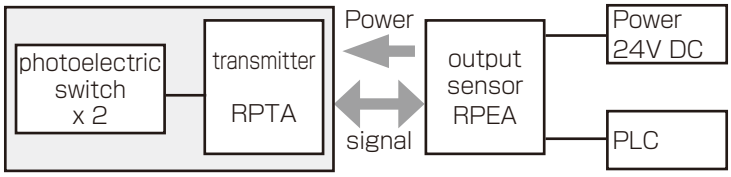


Placing work piece to conveyor



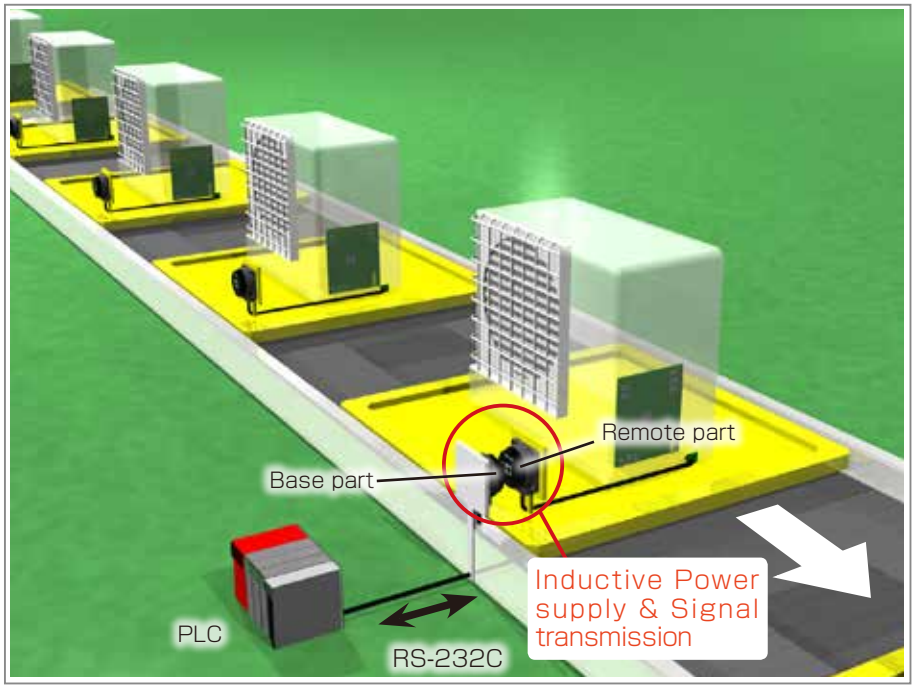
Construction of devices

movable side : hand　　fixed side



Inspection line of water heater "outdoor unit"

Move



Previous problems

- This line performs centralized management using wireless LAN.Since it is big data, all lines stop when an error occurs.It takes time to recover.

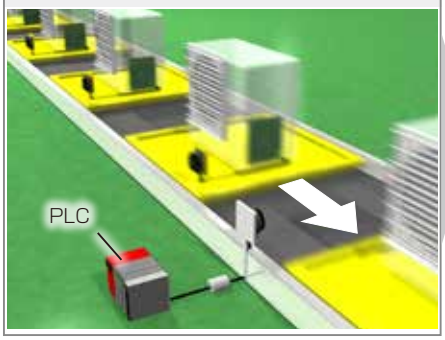
Solution Rmote System

After improvement

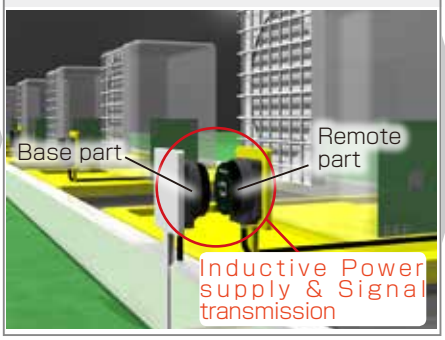
- Change to individual control on remote system.Restoration became faster as it became small data.
- Since the speed can be adjusted for each line, the operating rate has improved.

Application Performing communication of operation signal and confirmation data in non-contact on inspection line.Power is also supplied to the internal board at the same time.

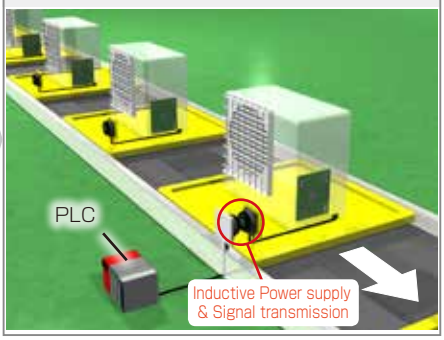
Move and stop work



Wireless power supply and signal transmission when the heads face each other

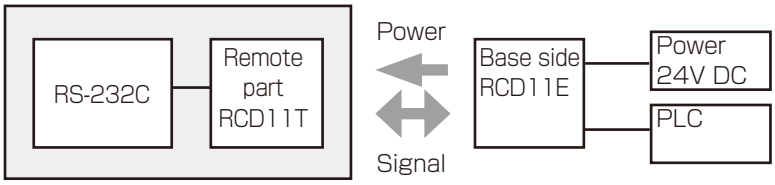


Move work



Construction of devices

Movable side : palette　　Fixed side



Wireless power supply to a door catch sensor

moving

Previous problems

- Power supply to the sensor and signal transmission was performed through the cable, but cable trouble was freaquently occurred due to repeating opening and closing operations.

Solution

Rmote System

After improvement

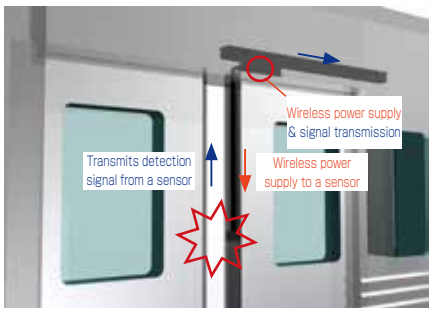
- By supplying power to the sensor and transmitting the detection signal wirelessly, disconnection trouble was solved.

Application

A door catch sensor that detects whether a person or thing is caught when the train door is closed. The remote system is installed to the cushioning part of the door. The cable was frequently broken by repeating opening and closing operations. Liner type remote system was introduced, and it is possible to constantly supply power to the sensor and transmit the detection signal, and it was also solved from the trouble of disconnection

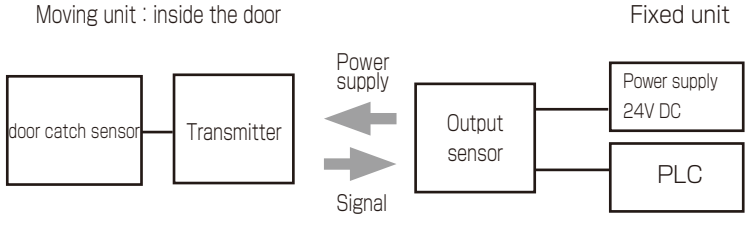
Stopping (door opened)

Catching occurred! Signal transmission!



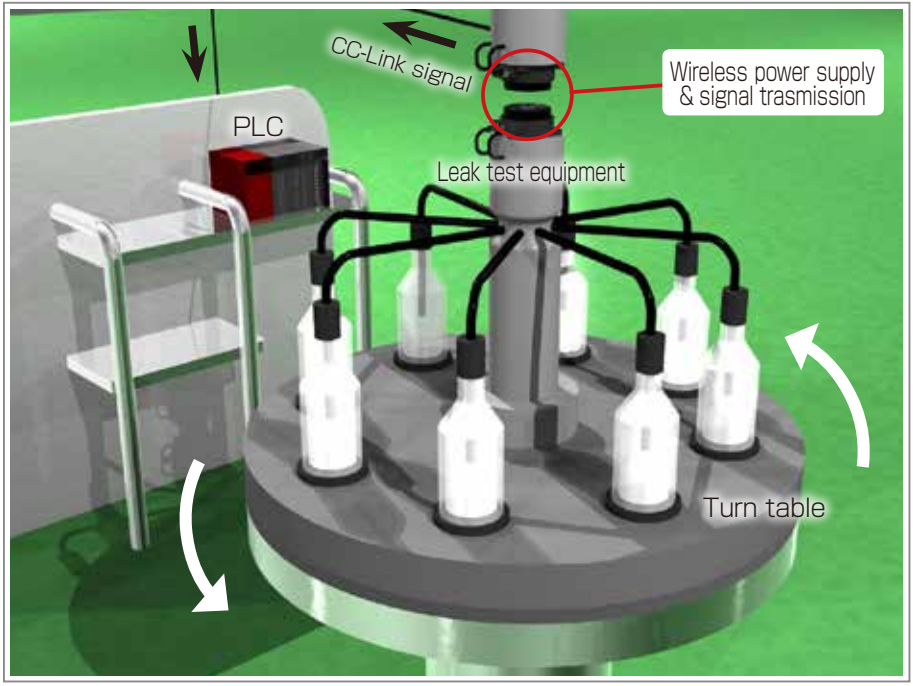
After confirming safety, the train departures.

Construction of devices



Bottle Leak Test

roatating



Previous problems

- The life of the slip ring was short.
- Since leakage of liquid etc. occurs in the process, It was necessary to have high waterproofness but it could not be realized.

Solution Rmote System

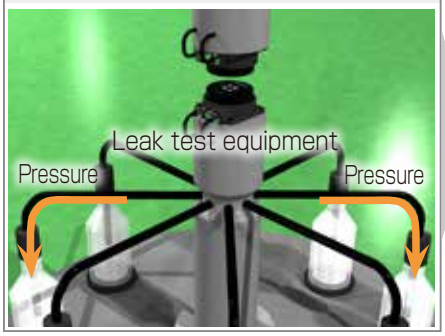
After improvement

- Since it does not depend on the rotation speed, the rotation speed can be set high, and the life can be kept long.
- By introducing wireless power supply, the performance of waterproof protection has increased.

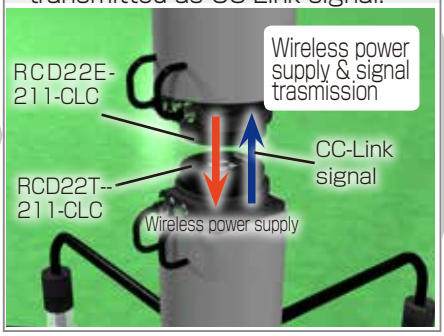
Application

Apply the pressure to the bottle before filling the chemicals, and check for leakage with a leak test equipment. The test data is transmitted as a CC-Link signal.

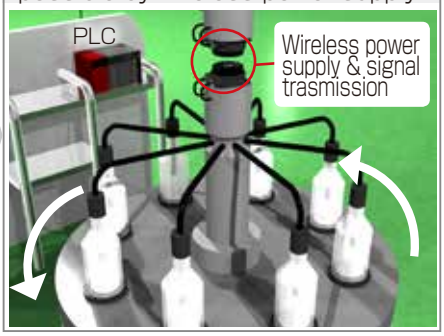
Apply the pressure to the bottle



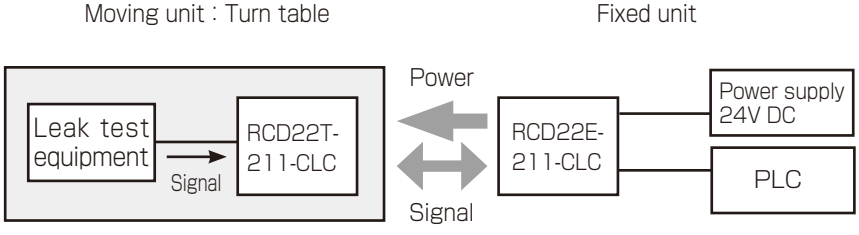
The measurement result is transmitted as CC-Link signal.



Continuous rotation can be possible by wireless power supply.



Construction of devices

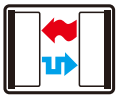


Remote power supply system

Power supply

Power supply to movable side	12V DC/2.5A
Power supply to movable side	24V DC/1A ...2A
Power charging to movable side	30W ,120W ,210W

Remote sensor system



Power &
detected signal

Applicable Devices on movable side	Object detection sensors max.16 Analog sensor (0...10V output) thermocouple・Resistance thermometer Load cell
Interface with controller on fixed side	Parallel (Object detection sensors) 0...10 V (Analog sensor) 4...20 mA (thermocouple, Resistance thermometer, Load cell)

Remote coupler system

Power &
bi-directional signal
and control signal.

Applicable Devices on movable side	Object detection sensors max.8 or 64 Actuators (solenoid valve, motor) max.8 or 32 RS-232C device CC-Link device DeviceNet device PROFIBUS-DP IO-Link
Interface with controller on fixed side	Parallel (Object detection sensors, actuators) RS-232C (RS-232C device) CC-Link (CC-Link device) DeviceNet (DeviceNet device) EtherNet/IP (under preparation)

Wireless Power Supply by
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*Specification is subject to change without notice.
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