

**Panasonic**  
ideas for life

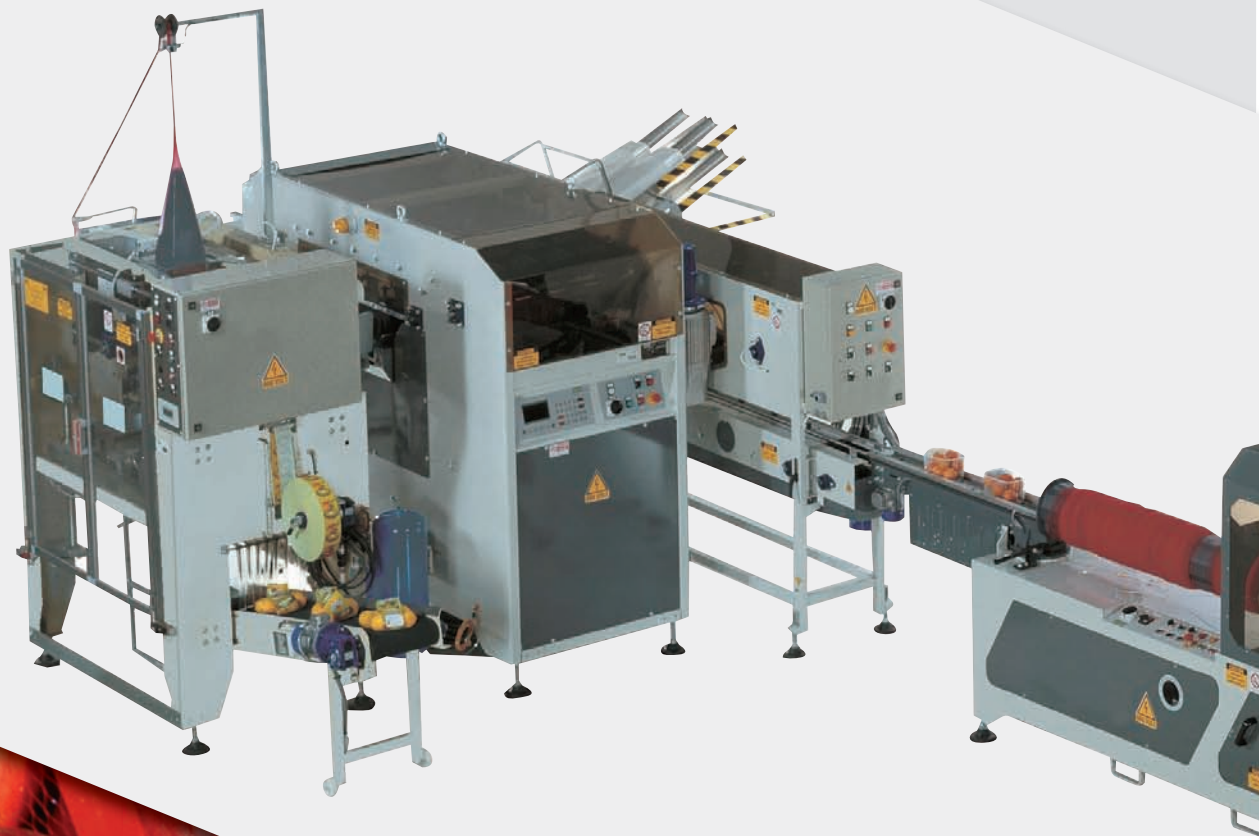


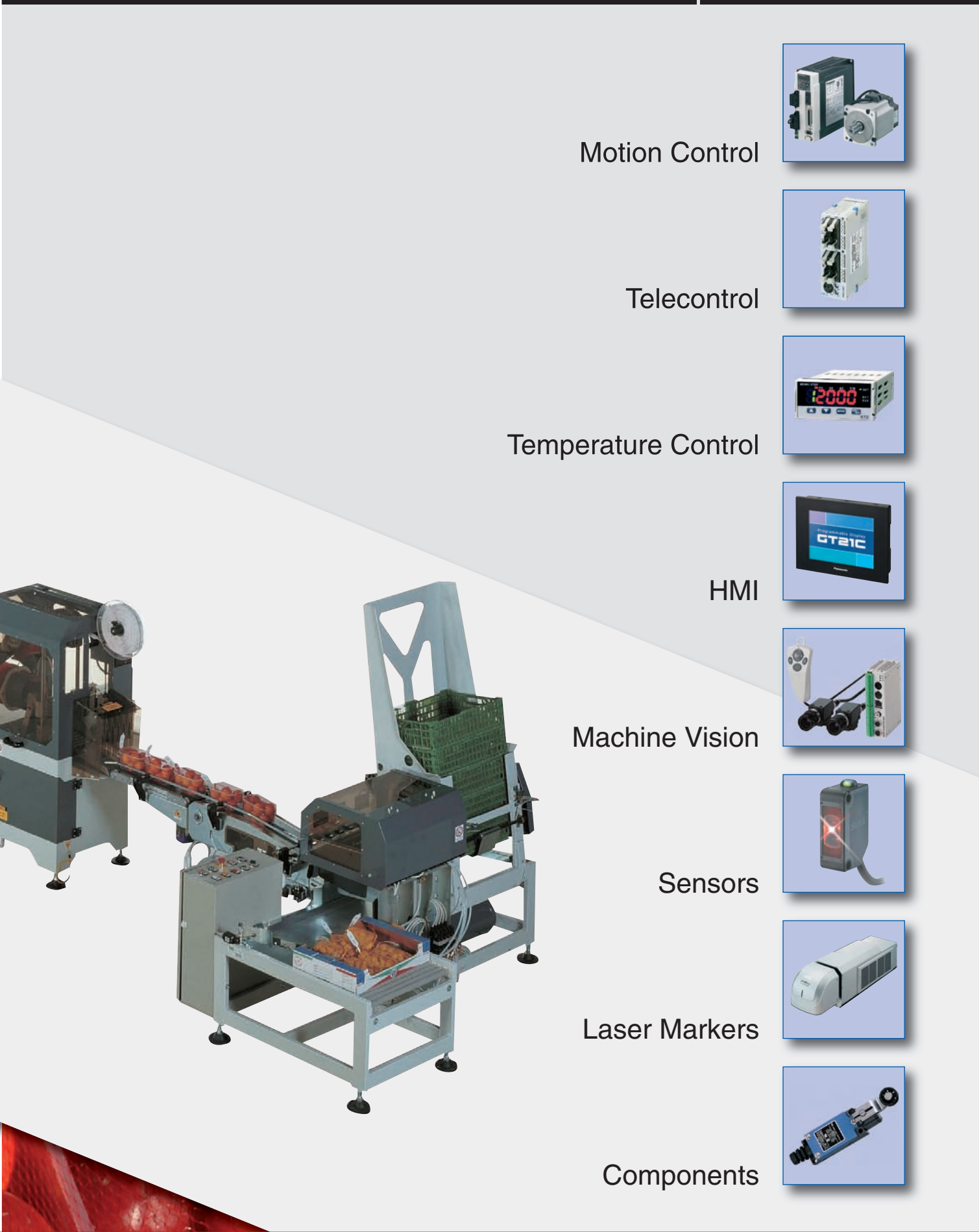
**Panasonic Automation Products**  
Flexible Solutions for Packaging Applications

# Panasonic Packaging Solutions

The preferences at a glance

- Solutions for flexible, modular, speedy, reliable and cost saving packaging machines
- One-stop shopping within the whole automation range
- Superior quality in all respects
- Having a reliable partner with worldwide presence





Motion Control



Telecontrol



Temperature Control



HMI



Machine Vision



Sensors



Laser Markers



Components



# Motion Control

## Non-stop packaging



### Panasonic Motion Control solutions help you:

- Move goods quickly and accurately
- Changeover rapidly
- Reduce machine downtimes drastically
- Lower efforts for cleaning and maintenance
- Reduce packaging hardware
- Decrease engineering and support time

### Our three-component concept:



#### FPWIN Pro & FunctionBlocks

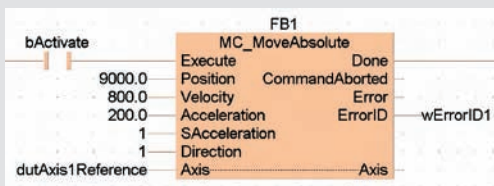
Standardized programming software compliant to IEC 61131-3 and PLCopen Motion Control standard.

#### FP-Sigma PLC and FP-Sigma Positioning Unit

Small, fast and intelligent Programmable Logic Controllers with digital positioning units.

#### Minas A4 Series Servo Motors and Drives

High-performance advanced digital servo system.



### How you benefit:

#### Fast Setup and Change

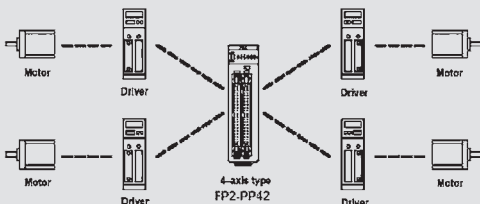
Panasonic's IEC61131-3 programming software FPWIN Pro and Motion Control library, which is certified by PLCopen, allow you to configure your application easily and flexibly. A set of ready made function blocks, which can handle most positioning tasks, are immediately at your disposal.

#### Higher throughput

Our positioning modules can process up to four axes simultaneous and independently. Extremely short start-up times, fast processing speeds and extreme accuracy guarantee an increase in production.

#### Advanced Packaging Quality

With a response frequency of 1000 Hz and the employed technology, our Minas A4 Series servo motors and drives allow fast reaction and accurate positioning even at high production speed. This contributes to a perfect package quality and a significant reduction in raw material consumption.



# Telecontrol

Fast and cost saving remote access

- Remote control and information: via Computer and Ethernet
- Remote monitoring: via network or even wireless using GPRS
- Remote alarming: send alarms automatically via SMS, email, fax
- Remote maintenance: service and program changes, no travelling is needed

## Remote access



### Communication alternatives

#### Ethernet communication



FP Web-Server

- Focus on Intranet
- Use existing wiring/ethernet
- Use standard browser
- Internet possible
- Alarm and data info via email

#### Wired communication



FP Modem-EU

- Point-to-point dedicated line
- Dial-up modem connection
- Multidrop dedicated line
- Fax transmission
- DTMF remote control

#### Wireless communication



FPΣ and various radio modems

- GSM / GPRS
- WLAN / Bluetooth
- Monitoring
- Alarming
- Remote control

FP-X



FPΣ



#### Compact but Powerful PLCs

The FP-X and FPΣ PLCs are prepared for flexible communication. Just plug in the cassette you need!

Easy handling with ready-to-use program function blocks

# Temperature Control

Control thermal packaging processes with precision

Precise temperature control is often the key to proper packaging quality and adequate product handling. Depending on the complexity of the application, you can select between our small and cost-effective KT Temperature Controllers for discrete temperature control tasks or a PLC-based temperature control if multiple sensor inputs and complex control are required. A dedicated innovation for impulse sealers is our Impulse Heat Controller.



## KT Temperature Controllers

Compact stand-alone components, especially designed for efficient and accurate temperature control.

- Various input devices supported, for example, thermocouple, RTD (Pt100) and current input
- Link to any SCADA system, PC or various PLCs
- Attractive price/performance ratio
- KT2 series offers nine process steps with individual timings and set values

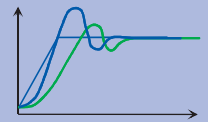


FPΣ CPUs with thermocouple inputs, or direct connection of thermistors.

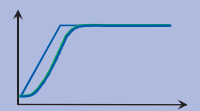
## PLC-Based Temperature Control

A new and unique combination: intelligent PLCs with state-of-the-art temperature control methods and several different temperature inputs.

- Ultra-fast and accurate temperature control with PID and IPD algorithms
- Freely programmable
- Expandable
- Multiple communication interfaces
- Multiple parameter sets can be predefined, e.g. for different production steps
- Up to 18 RTD / 24 TC inputs for FPΣ (Sigma)/FP0
- Software libraries



Conventional temperature control with overshoots



PLC-based control  
Fast and accurate

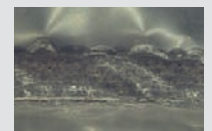


## Impulse Heat Controller

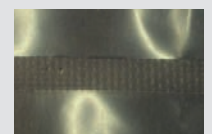
Highly precise control system for impulse sealers and vacuum packaging machines.

### Advantages:

- Excellent sealing quality
- Extended heater life
- Stable results
- Saves energy
- Fast processing



Poor sealing quality with timer-based sealing.



Perfect sealing results with our high-speed temperature control solutions.

# Human Machine Interfaces

## GT touch terminals - the ideal user interface

Panasonic HMIs show machine states, and allow control and monitoring of key process parameters. With their user-friendly handling and very compact size, GT Terminals are ideally suited to serve as your control panel for packaging machines.



GT01, 3 inch



GT11, 4 inch



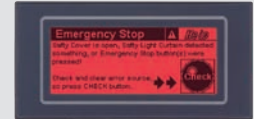
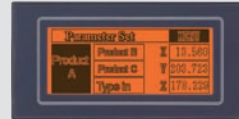
GT21, 4.7 inch



GT30, 5.7 inch

### Colour change function:

To grasp important information at a glance, the backlight can switch to green, orange or red, for example to indicate danger.



Green backlight: e.g. for normal operation condition  
 Orange backlight: e.g. during maintenance  
 Red backlight: e.g. for alarm

### Universal for every application:

GT-Series touch terminals are available in several sizes, colours, and features: e.g. black, grey or silver housing, white or green-red-orange changeable backlighting, RS232C or RS422/485 port and a voltage supply of 5 or 24V DC. With Panasonic touch terminals, projects can be designed flexibly, quickly and in many languages.

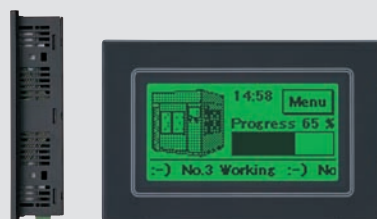
### Recipe functionality:

Up to 100 recipe files can be stored in the HMI. These recipes consist of various parameters which for example, define product numbers, packaging variations, sealing temperatures, etc. Once a recipe has been selected, the machine will immediately start working with new values. Product changeover becomes a matter of minutes.

Parameter Set		MENU	
Product A	Product B	X	13.560
	Product C	Y	203.723
	Type In	Z	178.229

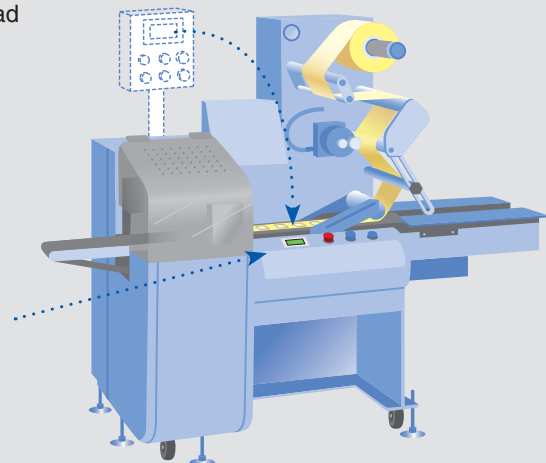
### Small size fits anywhere:

GT terminals can be mounted where space is limited. LC displays coupled with long-life, LED backlighting provide excellent contrast, so you can read the screens easily.



Example GT01: 110 x 72 x 24mm (L x W x D)

Can be mounted in any small space. The space saving control panel contributes to total cost reduction.



# Sensors

## The senses for your packaging line

Being the eyes of your production line, our sensors provide an efficient, accurate and reliable automation of your packaging processes. We offer sensing solutions for almost any packaging application, ranging from easy presence checking tasks up to high-precision measurement. Our products were developed under the maxim of merging innovative sensing technology with miniature formats and high-quality requirements. Here is a selection of our sensors used frequently in packaging applications:

### CX-400 Series

Comprehensive range of compact size photoelectric sensors for various kinds of packaging applications. Models with background/foreground suppression, special types for transparent or glossy material detection.

### FX-301 and FX-311 Series

Advanced fibre sensors with different kinds of amplifiers and a huge selection of fibre cables.

### EX-10 Series

One of the smallest photoelectric sensors worldwide - only 14.5 x 3.5 x 10 mm. Response time of only 0.5 ms, front-sensing and side-sensing types, sealed to IP67.

### LS Series

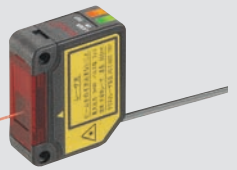
Amplifier-separated type laser on/off sensor. Detection of minute details in a sensing range with up to 1 m. Different sensor heads available, also with adjustable spot size.

### LX-100 Series

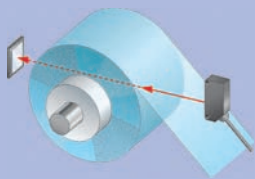
3-LED type Mark detection sensors with two modes: ultra-fast mark mode and colour mode. Auto-teaching, timer, compact and light weight.

### DP-100 Series

Miniature sensors to measure and monitor positive and negative air pressure. Dual-display, direct setting, and a lot of other useful features.

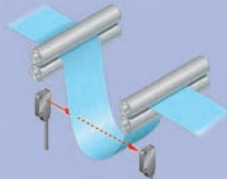


## Typical application examples:



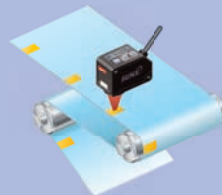
### Remaining Material Detection

Monitor the amounts of packing film to indicate when replacement needed, e.g. the CX-400 series



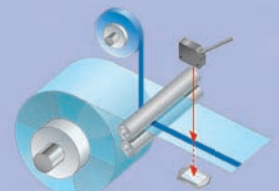
### Deflecting Material Detection

Detect a possible sag of packaging material. The miniature design of our sensors allows installation even in narrow spaces, e.g. the EX-10 series



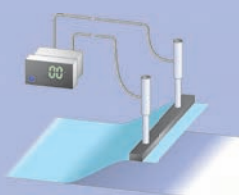
### Print mark detection

Ultra fast mark detection with a response time of only 45  $\mu$ s, e.g. the LX-100 series



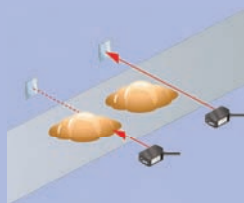
### Cut tape verification

Our high-precision sensor can effectively detect the presence of narrow cut tape, e.g. the LS series



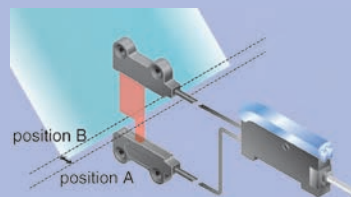
### Vacuum control

Measure and monitor a vacuum, e. g. in pneumatic picking applications, e.g. the DP-100 series



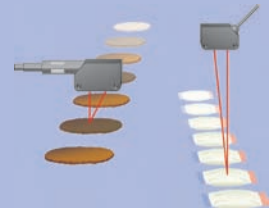
### Passing object detection

Sense moving objects with changing colours on a conveyor belt, e.g. the CX-400 series



### Edge detection

Detect transversal deviations of transparent film, e.g. the FX-301 series



### Content detection

Check packaged goods or count contents, regardless of colour changes, e.g. the CX-44x series



# Machine Vision

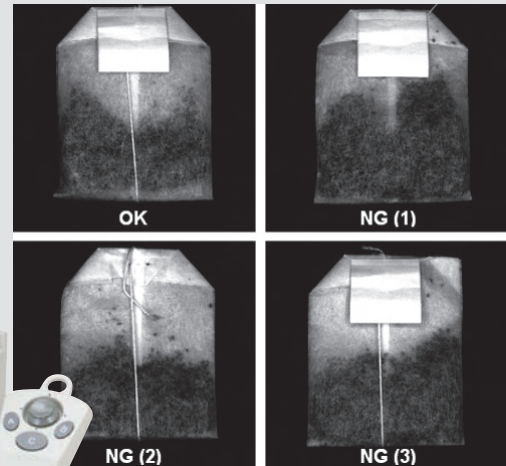
Ensuring quality, value, and traceability

Modern product packaging must fulfil many requirements, besides the traditional functions such as protection and conservation, aspects of design, aesthetics and function. A perfect appearance reflects on your products' brand name and acts as a magnet for your customers. In this respect, our automated inspection systems, i.e. "Imagecheckers", guarantee that only 100% quality products and packages reach your customers.

## At Panasonic, imagechecking stands for:

- Improving output quality and quantity
- Reliable 24-hour/day inspection, reproducibly and objectively
- Fast detection of minute deviations
- Flexible and fast changeover to new inspection tasks
- Reducing customer claims, increasing customer satisfaction

Our machine vision systems range from easy vision sensors to high-end systems. We can offer you the optimal cost-effective solution for your particular inspection task.



Example: tea-bag inspection

## Typical application examples:

### Machine Vision for Packaging

#### Process automation

- Find the position and orientation of products (e.g. for pick & place)
- Detect type of product
- Control filling height
- Control glue amount
- Read product type IDs

#### Quality inspection

- Checking and inspection of:
  - + product package integrity
  - + package shape
  - + contents
  - + position/orientation of package details
  - + the presence of package components (e.g. safety seals, caps, inserts, etc.)
  - + colour
- Read prints, dates, serial numbers and codes (e.g. for part tracking/registration)
- Ensure quality of labels and prints (readability, etc.)



# Laser Markers

The most effective way of marking



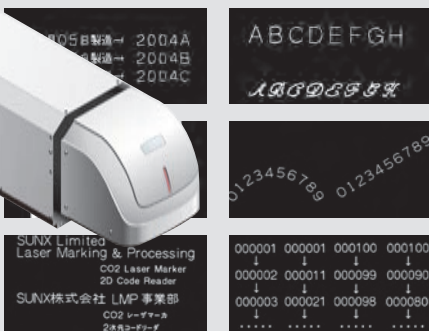
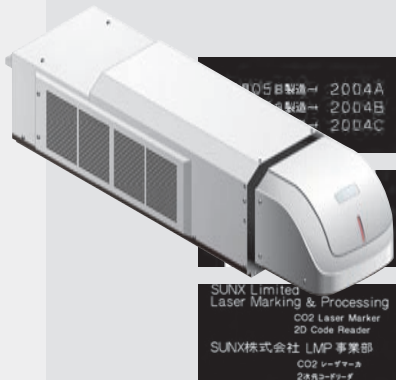
- Excellent marking quality, durable and smear-resistant
- Non-contact, high-speed marking
- Marking products “on-the-fly”
- Marking information can be quickly set or changed via Windows-based software
- Virtually maintenance-free operation over a long lifetime
- Economically friendly



We offer a complete range of compact size laser markers, starting from the entry level CO<sub>2</sub> model LP-310-C up to our groundbreaking FAYb-type LP-V10-C.

Especially for packaging applications with their high-speed requirements, we have developed the LP-400 Series Laser Markers. They can mark moving objects with a line speed of up to 240 m/min. Their ultra-fast galvanometer scanner allows them to mark up to 700 characters in less than one second. Thanks to their unique head rotation mechanism, LP-400 Laser Markers can easily be integrated into existing production lines.

The systems can mark strings of characters, 1D and 2D codes, logos and signs.



## Suitable materials for marking are:

CO<sub>2</sub> types: plastic, resin, glass, paper, cardboard, wood, leather and other organic materials

FAYb type: plastic, metals such as stainless steel, aluminium, copper, brass, and others

## Application examples:



Code marking



Labels and stickers



PET bottles

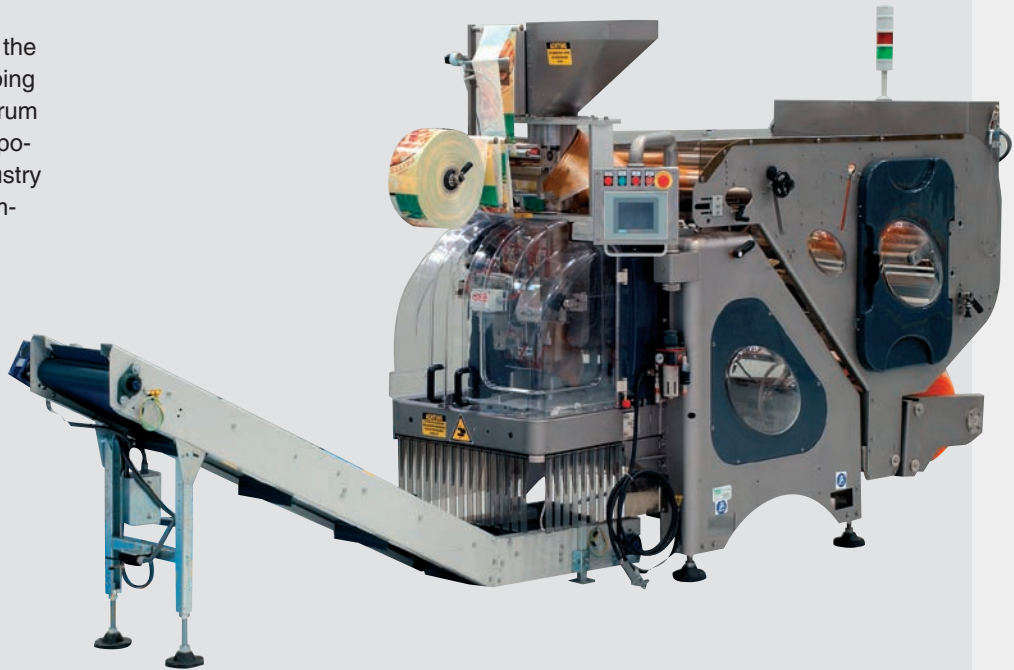


Blister packages

# FA Components

Complete your solution with high quality components

Costs and service are important factors for the packaging industry when it comes to shopping for one-stop solutions. With our wide spectrum of highly sophisticated state-of-the-art components, Panasonic offers the packaging industry everything it needs for both simple and complex automation tasks.



## FA Components for packaging by PANASONIC:

### Timers:

Multi functional, various operation modes, attractive design.



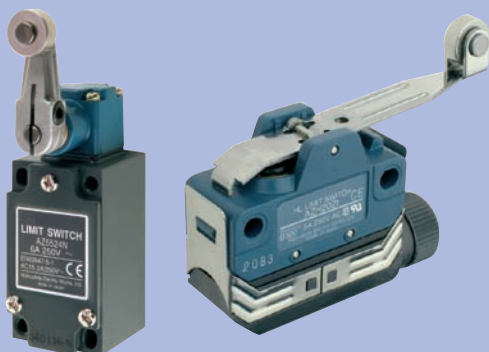
### Counters:

Bright & easy-to-read display, different mounting sizes



### Limit Switches

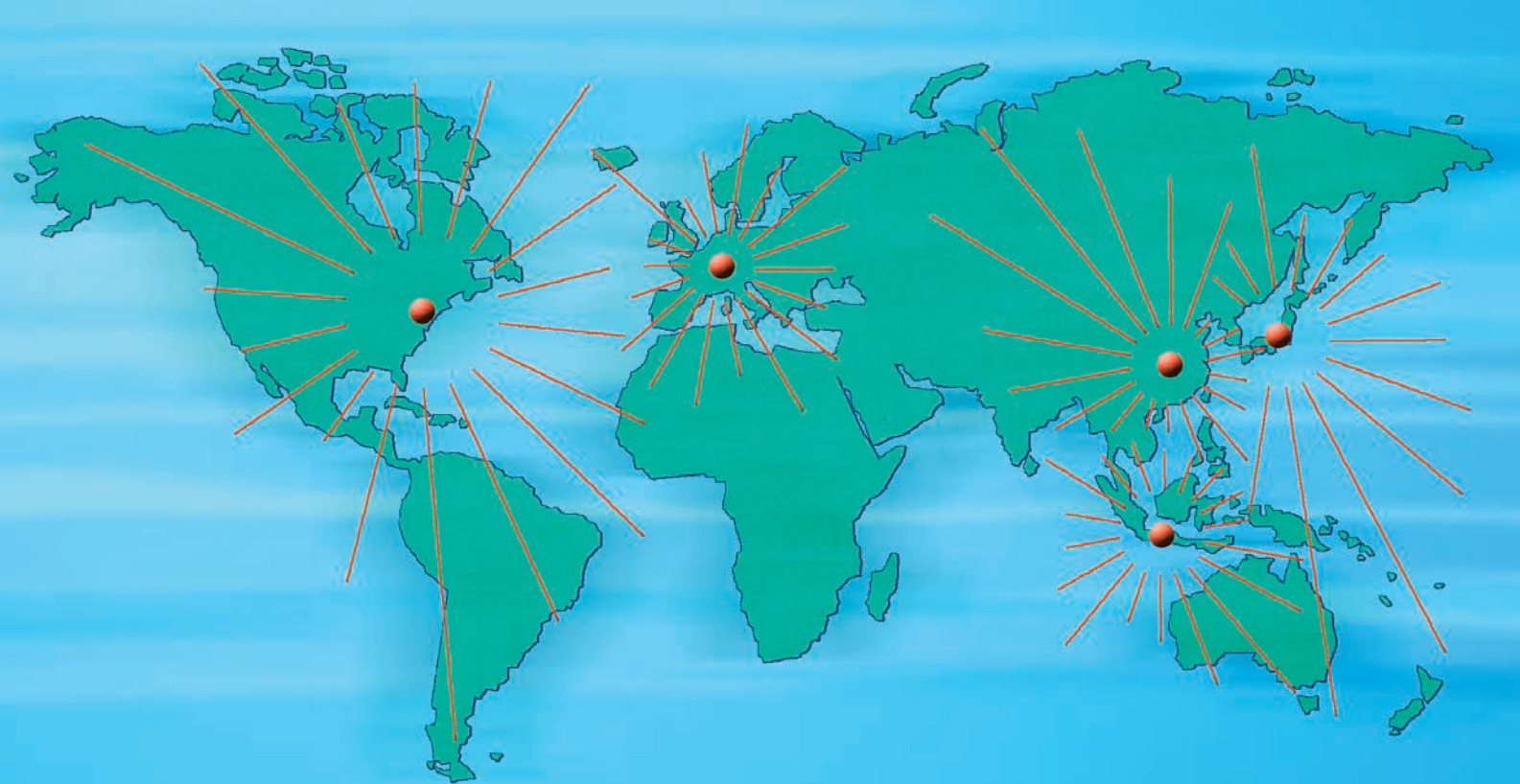
Compact design, wide range of actuator heads, long life



### Hour Meters:

Easy to mount, easy to use





# Global Network

North America

Europe

Asia Pacific

China

Japan

## Panasonic Electric Works

Please contact our Global Sales Companies in:

### Europe

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▶ <b>Austria</b>	<b>Panasonic Electric Works Austria GmbH</b> <b>PEW Electronic Materials Europe GmbH</b>	Josef Madersperger Str. 2, 2362 Biedermansdorf, Tel. (02236) 2 68 46, Fax (02236) 4 61 33, <a href="http://www.panasonic-electric-works.at">www.panasonic-electric-works.at</a> Ennsnafenstrasse 9, 4470 Enns, Tel. (0 72 23) 8 83, Fax (0 72 23) 8 83 33, <a href="http://www.panasonic-electronic-materials.com">www.panasonic-electronic-materials.com</a>
▶ <b>Benelux</b>	<b>Panasonic Electric Works</b> <b>Sales Western Europe B.V.</b>	De Rijn 4, (Postbus 211), 5684 PJ Best, (5680 AE Best), Netherlands, Tel. (0499) 372727, Fax (0499) 372185, <a href="http://www.panasonic-electric-works.nl">www.panasonic-electric-works.nl</a>
▶ <b>Czech Republic</b>	<b>Panasonic Electric Works Czech s.r.o.</b>	Prumyslová 1, 34815 Planá, Tel. 374 799 990, Fax 374 799 999, <a href="http://www.panasonic-electric-works.cz">www.panasonic-electric-works.cz</a>
▶ <b>France</b>	<b>Panasonic Electric Works</b> <b>Sales Western Europe B.V.</b> <b>PEW Electronic Materials France S.A.R.L.</b>	French Branch Office, B.P. 44, 91371 Verrières le Buisson CEDEX, Tél. 01 60135757, Fax 01 60135758, <a href="http://www.panasonic-electric-works.fr">www.panasonic-electric-works.fr</a> 26 Allée du Clos des Charmes, 77090 Collégien, Tél. 01 64622919, Fax 01 64622809, <a href="http://www.panasonic-electronic-materials.com">www.panasonic-electronic-materials.com</a>
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▶ <b>Ireland</b>	<b>Panasonic Electric Works UK Ltd.</b>	Dublin, Tel. (01) 4600969, Fax (01) 4601131, <a href="http://www.panasonic-electric-works.co.uk">www.panasonic-electric-works.co.uk</a>
▶ <b>Italy</b>	<b>Panasonic Electric Works Italia s.r.l.</b> <b>PEW Building Materials Europe s.r.l.</b>	Via del Commercio 3-5 (Z.I. Ferlina), 37012 Bussolengo (VR), Tel. (045) 6752711, Fax (045) 6700444, <a href="http://www.panasonic-electric-works.it">www.panasonic-electric-works.it</a>
▶ <b>Nordic Countries</b>	<b>Panasonic Electric Works Nordic AB</b> <b>PEW Fire &amp; Security Technology Europe AB</b>	Viale Elvezia 18, 20154 Milano (MI), Tel. (02) 33604525, Fax (02) 33605053, <a href="http://www.panasonic-building-materials.com">www.panasonic-building-materials.com</a> Sjögångsvägen 10, 19272 Sollentuna, Sweden, Tel. (08) 59476680, Fax (08) 59476690, <a href="http://www.panasonic-electric-works.se">www.panasonic-electric-works.se</a>
▶ <b>Portugal</b>	<b>Panasonic Electric Works España S.A.</b>	Citadellsvägen 23, 21118 Malmö, Tel. (040) 6977000, Fax (040) 6977099, <a href="http://www.panasonic-fire-security.com">www.panasonic-fire-security.com</a>
▶ <b>Spain</b>	<b>Panasonic Electric Works España S.A.</b>	Portuguese Branch Office, Avda Adelino Amaro da Costa 728 R/C J, 2750-277 Cascais, Tel. (21) 4812520, Fax (21) 4812529
▶ <b>Switzerland</b>	<b>Panasonic Electric Works Schweiz AG</b>	Barajas Park, San Severo 20, 28042 Madrid, Tel. (91) 3293875, Fax (91) 3292976, <a href="http://www.panasonic-electric-works.es">www.panasonic-electric-works.es</a>
▶ <b>United Kingdom</b>	<b>Panasonic Electric Works UK Ltd.</b>	Grundstrasse 8, 6343 Rotkreuz, Tel. (041) 7997050, Fax (041) 7997055, <a href="http://www.panasonic-electric-works.ch">www.panasonic-electric-works.ch</a> Sunrise Parkway, Linford Wood, Milton Keynes, MK14 6LF, Tel. (01908) 231555, Fax (01908) 231599, <a href="http://www.panasonic-electric-works.co.uk">www.panasonic-electric-works.co.uk</a>

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▶ <b>China</b>	<b>Panasonic Electric Works (China) Co., Ltd.</b>	2013, Beijing Fortune, Building No. 5, Dong San Huan Bei Lu, Chaoyang District, Beijing, Tel. (010) 6590-8646, Fax (010) 6590-8647
▶ <b>Hong Kong</b>	<b>Panasonic Electric Works (Hong Kong) Co., Ltd.</b>	Rm1601, 16/F, Tower 2, The Gateway, 25 Canton Road, Tsimshatsui, Kowloon, Hong Kong, Tel. (0852) 2956-3118, Fax (0852) 2956-0398
▶ <b>Japan</b>	<b>Matsushita Electric Works, Ltd.</b>	1048 Kadoma, Kadoma-shi, Osaka 571-8686, Japan, Tel. (06) 6908-1050, Fax (06) 6908-5781, <a href="http://www.mew.co.jp/e-acg/">www.mew.co.jp/e-acg/</a>
▶ <b>Singapore</b>	<b>Panasonic Electric Works Asia Pacific Pte. Ltd.</b>	101 Thompson Road, #25-03/05, United Square, Singapore 307591, Tel. (06255) 5473, Fax (06253) 5689

**Panasonic**<sup>®</sup>