

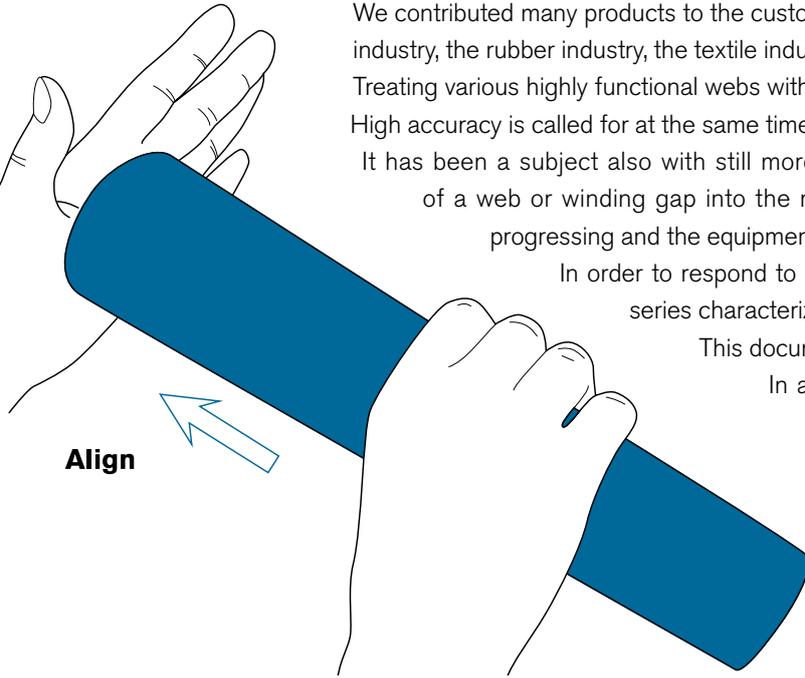
**Align**

# LPC<sup>®</sup> **G-Series**

Guide



## About G series



We contributed many products to the customer "Align" the Web of the wide field from the paper industry, the film industry, the rubber industry, the textile industry since 1953

Treating various highly functional webs with a roll to roll in the converting industry in the meantime has increased. High accuracy is called for at the same time improvement in the speed of a web progresses.

It has been a subject also with still more important also making futility of the resources by a position gap of a web or winding gap into the minimum. Furthermore, the equipment maker's globalization is also progressing and the equipment which suited the global standard is called for.

In order to respond to these requests, MITSUHASHI Corporation developed LPC of new G series characterized by **CAN bus communication** and **a brushless DC motor**.

This document introduces a summary and product constitution of the G series

In addition, the initial of "Line Position Control" is taken and it is made LPC with the brand name (trademark registration) of the web guide system of our company.

## Feature 1

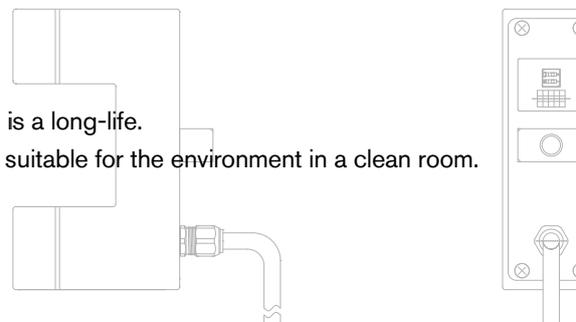
**HIGH  
RESPONSE**

The rise time at the time of motor starting is set to 1 / 2 - 1/10 compared with DC motor, and a driving device moves quickly to meandering of a web.



**MAINTENANCE  
FREE**

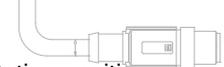
Exchange of a brush is unnecessary and it is a long-life. There is no raising dust of carbon and it is suitable for the environment in a clean room.



**DIGITAL  
ADAPTIVE**

The active position of a driving device is recognized with the potation position sensor built in the motor.

The stroke end position sets it with an electronic counter type. It sets up by a controller.



## Application of G series

### Application of the conventional model

By using PCM-D40 of DC motor driver, PD type actuator and PG type roll guider of the conventional model are used, and connection with the controller and the sensor of G series is enabled.

**(Notes)** When a large-sized actuator PD-811, PD-850 and PD-900 are required, Please use PW-1300 of PW-1000 system control panel of the conventional model.

### PW type control panel series and combined use

The sensor and driving device of G series cannot be constituted as equipment of the system which used PW type control panel.

We retain all the models of PW type LPC system for the time being as an object for maintenance , and make it not bring about confusion by change sudden on a user.



# Feature 2

## CAN Communication

**HIGH SPEED ·  
HIGH RELIABILITY**

The communication using CAN realizes the control loop of a high speed and high reliability.

Interconnection of the equipment of all G-series including a controller, a sensor, an actuator, and other options is carried out by CAN bus with an original protocol of our company.

**SIMPLE ·  
EASY TO USE**

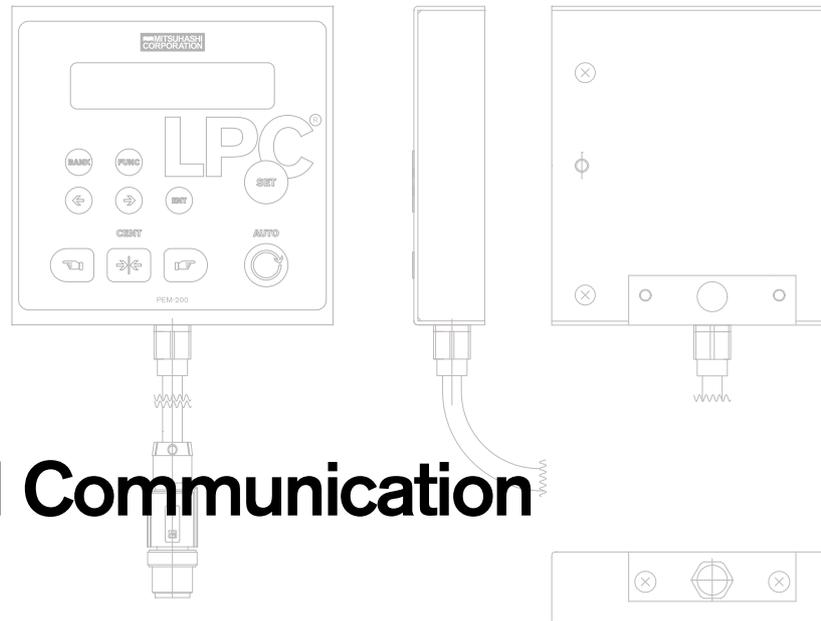
Each equipment is wiring-saving because of serial connecting system. Moreover, the terminal area serves as a connector, and wiring work is easy for it and it does not have the worries about faulty wiring etc., either.

Since the connected device is recognized automatically, initialization at the time of installation is easy for it.

**HIGH  
VERSATILITY**

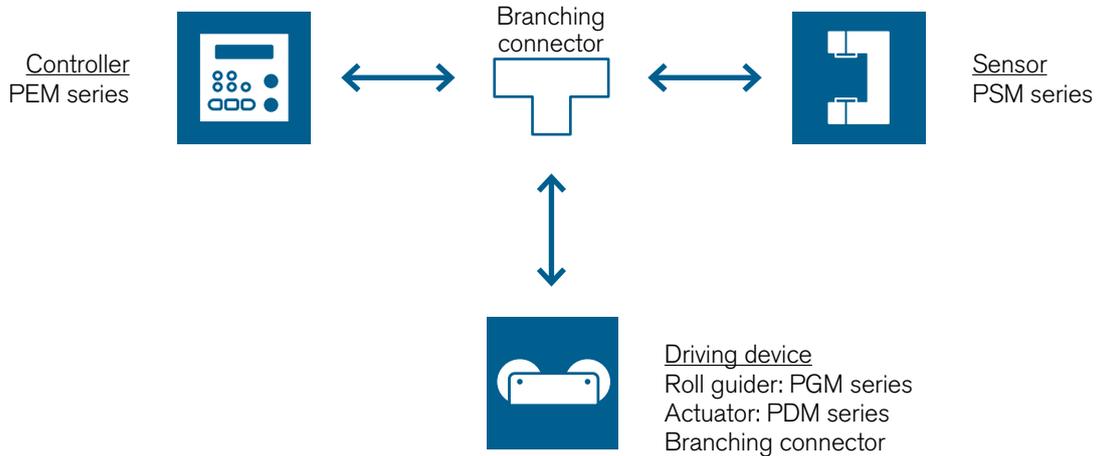
Since each equipment has a common interface, each equipment can be freely selected according to the usage.

Options, such as External Control I/O and Remote Box, can also be added easily.



## Composition of G series

- It mainly consists of three equipment, a controller, a sensor, and a driving device.  
Each equipment is connected with a branching connector using the harness only for a CAN bus.
- Based on the position information on the web from a sensor, a controller orders it operation to a driving device. Moreover, the display of the detection state of a web, the operating state of a driving device, and other system states is performed.
- If a sensor with an operation panel (S type) is used, a system can be constituted without using a PEM type controller.

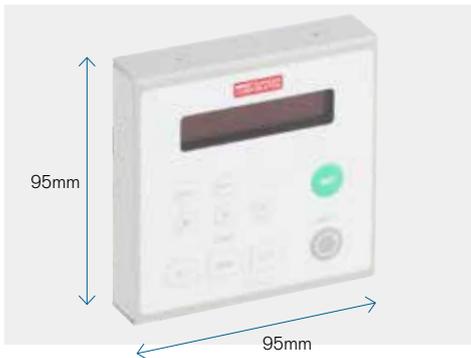


## The outline of G series equipment



# Controller

### PEM-200



- A function is simple, is easy-to-use, and is a controller of the excellent cost performance.
- It is the simple operation panel which consisted of a manual operation button and a small display for indication. (A two-line display with kana, an English character, etc.)
- When it does not fix, it can be used as a handy type. (□ 95mm compact body)

### PEM-3000



- A color liquid crystal touch panel is adopted and universal operatively, and various data displays and an optional feature are abundant.
- It is a various functions highly efficient controller, and four sensors and driving device 2 line can be connected.
- The multilingual (Japanese, English, Chinese, Korean)



# Sensor

## PSM-46 (Ultrasonic edge sensor)



PSM-46W

- Since the edge position of a web is detected by change of the transmission amount of ultrasonic wave, it can detect correctly, without being influenced by a color, a design, and transparency.
- Size differs among PSM-46, 46W, and 46WX, respectively.  
"46" applies to a narrow roll guider of the setting space, and tolerant "46WX" is suitable for reel station control. In addition, "46W" is used as general-purpose.
- When it's used by a controller mode in case of S-Type (with operating panel), one moves as a sensor which has control board built-in, and even if a control board isn't installed separately, a LPC system is built.

## PSM-75 (Infrared edge sensor)



PSM-75W

- The edge and boundaries of a web (edge of printing, etc.) are detected.
- Infrared light are used for the light source and it is suitable for meandering detection of the nonwoven fabric besides transparent or opaque web.
- There are PSM-75 of the same size classification as PSM-46, 75W, and 75WX, and there is installation compatibility.
- There is S-Type (with an operation panel) which can be used in controller mode like PSM-46.
- If a dust blow unit is attached, the pressure air for preventing particulates adhesion on a lens can be blown off.

## PSM-270 (Line sensor)



- The edge of a web or the printed line mark, and its edge are detected on a roll.
- Low contrast is also detectable for high sensitivity.  
Moreover, it is the design which the influence of disturbance lights, such as lighting, cannot receive easily, either.
- Since the SET (teaching) switch is attached, it is convenient when the kind of web changes frequently.



## Roll Guider

### PGM-15 (Compact roll guider)



- It applies to a web width of 600 mm or less, and is the optimal as the web meandering correction device of a packaging machine or a hygiene products machine.
- The ball screw type micro actuator of a brushless DC motor drive is built in, and it is made to circle in a roll frame powerfully without rattle.
- Roll length corresponds to 150-650, and roll span corresponds to 150-400.

### PGMW-15 (Integral-type roll guider)



- It is the roll guider system which united compactly a roll frame and peripheral equipment, such as a sensor and a controller, with the case which contained the actuator.
- Since an actuator, a sensor, and a controller are ending with wiring, respectively, they can be immediately used only by having a power source (DC24V) supplied after attaching this equipment to a machine.
- A application is the same as that of PGM-15.



## Motor Driver

### PCM-D40 (DC Motor driver)

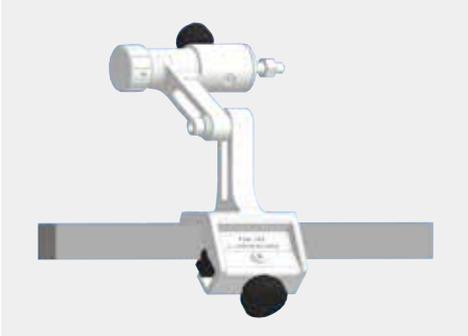


- It is a motor driver for applying the driving device which DC motor to G series.
- An applicable driving device
  - Actuator : PD-400, PD-610, PD-620
  - Roll guider : PG-10, PG-50, PG-80, PG-100, PG-110  
PG-800, PG-400



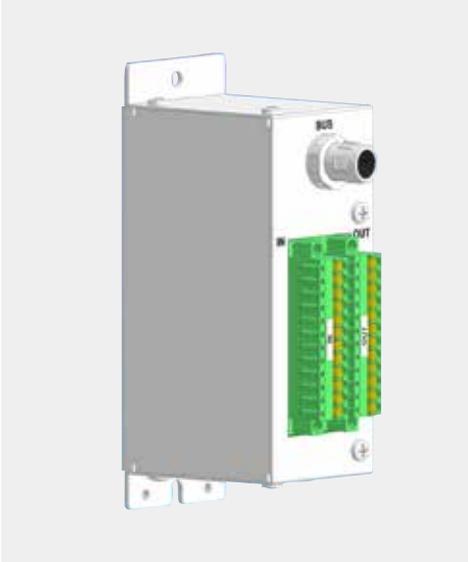
# Option

## PZM-100 (Sensor holder)



- The position of a sensor can be adjusted  $\pm 15$  mm.
- Since an installation bar adopts the angle stick of  $\square 25$  and fixes it using the diagonal, there is no position gap.
- Desorption of a holder is possible even when installation bars are both-end support

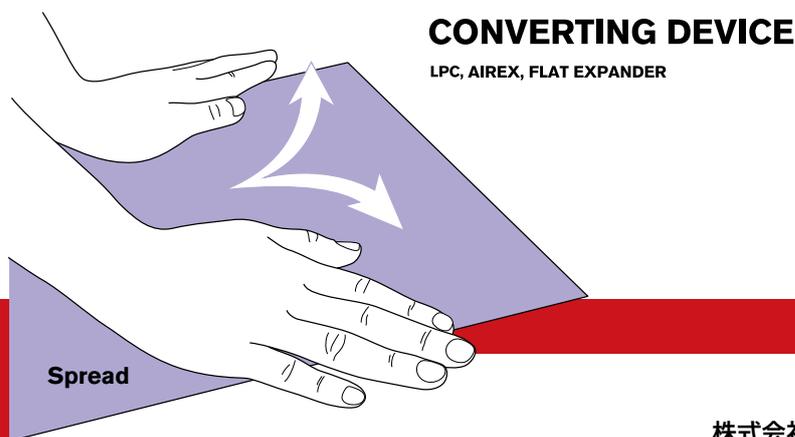
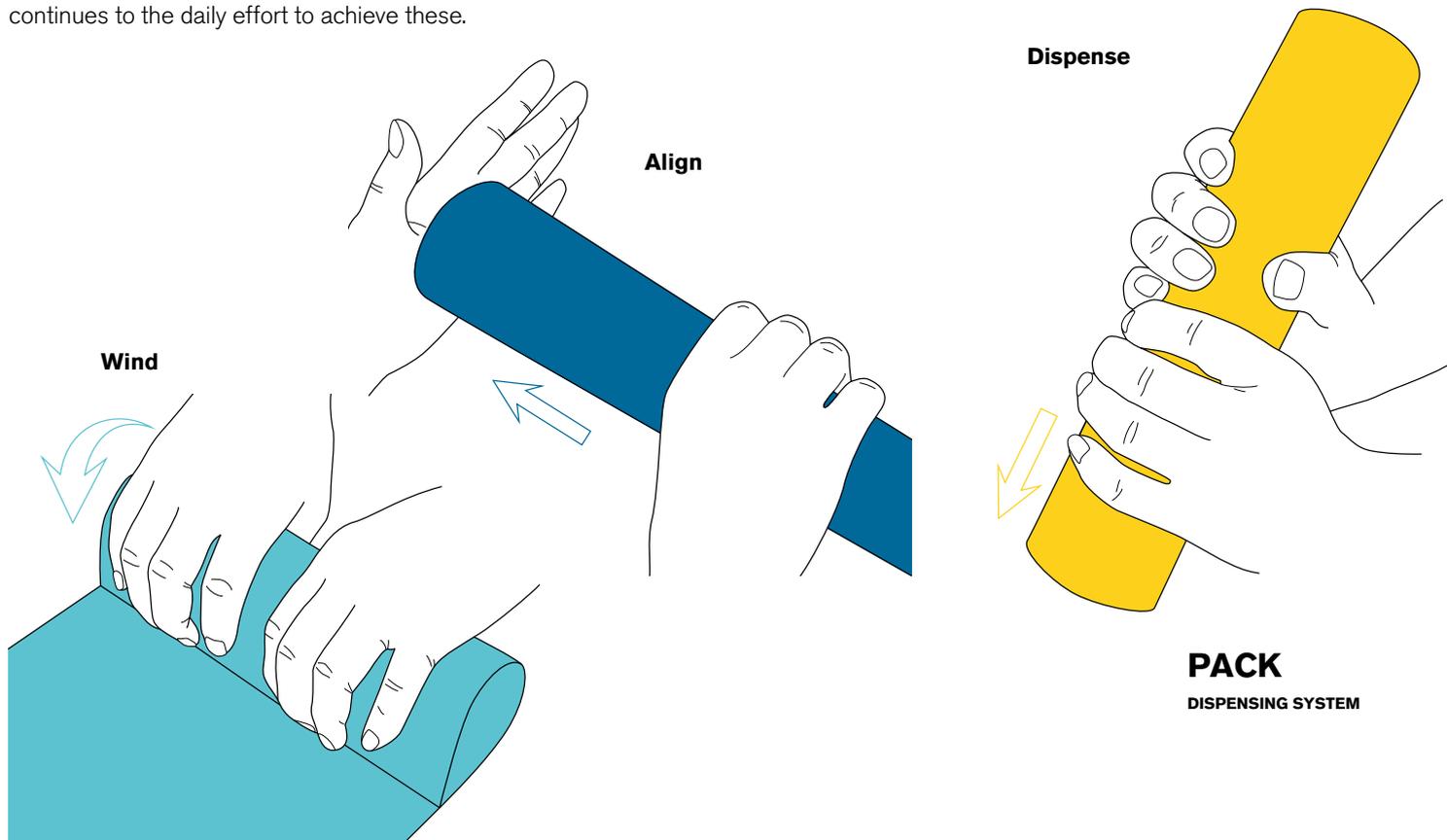
## PXN-08 (Extension I/O module)



- It is used when operating LPC by the controller of the outside, such as PLC.
- < Input terminal function >  
Mode change , Driving device operation, Bank memory selection, SET operation
- < Output terminal function >  
Mode state, Driving device stroke end and Center position, System run, SET completion

# The Status of MITSUHASHI CORPORATION

We make "**Dispense**" "**Align**" "**Wind**" "**Spread**" a key word and send many products to the world. The basic philosophy of MITSUHASHI CORPORATION is, becoming the company having you please when it was good to go together, sending a product having you please when it was good to use it, and it is to do we oneself in the company which can think that it was good to work and continues to the daily effort to achieve these.



**CONVERTING DEVICE**  
LPC, AIREX, FLAT EXPANDER

**Dispense**

**PACK**  
DISPENSING SYSTEM

From now on, we study personally and polish ourselves. We respond to expectations by zest, sincerity and invention, using accumulated all our own technology. We hope when partaking of being moved with the customer and wanting to continue to be the company which can contribute for the human society which improves for the new future.



**Lending "hands" to replace human hands.**

[www.mitsubishi-corp.co.jp](http://www.mitsubishi-corp.co.jp)

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