

Panasonic Life Solutions India

History and Management Philosophy



The Founder, Konosuke Matsushita

*Contributing to the progress of society
and the well-being of people
through our business activities*



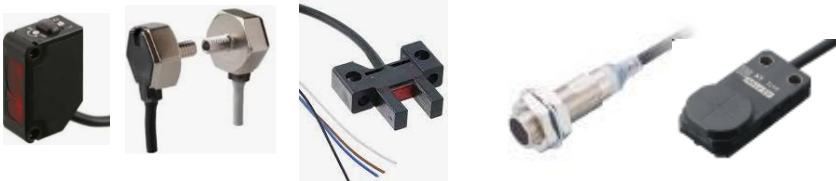
Improved attachment plug
& double cluster socket

- 1918 Foundation
- 1932 Established the Export Department to launch business overseas
- 1933 Introduced the “Business Division” system
- 1952 Technical alliance with Phillips
- 1955 Started using “Panasonic” as a trademark
- 1959 Established the first overseas sales company in the U.S.
- 1961 Established the first overseas factory in Thailand
- 1973 Sales surpassed ¥1 trillion
- 1978 The Founder promised technical cooperation with then-Vice Premier Deng Xiaoping of China
- 2004 Acquired Matsushita Electric Works
- 2008 Changed company name to Panasonic Corporation from Matsushita Electric Industrial Co., Ltd.
- 2009 Acquired SANYO Electric
- 2018 100th Anniversary of the foundation

One Stop Automation Solution

Automation Solutions

Sensors

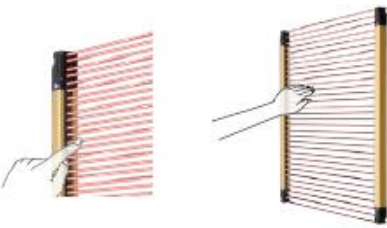


Photoelectric Sensor

Proximity Sensor



Fiber Sensor



Safety Sensor



Pressure Sensor



Measurement Sensor

PLC + HMI + Servo



PLC



Servo

Marking + Inspection



Laser Marker

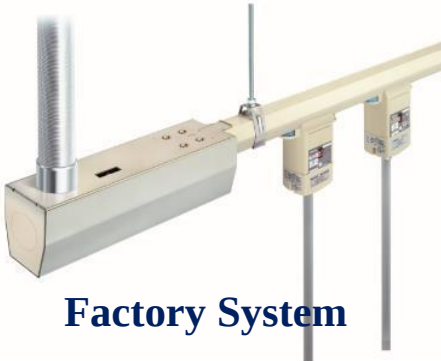


IPD Solutions

Trolley Duct + Factory



Trolley Duct



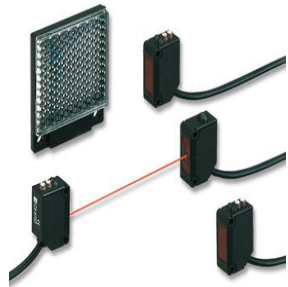
Factory System

Photoelectric Sensors

Long Line lineup of photoelectric sensors to address every need.....

Panasonic
INDUSTRY

Compact Sensor CX-400



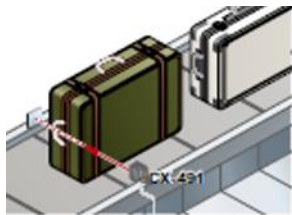
2 mm – 30 mtr

FGS, BGS Feature

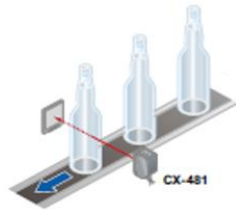
Transparent Object

Waterproof

Applications



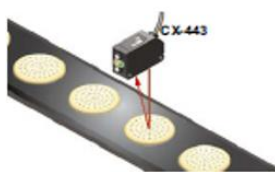
Passage confirmation
of Object on conveyor
belt - CX-491



Detecting transparent
glass bottle- CX-481



Detecting Object in
Dusty Environment
CX-412



Detecting a Biscuit
CX-443

Ultra Minute EX-Z



World's No.1 in
Compactness*

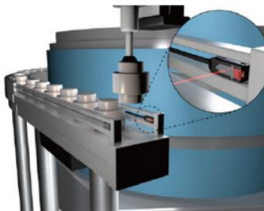
50 mm – 500 mm

ø0.3 mm Objects

Operation Indicator

Waterproof

Applications



Precise detection in
very small space



Detection of pins of
LED Lamp EX-Z**

[Video Link](#)

Ultra Slim EX-10/20/30



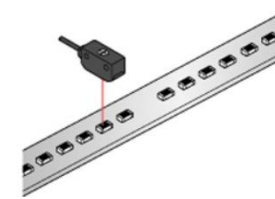
2 mm – 2 mtr

Threaded Type

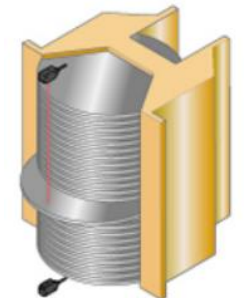
2 Color Indicator

Waterproof

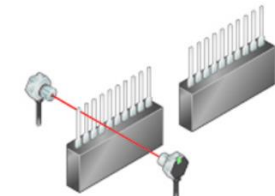
Applications



Detecting presence of
chip components
EX-20



Checking protrusion
of wafer
EX-20



Checking IC pins
(using Slit masks)
EX-30

Photoelectric Sensors

Long Line lineup of photoelectric sensors to address every need.....

Adjustable Range Sensor EQ500



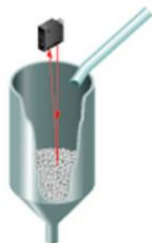
100 mm – 2.5 mtr

FGS, BGS Feature

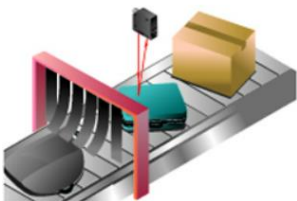
Easy to Adjust

Waterproof

Applications



Level Check Hopper
EQ-500 Series



Confirmation of passage
of the packages on the
conveyor belt
EQ-500 Series

Digital Laser Sensor LS-400



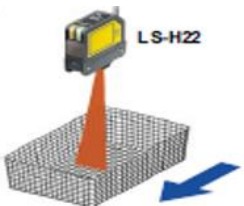
500 mm – 30 mtr

Amplifier Separated type

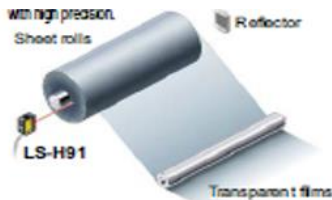
fast response time 60 μ s

Network communication
possible – SC-GU3

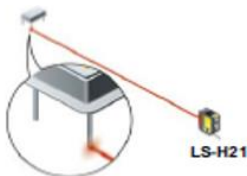
Applications



Detecting object with
a complex shape
LS-H22



Detecting remaining
amount of sheet roll
LS-H91



Detecting electronic
component pin
LS-H21

Digital Laser Sensor LS-500



10 mm – 1 mtr

Amplifier-separated Type

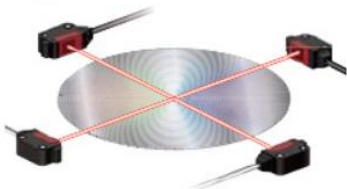
Through Beam, Retro
reflective

Network communication
possible SC-GU3

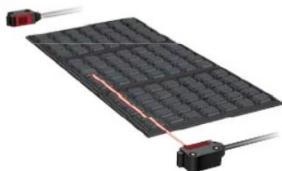
Applications



Lead frame position
detection



Wafer inclination detection



IC Float detection

Photoelectric Sensors

Long Line lineup of photoelectric sensors to address every need.....

Panasonic
INDUSTRY

Slot Sensor PM Series

PM25 - U-shaped

Ultra Small Cable Type



PM-K25



PM-L25



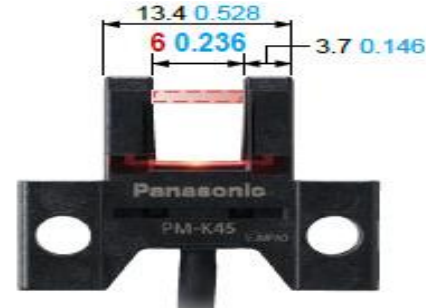
PM-U25



PM-F25



PM-R25



PM45 - U-shaped

Compact Cable Type



PM-K45



PM-T45



PM-L45



PM-Y45



PM-F45



PM-R45



PM65 - U-shaped

Compact / Connector Type



PM-K65



PM-T65



PM-T65W



PM-L65



PM-Y65



PM-F65



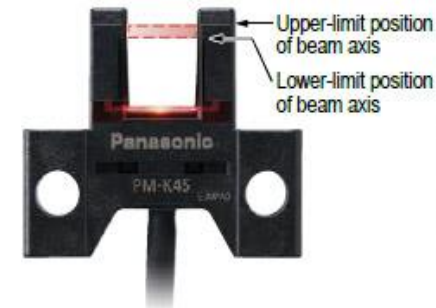
PM-F65W



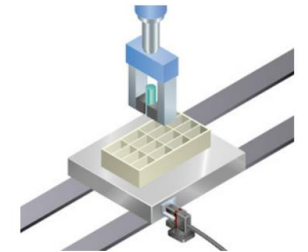
PM-R65



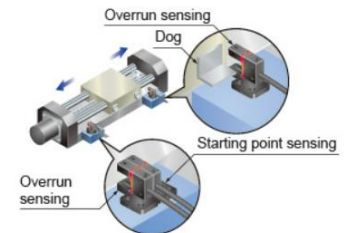
PM-R65W



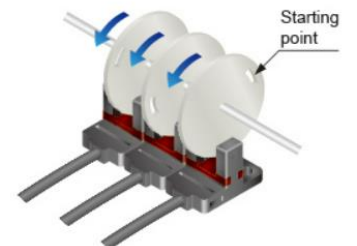
Applications



Positioning of a pallet



Sensing starting point and overrun of moving body



Sensing starting point of rotary body

Fiber Sensors

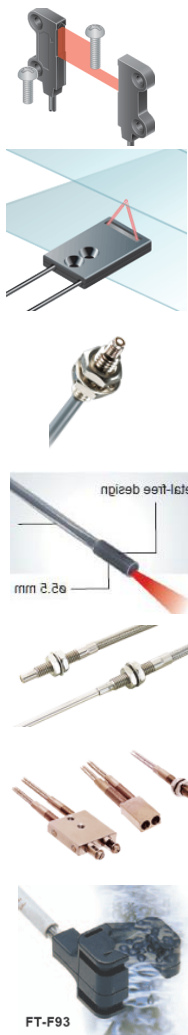
Variety of options with unmatched performance.....



Fiber Heads



- Square Heads
- Cylindrical Heads
- Threaded Heads
- Sleeve Heads
- Flat Type Heads
- Small Spot Heads
- Retro reflective Type
- Narrow Beam Heads



- Wide Beam Heads
- Convergent Reflective
- Super Quality Heads
- Chemical / Oil resistant
- Heat-resistant
- Vacuum-resistant
- Liquid Detection

Amplifiers

Fiber Sensor FX-100



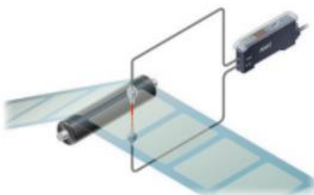
- Response Time 250 μ S*
- Dual digital display
- Timer Function
- Teaching with ON/OFF keys

Fiber Sensor FX-500

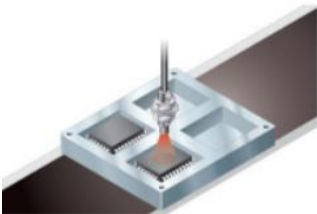


- Response Time 25 μ S*
- Analog Output
- Logic functions
- 8 steps data bank
- 5 Type timers

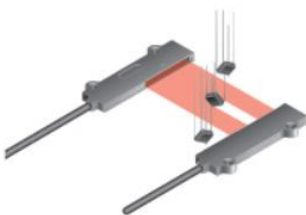
Applications



Detecting presence or absence of label



Detecting presence or absence of IC's on a tray



Detecting the passage of small objects

FX-550L IO-Link

Measurement Sensors

Highly accurate and precise measurement results.....

Panasonic
INDUSTRY

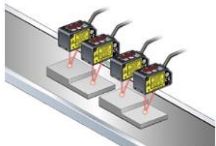
Micro Laser Sensor HG-C



Range
30 mm – 400 mm
Repeatability – 10 μ m
[HG-C1030 (P)]

IO-Link

Applications



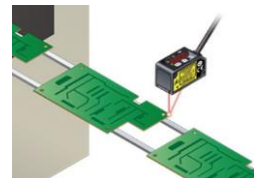
Measuring the
thickness of a
part



Controlling the
mounter head
height



Controlling the
parallel link
robot height



Detecting
warpage of
circuit board

Compact Laser Sensor HL-G1



Distance & Range
30 $\pm$ 4mm to
250 $\pm$ 150 mm
Resolution
0.5 μ m to 20 μ m

RS-485

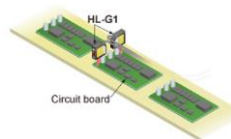
Applications



Controlling the
height of
dispenser nozzle



Positioning of
wafer



Detection of
circuit board
warpage



Measuring the
eccentricity of
the metal
shaft

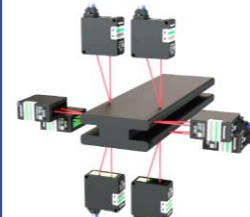
NEW Network Type HL-G2



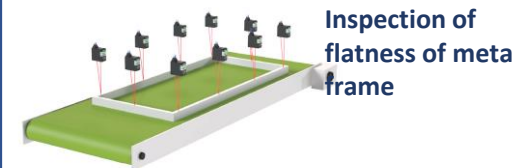
Range 400 mm
Resolution - 0.5 μ m to 15 μ m
Linearity : 0.05%
Temp Ch : 0.03% F.S/C

**Ethernet IP
/ RS485**

Applications



Inspection of
automobile part
shape



Inspection of
flatness of metal
frame



Inspection of
camera actuator
operating
amount

Contact-Type Sensor HG-S



Range
10 mm – 50 mm

Resolution
0.1 μ m & 0.5 μ m

Applications



Lithium-ion
battery flatness
measurement



Crankshaft
dimension
measurement



Total Surface
flatness
measurement



Resin roller
centricity
inspection

Measurement Sensors

Highly accurate and precise measurement results.....

Thru-beam Type – HG-T

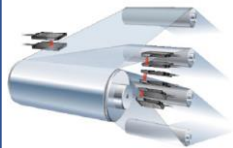


Range
10 mm

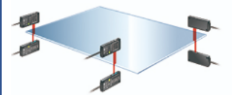
Repeatability- 1 μ m
(for 20 mm distance)

USB 2.0

Applications



Measurement of
meandering on
Lithium-ion
battery winding
machine



Glass substrate
positioning



Shaft Diameter
measurement



Detection of
clearance
between rollers

Inductive Proximity Sensors

Highly accurate and precise measurement results.....

Panasonic
INDUSTRY

Cylindrical Inductive Proximity Sensor – GX-300

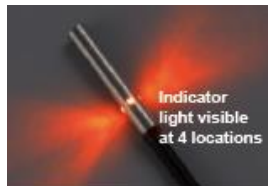


Max : 0.8mm to 30mm
Stable : 0 – 24mm
Size : 0.8mm to 30mm

Applications



Positioning processing equipment



Small-diameter type



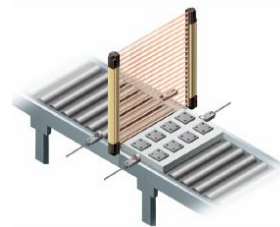
M8 / M12 / M18 / M30 threaded type

Rectangular-shaped Inductive Proximity Sensor GX-F/H



Max : 8mm
Stable : 6.7mm

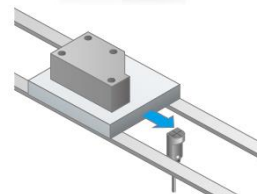
Applications



Muting control of light curtains



Positioning processing equipment

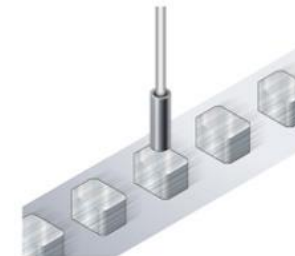


Positioning metal pallets

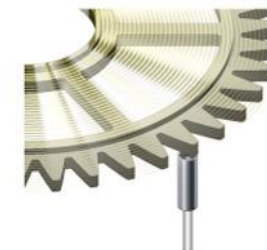
Compact Inductive Proximity Sensor GA-311/GH



Max : 4mm
Stable : 2mm



Detecting small metal parts



Detecting rotation of a gear

Color Mark & Pressure Sensors

Optimized to perform as per local ecosystem

Panasonic
INDUSTRY

LX-101 Color Mark Sensor



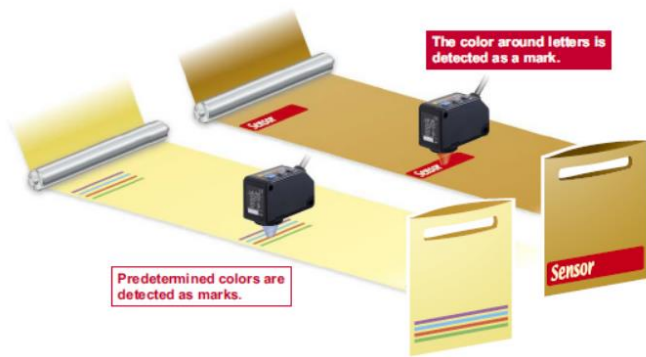
Sensing Range : 10 ±3 mm

Mark mode: 45 µs or less, Color mode: 150 µs or less

NAVI - Digital Display

Output Short Circuit Protection

Applications



Detection of I-Mark in packaging machine

LX-111 Color Mark Sensor



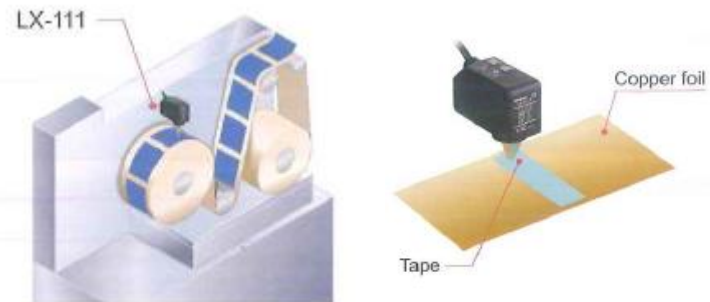
Sensing Range : 10 ±3 mm

Cost Effective

Easy Teaching

Output Short Circuit Protection

Applications



Detection of mark on packaging machine tape

Detection of Tape stuck on copper foil

DP-100 Pressure Sensor



-1 bar to 10 bar

Dual 3-color display

Three output modes

 **IO-Link**

Peak hold and Bottom hold functions

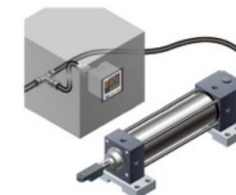
Applications



Confirming suction of electronic component



Air leak test for PET bottles



Confirming reference pressure

Safety Solutions Sensors

Robust performance to ensure safety compliance.....

Panasonic
INDUSTRY

SF4D – Type 4, Robust Type



Resist
Shock
IP67

150 -1910 mm Height

0.2 - 15 m Range

Alignment Indicator

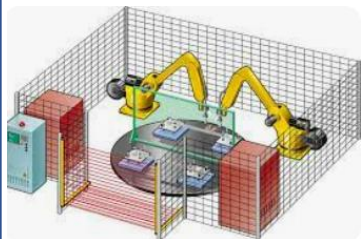


 **IO-Link**

Applications

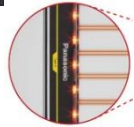


Human safety in SPM /
Press machine



Human safety in Robo
cell application

SF4B- C Type 4, Compact Type



263 -1943 mm Height

0.3 - 7 m Range

Muting, Blanking

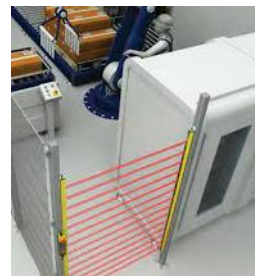
Flexible Mounting

Multi Purpose indicators

Applications



Safe passage to
the material



Restricted
unauthorized entry to
the identified location

SF4C- Ultra Slim Type



160 -640 mm Height

0.1 - 3 m Range

Light Weight, IP67

Muting, Blanking

Alignment Indicator

Applications



Entry prohibition
for human safety



Operator protection
in press machine

Safety Door Switch

SG-A1 – Ultra Slim



SG-B1- With
Solenoid



SG-B1- With Key



Safety Control Unit SF-C21

Category 4
PLc SILCL3

8 Preset Logics

Application Based
Customization



USB
RS485

Safety Solutions Sensors

Robust performance to ensure safety compliance.....



Safety Door Switch



Ultra-slim Safety door switch with solenoid interlock SG-B1



Ultra-slim Safety door switch SG-A1



Safety door switch with key SG-B2

Safety Control Unit SF-C21



Category 4
PLe SILCL3

8 Preset Logics

Application Based Customization

USB
RS485

NEW

Non-Contact Safety Door Switch SG-P



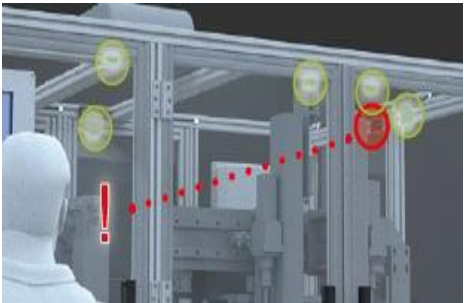
Large and Bright Indicators Show the Open / Close Conditions of All Equipment Doors.



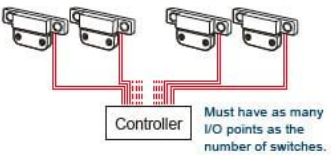
Visible Type



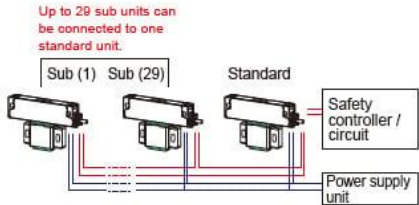
Compact Type



Before Magnetic switch or other conventional system



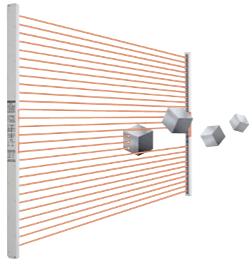
After SG-P series



Area Sensors

For simple and effective detection needs.....

NA2-N General Purpose

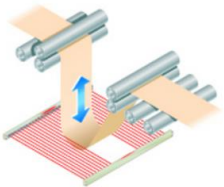


Slim Body – 13 mm

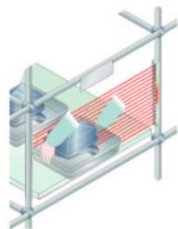
Wide Job Indicators

Sensing height - 540 mm

Applications



Detecting a loop



Detecting wrong part picking

NA1-PK5 Body Picking Sensor

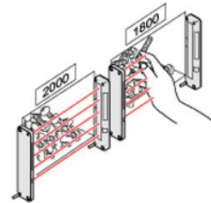


Ultra Slim Body – 10 mm

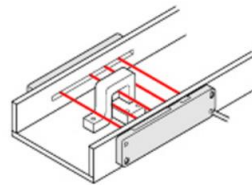
Selectable Lighting Pattern & Detection

Wide Sensing Range
3 Meter

Applications



Detecting wrong part picking



Detecting parts having wide positioning area

NA1-PK3 Compact Size Picking Sensor



NA1-PK3 Pocket lighter

Space-Saving

Large, Bright, Clear
Job Indicators

No Synchronization
Wires Required

Applications



Cell production line



Assembly line

Detection for AGV

PX-2 Series



Information on Panasonic Sensing Solutions



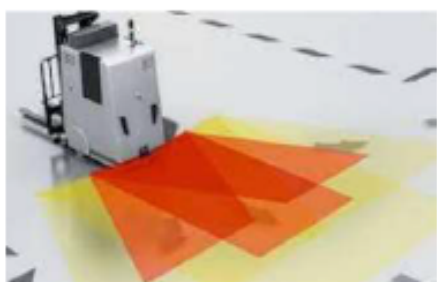
More Information on PX-2 Series



Submit your query

Application

AGV



Long and selectable detection for AGV

Key features

Ideal sensing area with very little dead zone

The advanced optical system of the PX-2 series reduces the dead zones in front of an automatic guided vehicle (AGV).

The dead zones at the sides are further minimized if auxiliary sensors which can be easily mounted with connectors are used.

Sensing areas selectable as per route condition

Sensing areas can be selected with switches to suit the route conditions of an AGV.

Further, in case of PX-24ES and PX-23ES, the sensing areas can also be selected with external signals.

Compact size for space-saving

Its size is half of a conventional model, and the attached cable orientation is freely adjustable. Hence, it can also fit in a small AGV.

Moreover, sensitivity adjustment can be done on the front face.

Long sensing range 5 m 16.404 ft type

Long Sensing Distance even for high speed AGV's

Sleep function

This function able to reduce the power consumption by 1/5

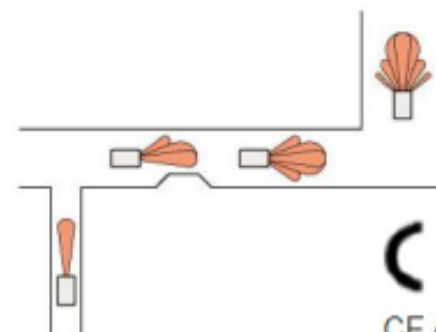
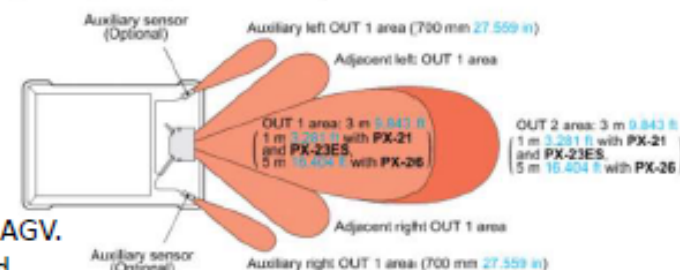
Automatic interference prevention function

One PX-2 sensor can simultaneously receive beams from 25 Nos, as to avoid collision with other AGVs

External sensitivity adjustment by External Input

Easy Installation

(For PX-24, PX-24ES, PX-23ES and PX-26)



CE Approved

Specification

Main Sensors

Type	Appearance	Sensing range	Model No.
Standard type		3 m 9.843 ft	PX-22
Short sensing range		1 m 3.281 ft	PX-21
Auxiliary sensor connectable type		3 m 9.843 ft	PX-24
With external control function		3 m 9.843 ft	PX-24ES
Short sensing range		1 m 3.281 ft	PX-23ES
Long sensing range		5 m 16.404 ft	PX-26

Auxiliary sensor

Type	Appearance	Sensing range	Model No.
Auxiliary sensor		700 mm 27.559 in	PX-SB1

PLC & HMI

Scalable solution from simple to complex applications.....

Panasonic
INDUSTRY

FP0R PLC



Compact

Economical

128 I/O

HSC, PID

Modbus RTU

General Com

50 KHz PTO

RS-485

RS-232

FPX / FPX0 PLC



Shoe Box

Economical

384 I/O

HSC, PID

Expandable

Modbus RTU..

100 KHz PTO*

RS-485

RS-232

GT704G – 4” HMI



Monochrome

LCD

RS232/RS485

640 W × 240 H

GT707 – 7” HMI



65K Color

SD Card Logging

FP Monitor

Recipe

FP0H PLC

New

IoT



384 I/O

High Performance

10 nS / Step

Motion Control

SD Card, FTP

Data Logging

EtherNet/IP

RTEX
Realtime Express

100 KHz PTO

RS-485

RS-232

FP7 PLC

New

IoT



16,384 I/O

220 Ethernet Con.

11 nS / Step

Motion Control

SD, FTP, HTTP

Data Logging

EtherNet/IP

EtherCAT

Web-Server

34 Ports
RS-485



WH Series HMI 4.3” - 7” - 10.1”

Link to a network View the readings Check processes remotely



SQL

Reports

Graphs

21CFR

Multi Vendor PLC

EtherNet/IP

RS232

RS485

Servo Motor

High performance offering with great reliability.....



- Minas - A6 SE (Pulse)
- Minas - A6 SF (Pulse/Analog/RS485)
- Minas - A6 BF (EtherCAT)



Range: 50 W to 22 KW

Voltage: 100 - 220 1 ϕ /3 ϕ VAC,
415 3 ϕ VAC, 24V & 48 VDC

Inertia: Low – Middle – High

Flange: 38 – 220 Sq-mm



Encoder

23 bit
(8388608 Pulse / rotation)

Max. speed

6500 r/min

Max. torque

Approx. 350%^{*2}

Communication speed

5 Mbps

Pulse Train

RS-485



NEW

Minas - A6 SC (Pulse)

NEW

Minas - A6 BC (EtherCAT)



*Sample Image for Reference only

SC Range: 50W to 1.2kW
BC Range: 50W to 2.9 KW

Voltage: 100-220 1 ϕ /3 ϕ VAC

SC: Incremental Encoder
BC: Absolute Encoder

NEW

Minas – E7 (Pulse / EtherCAT)



*Sample Image for Reference only

SC Range: 50W to 750W

Voltage: 100 - 220 1 ϕ /3 ϕ VAC

Incremental Encoder

Servo Motor

High performance offering with great reliability.....

Panasonic
INDUSTRY

NEW

Minas – A7 (EtherCAT/Rtex)



Range: 50W to 1.5kW

Voltage: 100 - 220 1 ϕ /3 ϕ VAC

Encoder : 27bit
RPM : 7150r/min

Ultra-high precision

The AI uses expert judgment to easily achieve ultra-high precision tuning

precAlse TUNING

Complex tuning that take several days even for expert engineers are automatically optimized by AI just by setting the conditions, making μ m level ultra-high precision tuning easily achievable.



[Applicable equipment] Equipment such as mounters, coating equipment and processing machines which require ultra-precise positioning accuracy

Agile Adaptability to Machines

Immediate response to commands and disturbances

Industry-leading* basic motion performance is faithful to commands and has strong resistance to disturbances.

*As of September 2023, according to in-house research.

Encoder resolution **27** bit, Speed response frequency **4.0** kHz or more, Max. motor rotational speed **7150** r/min

*For MH-MA002

Agile Adaptability to People

Immediate response at start-up and when trouble occurs

Expanded auto tuning, from easy start-up to automation of high level tuning. Quick response with drive recorder function when trouble occurs.

Ultra-high precision **precAlse TUNING** High precision **One Minute TUNING** Easy **Drive recorder**

Under development

Agile Adaptability to Applications

Immediate adaptation to specific applications

Application-specific functions are achieved without a controller. Sensor direct input system contributes to highly responsive control.

Displacement control **Pressure control** **High-precision gantry control**

(Auto-focus control, meandering control)

Under development

Under development

Motion Controller

High performance offering with great reliability.....

Panasonic
INDUSTRY

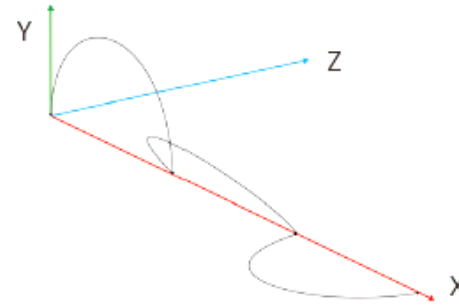


Range: 32Axis

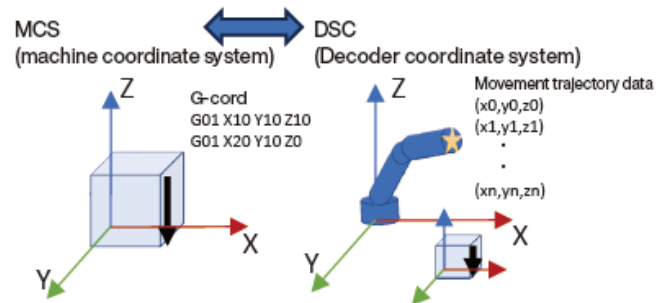
Voltage: 100 - 220 1 ϕ /3 ϕ VAC

EtherCAT

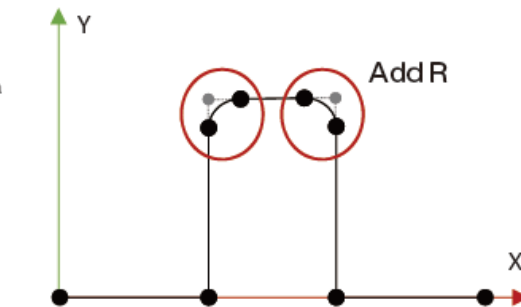
LD / ST / FBD / SFC / IL / CFC



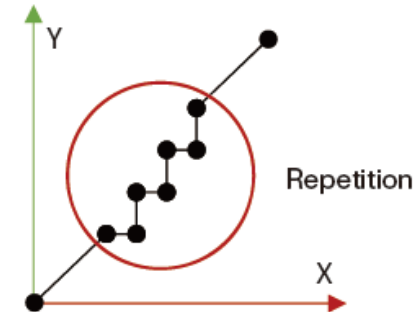
Change of machining plane,
coordinate transformation :
Set the plane on which circular
interpolation will be performed. 3D
processing is also applicable.



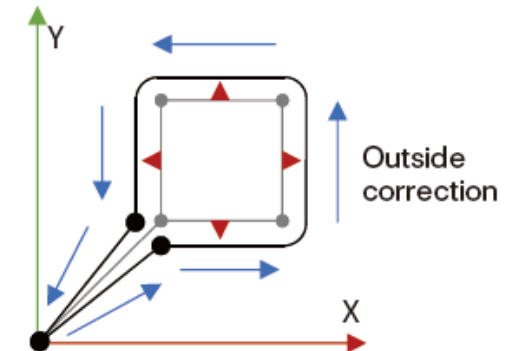
Coordinate transformation :
Work and tool coordinates are
also supported.



Smooth the path, add R to the path :
Path connections can be changed to
smooth trajectories.



Iterative processing :
Possible to repeat by
incrementing the counter or by
conditional branching.



Tool diameter compensation :
Correction is performed at the
specified distance inside and outside
the rectangle.

Motion Package Controller

High performance offering with great reliability.....

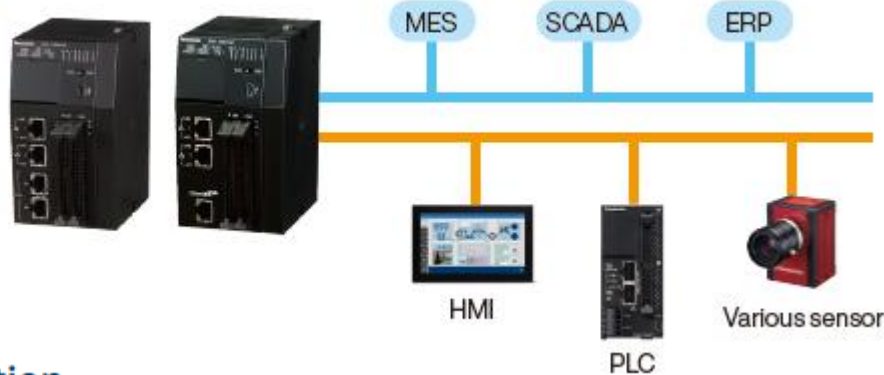
Enhanced communication between the upper level and the device

Communication with upper levels

OPC UA Server
FTP Server

Communication between devices

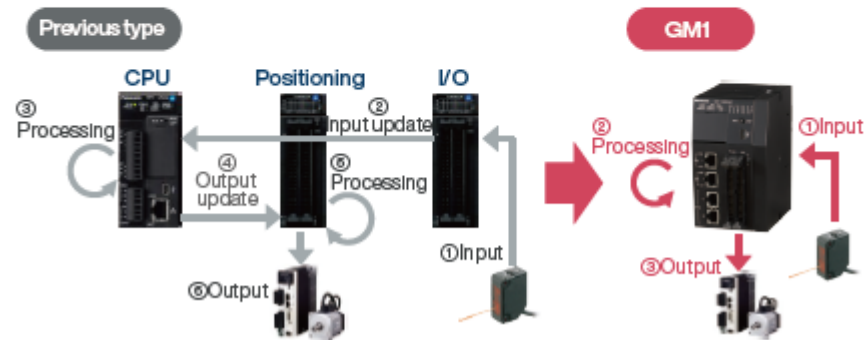
Ethernet/IP
Modbus
Codesys V3 communication



Integrate PLC and motion

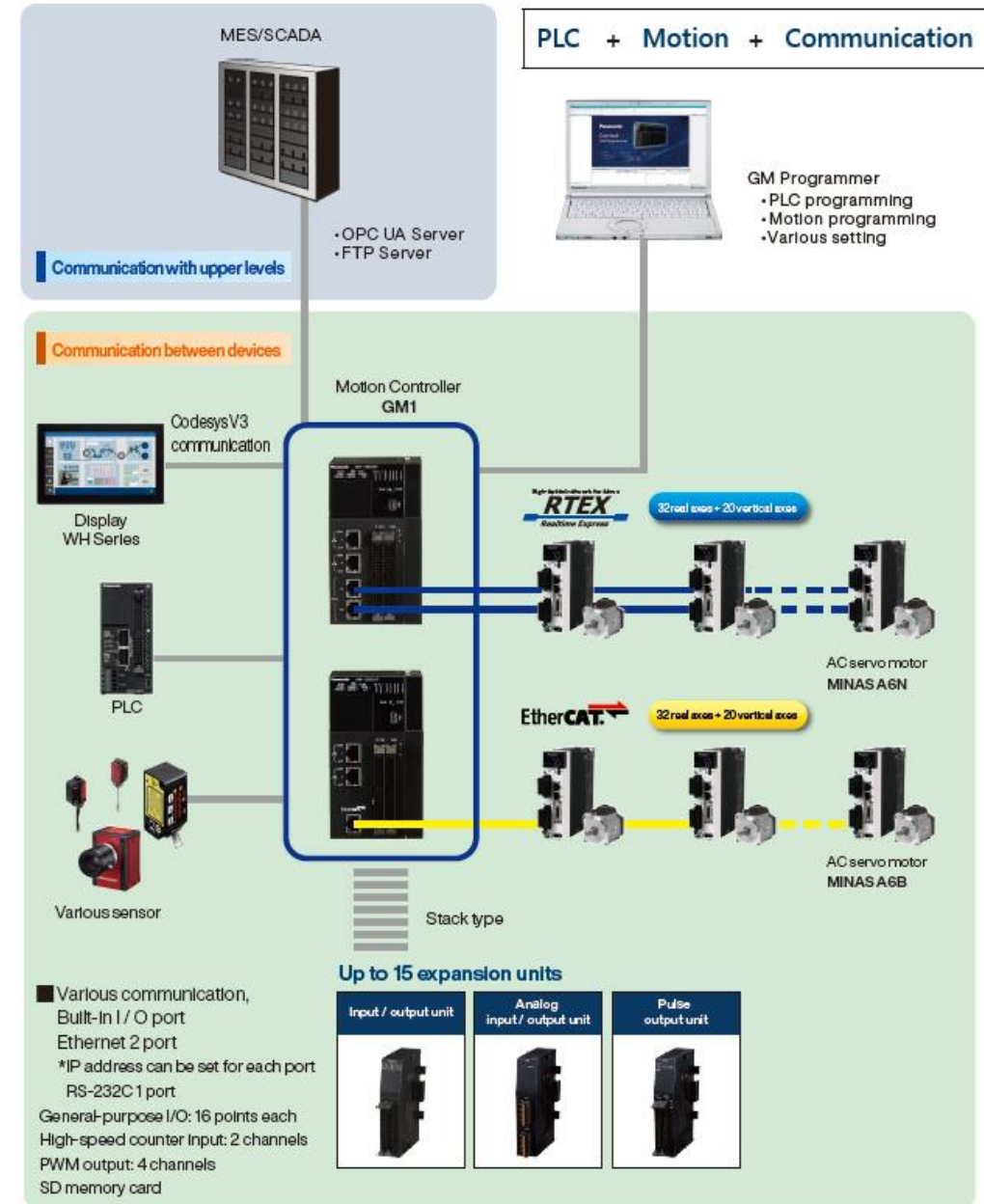
High speed motion control Fastest cycle 500μs

Multitask control by function aggregation



Panasonic
INDUSTRY

PLC + Motion + Communication

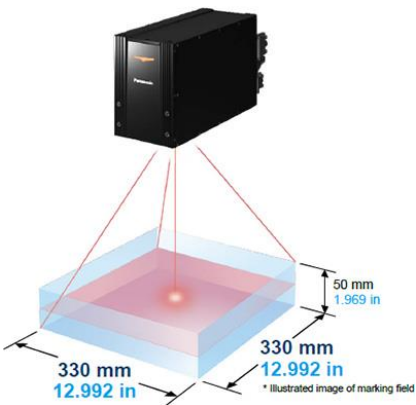
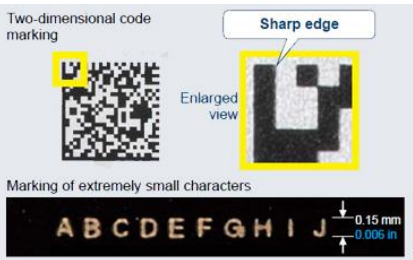


Laser Marker Range

Scalable solution from simple to complex applications.....



3D with Camera FAYb Laser Marker LP-ZV



FAYb Laser Marker LP-RV



Iron, stainless steel
(shallow engraving)



Aluminum (deep engraving)



PC (white)



Iron, stainless steel
(deep engraving)



ABS (white)



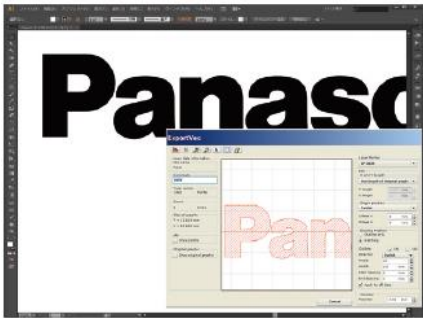
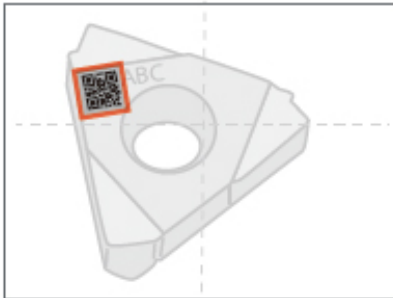
PP (black)



FAYb Laser Marker LP-RF



Cross-check of scanned code information



Whether the marked 2D code can be scanned properly is checked, and the scanned information is crosschecked with the marking data.

Video Link

Laser Marker Range

Scalable solution from simple to complex applications.....

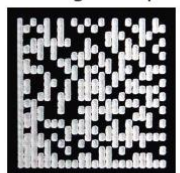


CO2 Laser Marker LP-RH Series



Previous LP-400 series Font setting

Each cell is printed separately.



Marking time: 0.27 sec.

(Marking condition) Overall size: 7.2 × 7.2 mm, number of cells: 22 × 22, cell size: 0.30 × 0.30 mm

LP-RH series Raster setting

Cells are connected for engraving.



Marking time: 0.27 sec.

(Marking condition) Overall size: 7.2 × 7.2 mm, number of cells: 22 × 22, cell size: 0.30 × 0.30 mm

CO2 Laser Marker LP-300



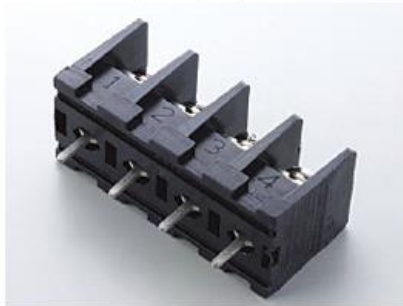
Connector



CD



Terminal block (Resin part)



Laser labels (Marking + half cutting)



Vision Inspection Solutions

Right fit for traceability and quality inspection need.....



PV Series

Vision System Lineup

Solutions for various applications.

PV200

PV230

PV240

PV260

3 + 1 Quad-Processor
High Speed Inspection

(General application)

(OCR / CR application)

(Alignment application)

(Robot application)

SV Series

Number of pixels	1.2M (1,280 × 960)		3M (2,048 × 1,536)		5M (2,432 × 2,048)	
Monochrome / Color	Monochrome	Color	Monochrome	Color	Monochrome	Color
Part No.	SV-N120M	SV-N120C	SV-N300M	SV-N300C	SV-N500M	SV-N500C
Time for image transfer *Full size	4.8 ms (210 fps)		8.2 ms (122 fps)		12.5 ms (80 fps)	
Appearance	 * Unified body size and color					

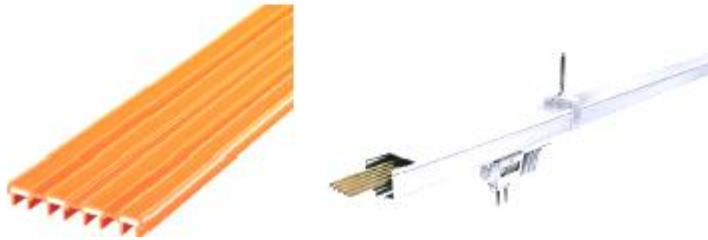
BusBar System

Right fit for traceability and quality inspection need.....

Panasonic
INDUSTRY

Trolley System (Conductor bar)

Highly reliable power transmission
System for moving equipment.



Factory System (Bus bar)

Flexible wiring system for stationary loads.
Branching of the line and power take-off
can be accomplished from any location.



Hoist Crane



Hoist Crane



Automated Warehouse



Assembly area



Office



Range: 60Amp to 300Amp

1P, 2P, 3P & 4Pole Solution

50mtr to 100mtr Roll

LD / ST / FBD / SFC / IL / CFC

Thank You

