B&PLUS USA.inc

With the Technology From Japan

AGV Assist Sensor

Realize various AGV solutions!

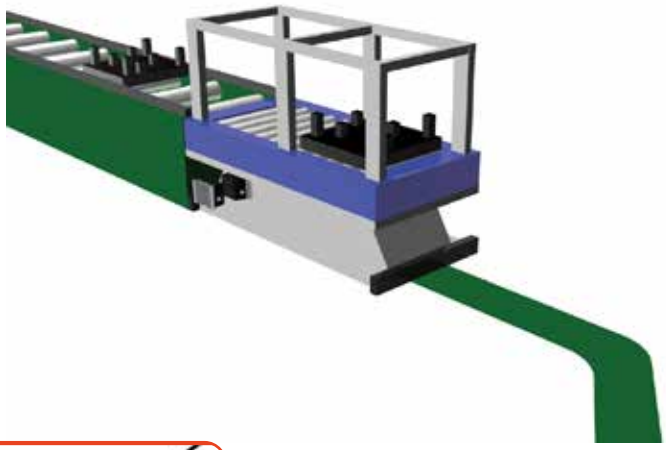
Wireless Power & Signal Transmitter

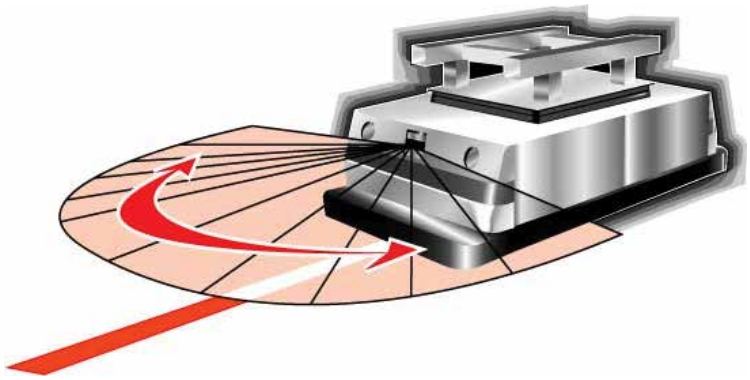
ADDRESS MARK READER

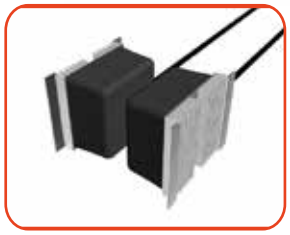
POSITIONING SENSOR

GUIDE SENSOR

Ultre Thin Platform Scale







Wireless Battery Charger

Easy RFID

Flexible Tag

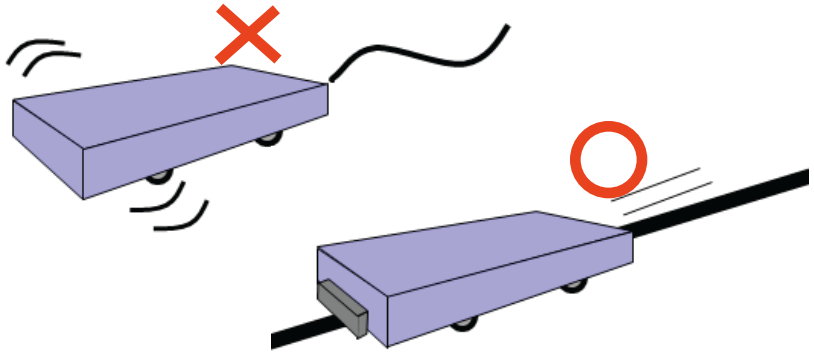
Small and High Accuracy Encoder

Safety Laser Scanner

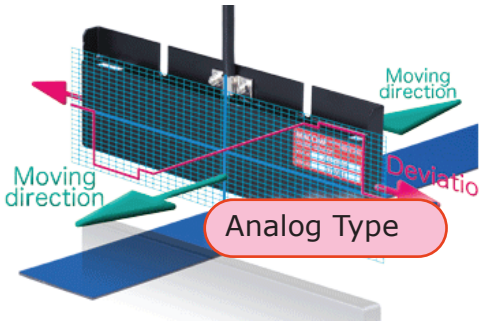
AGV Guide Sensor

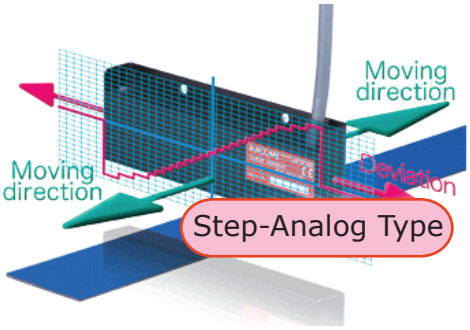
GUIDE Sensor

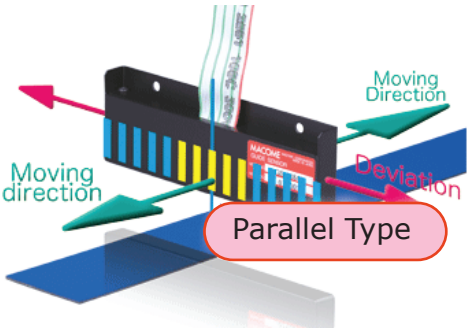
Magnetic Tape Guidance AGV's route can be constructed in various locations, since the magnetic tape route can be constructed where the floor can not be carved.
Modification of a magnetic tape route can be done easily and the route is durable against dust, water and light.
Guide sensor detects the slight magnetic flux from a magnetic guide tape at operation distance 30mm (20mm to 30mm) and generates multiple switching signals or deviation voltage.

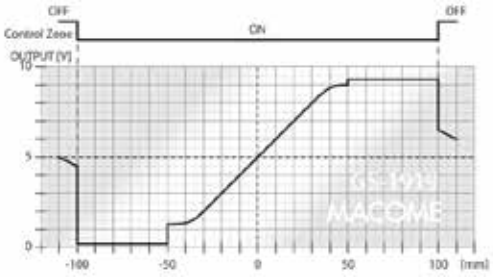


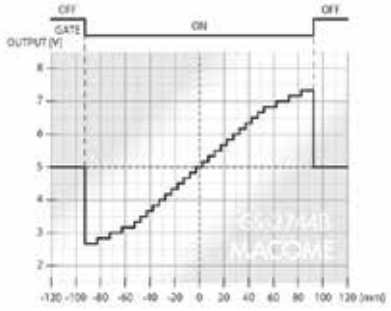
This Guide Sensor detect the Right/Left side balance by magnetic tape, and realize your accuracy AGV controls.











No	Contents		
1	OUT D1	11	OUT D11
2	OUT D2	12	OUT D12
3	OUT D3	13	OUT D13
4	OUT D4	14	OUT D14
5	OUT D5	15	OUT D15
6	OUT D6	16	N.C.
7	OUT D7	17	N.C.
8	OUT D8	18	N.C.
9	OUT D9	19	0V
10	OUT D10	20	+10.8 to 30VDC

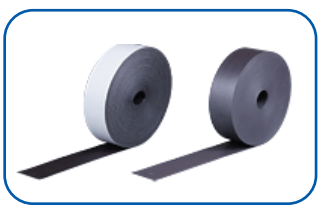
GUIDE Tape

MGL-50L-□

(Magnet□with laminate & adhesive tape)
inside : Laminate color Y, B , G
T: 1 mm
W:50 mm
L : 1000 mm/Straight

MGR-300L-□

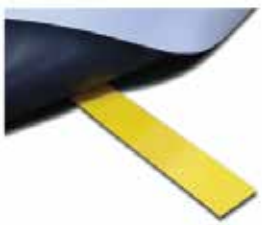
(Magnet with laminate & adhesive tape)
inside □: Laminate color Y, B , G
T: 1 mm
W:50 mm
L : 30℃/300mm R curved
- Other Radius 600mR,
1000mmR, 1500mmR



MGL-50L-25

Magnet Only 25m Long type
T: 0.8 mm
W:50 mm
L : 25,000 mm

Since the double-sided adhesive tape that is attached to the back surface, you can make immediate Property moving route. Please used to peel off the release Paper.



Since the magnetic fields to detect the magnetic field from the tape guide, If a non-magnetic material such as a carpet, you can use hidden under the carpet or the like can not face

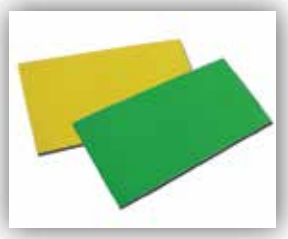
AGV Address Mark Reader

Address marks are installed at junction of station beside Guide tape route.
Address mark has binary 8 bit codes and 2 timing bits. Address mark reader detects the code of address mark and outputs parallel data. The code is held till next Address mark comes.

SMR-100C

Sensor detect N/S marker and output N/S signals.

Color	Contents
Brown	DC +10 to +30V
Blue	0 V
Black	N-POLE-OUT
White	S-POLE-OUT



SMG-100(N) : N - Pole
Laminate color : Yellow
SMG-100(S) : S - Pole
Laminate color : Green

SMR-2352H2S (N)

Sensor detect 8bit marker info. and output 8bit Parallel signals.

Bit	8	7	6	5	4	3	2	1
Out	ON	OFF	ON	OFF	ON	OFF	ON	OFF

- In case of following SMG-2352S marks is detected (code No.170)

SMG-2352S(N) :
Data : 8bit (binary / 256 codes)
Timing : 2bit (both edges / S-pole)

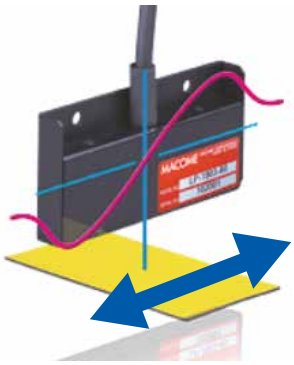
AGV Positioning Sensor

Positioning Sensor detects Magnet mark along AGV route and generates analog voltage and gate signal. 0V and gate signal ON is a precise positioning point.

LP-1903

Sensor detect the marker and output Analog signals.

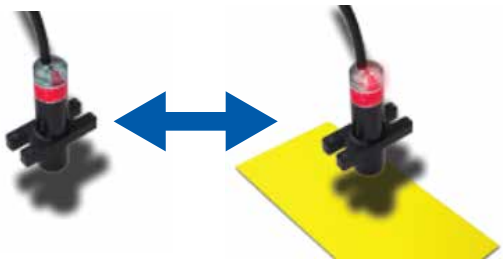
Color	Contents
Red	DC +12V
White	ANALOG +
Brown	ANALOG -
Blue	GATE
Yellow	N.C.
Black	0 V
Shield	Shield



LS-1601

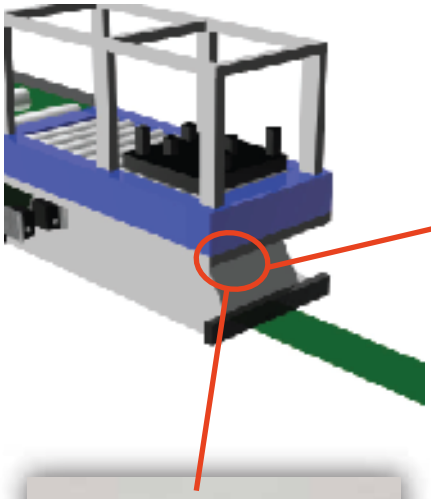
Sensor detect the marker. and out put the ON/OFF signals.

Color	Contents
Red	DC +24V ± 20%
White	OUT
Black	0 V
SHIELD	SHIELD



OFF ON

AGV Angle Measurement Sensor



Thin And High Accuracy Encoder

Diameter : 44mm
Thickness : 18mm
Output Puulse number :
200,000 P/R
Weight : 140g

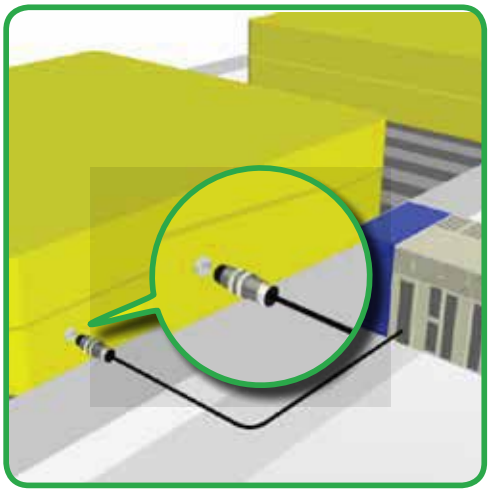
Small Encoder

Diameter : 7.5mm
Height : 13.5mm
Output Puulse number :
360 P/R
Weight : 5g

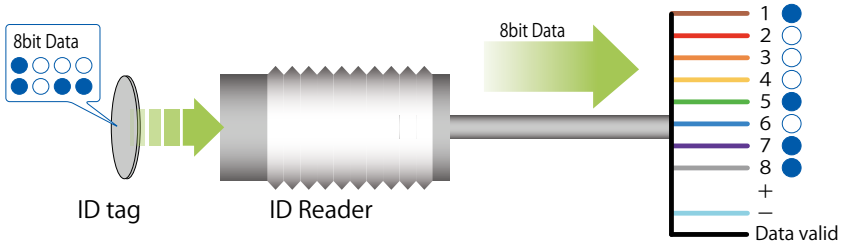
Small Sensor can
- Save the Space on AGV
- Save the total Weight
- Save the Power of Battery

We have various Encoder line-up.
Please feel free to ask us!!

AGV numbering by 8bit Sensor



8bit tags grant identification number of AGV,
And 8 bit reader detect this identification number easily.



ID Reader starts reading automatically at the same time the ID tag enters in to the Reading area. It output the 8-bit data directly in parallel.

8 Bit Reader

Reading Program is unnecessary for 8bit sensor.

Size : M30 x 74.5
Frequency : 13.56 MHz
Protection : IP67
Reading distance :
Max 20mm

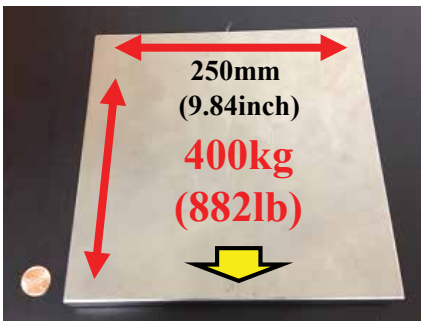
Ceramic Tags

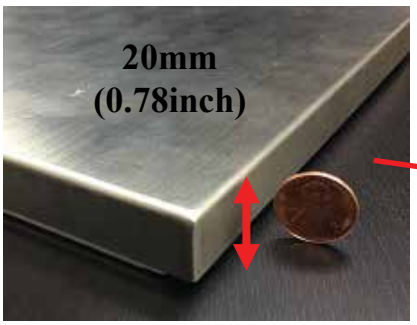
Ceramic tags have excellent chemical resistance and oil resistance.

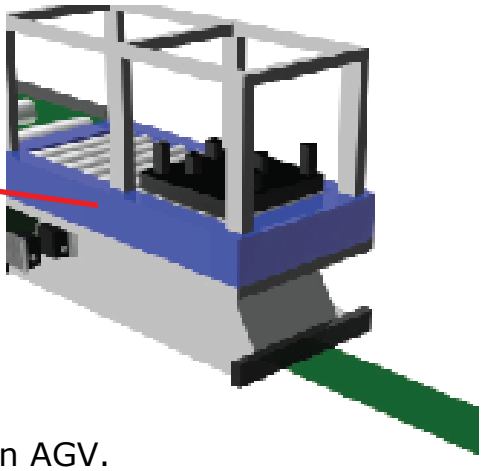
Flexible Tags

The Glass fiber housing is so flexible that it is not broken even if it is bent !!!

AGV Weight Measurement Scale

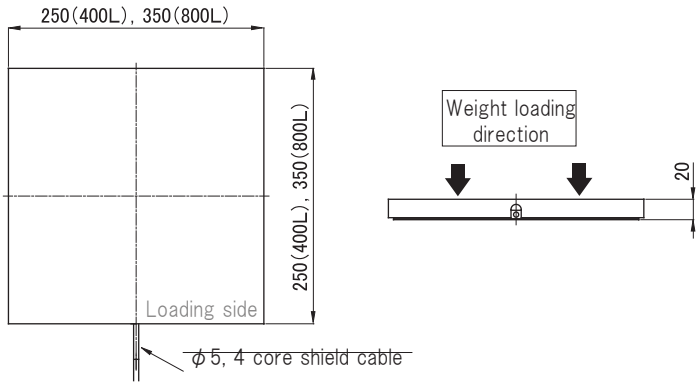






Ultrethins Platform Scale for AGV is just 20mm thickness!!
There are no need additional large space for wight module.
You can realize easy weight measurement of various objects on AGV.

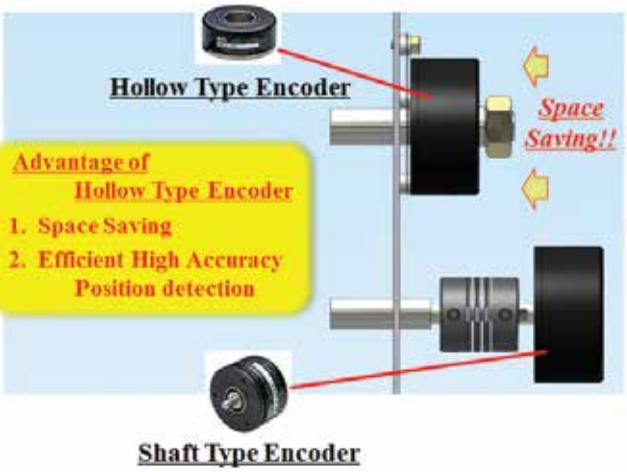
Demensions

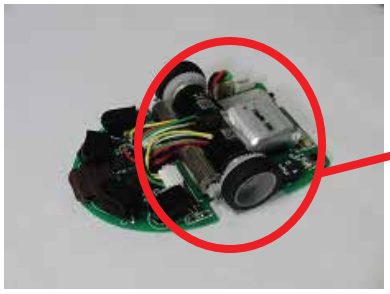


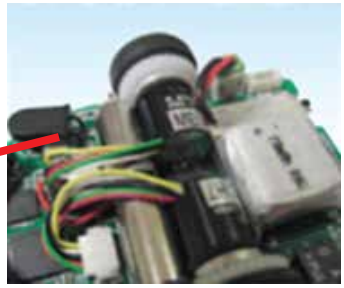
Specifications

Model	UPL-400L-250	UPL-800L-350
Rated Capacity (R.C.)	400kg	800kg
Rated Output (R.O.)	1mV/V	
NonLinearity	±0.25%R.O.	
Hysteresis	±0.25%R.O.	
Repeatability	±0.25%R.O.	
Operation Temp.	-10 to +50	
Excitation Voltage	10V (Recommended)	
Excitation Voltage(MAX.)	10V (Maximum)	
Cable length	5.0 m	
Material	Aluminum (Stainless Steel as option)	
Platform Size (mm)	250 x 250	350 x 350

AGV Moving Distance Count







Example :
Micro Mouse Car with Small Encoder

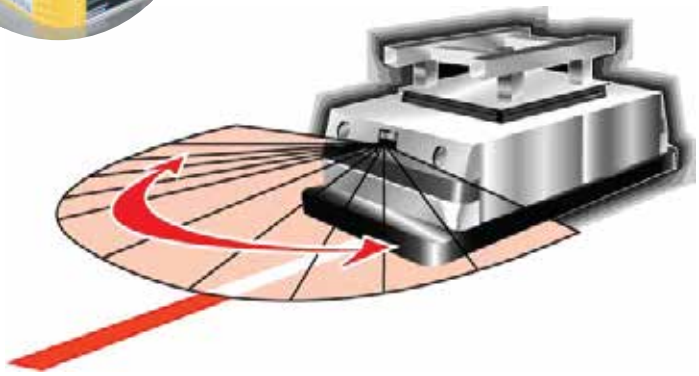
Small Encoder Series

Small Encoder Series count AGV tire rotation number, and support to calculate moving length.

Small Encoder save the space of AGV.
Additionally, Shaft type Encoder also save the space as above image.
You can keep current AGV demension.

Safety Laser Scanner for AGV Control

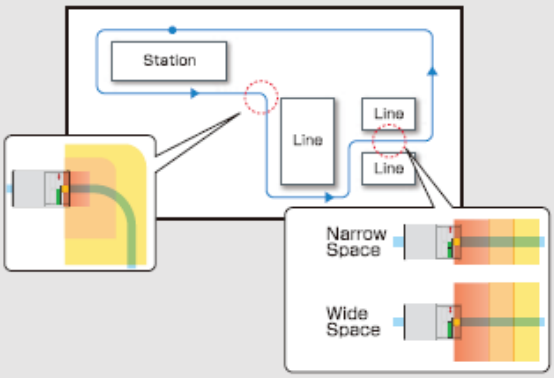
Safety Laser Scanner



Able to Store 16 Patterns
of 1 Protection Zone and 2 Warning Zones

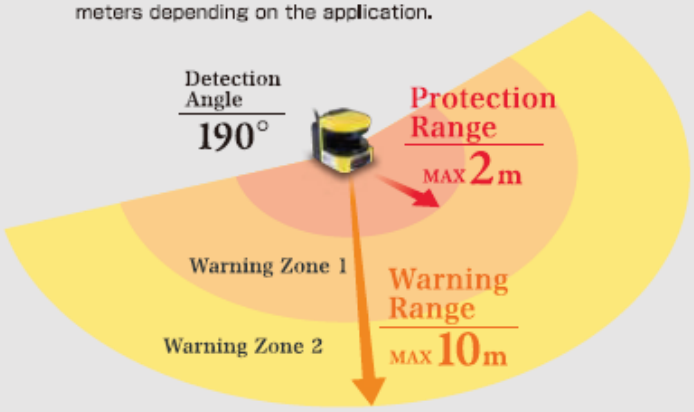
For optimal use on an AGV, 16-pattern combinations of a protection zone and two warning zones (non-safety) can be programmed, so the configured pattern can be switched to accommodate the surroundings or the travel path of the vehicle.

Example of Running an AGV with Switching Patterns



Reliable Detection of Dark Objects and Clothing
Protection over a Wide Zone

Through a horizontal, two-dimensional scanning laser beam, the protection zone can be easily set to a maximum of 2 meters and the warning zone to a maximum of 10 meters depending on the application.



Compact and Lightweight, Easy to Use

The compact design allows for an ease of Installation of AGVs, AGCs as well as in vertical guarding applications.

[Size]
Height 97.0 x Width 90.0 x Length 99.8mm
[Weight] 1.0 kg
[Conformity]

IEC61496-1/3	Type3
IEC61508	SIL 2
ISO13849-1	PLd Category3
UL508	
UL1998	
UL61496-1	Type3
CSA C22.2	No. 14

Collision Prevention

Can switch between 16 area patterns to accommodate the AGV travel path for object detection and collision prevention.

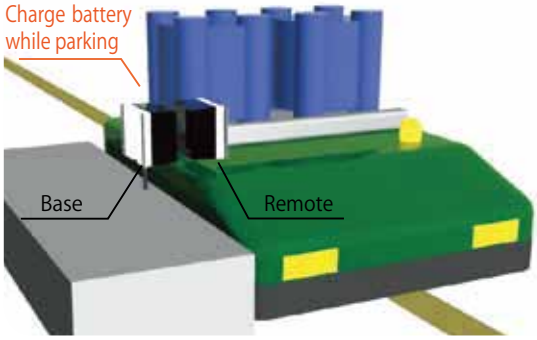
Presence Detection

Detects when a person or something enters or if an object is left in a hazardous area.

Intrusion Detection

Detects when a critical zone is accessed. The reference boundary feature prevents unsafe conditions if there is a gap in the protection zone or a misalignment of the scanner.

AGV Battery Charger



- Charge battery wirelessly at the parked position
- Available in dusty and dirty environment

28V DC/4A
non-contact
power supply

Remote Power Supply system for charging 24V battery. It can charge battery at the AGV parked position, therefore it save substantial time in changing batteries.

28V DC/4A power supply Type Code
Remote : RVTA-411-44-PU
Base : RVEA-411-3-PU

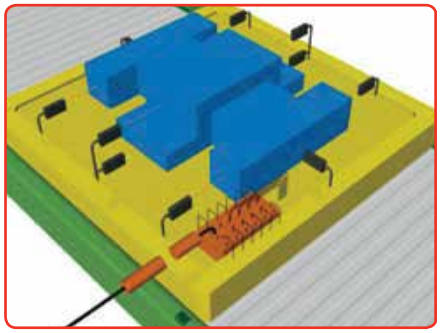
The product with controller which monitors and controls of the battery-charge is also available.

If you need any wireless Battery Charger,
Please feel free to ask us !!

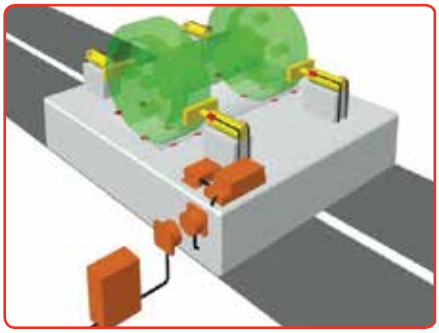
AGV Wireless controls

Remote System supplies power and transmits signals inductively between a remote and a local position.
In stead of the cable wiring, it performs the 12V/24V power supply and various signal transmission simultaneously.

Power	: Max. DC 24V 2A
INPUT Signals (Max:64 signals) (Max:10Mbps)	: Switch signal (Proximity Switch/Photo Switch/ Limit Switch/Solenoid Valve) Analog Signal (Thermocouple/Load Cell/Analog Sensor) Data Signal (RS-232C/CC-LINK/DeviceNet)
OUTPUT Signals (Max:32 signals) (Max:10Mbps)	: Switch signal Data Signal (RS-232C/CC-LINK/DeviceNet)



Easy detection of workpiece on AGV
Supply the power to the sensors on AGV, and these sensor detect the signals on target. Then these ourput transfer wirelessly though the Remote System.

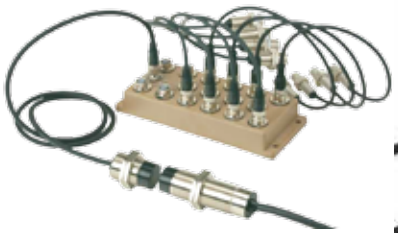


Easy control of solenoid valve on AGV
Supply the power to the solenoid valve on AGV. This solenoid start to work and clamp the object. The sensor also detect clamp signals, and AGV finish the process and go to next process by wireless system.

Product lineup

B&PLUS

Devicenet
Remote System

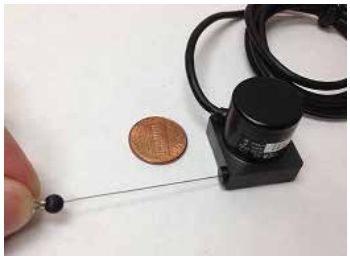


16 signal
Remote System

Power
Remote System

Thermocuple
Remote System

Small Encoder



Wire Encoder

Ring Encoder

Roller Encoder

Small Indicator

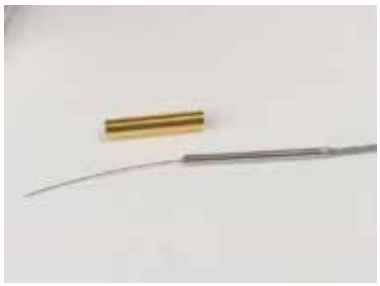
Small Load cell

Pin type Load cell

Platform scale

Pulsecoder

Push rod coder



Wire pulse coder

Grobe sensor

Air self joint

AGV Guide Sensor

Safety Laser Scanner

Angle sensor

B&PLUS USA.inc

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