



# Motion and Factory Automation

# **Fuji Motion Control System**

# ALPHA 7

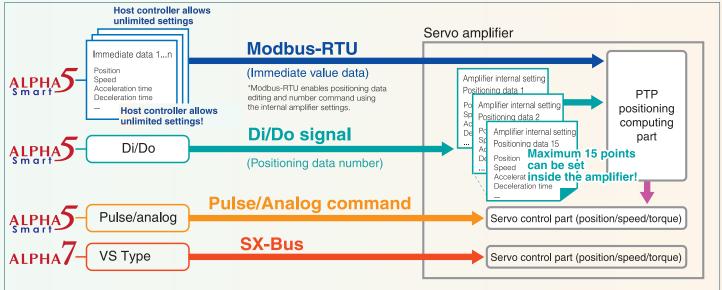
- "Fast": Speed frequency response 3.2 kHz
- "Strong": instantaneous maximum torque 350%
- "Precisely": Encoder Resolution 24bit (ABS/INC)
- "Safety": STO standard equipment, function safety module (optional) also supports SSL, SLS, SBC, SSM
- DI/O 6DI/2DO





- Coast to stop and Rapid deceleration Stop
- 5/3 Sequence Digital I/O's
  - 6 Tuning Methods:Trace Operation Mode
    Shorter Cycle Time Operation
    Mode, Auto, Semi-Auto, Manual
    & Interpolation Mode













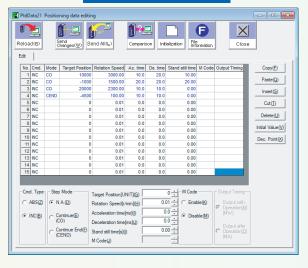
- Range : 50W to 7KW
- Advance Auto-tuning Function
- · Optimum Tuning even Low-rigidity device
- Built-in Position Function for Simple Application
- High Resolution Encoder 18-Bit ABS/20-Bit INC
- · Built-in Modbus Positioning computing system
- Advance filtering and gain parameters

# **Feature**

# Automatic operation (cut length feed) Mark signal (interruption signal) Startup Positioning completion

- Better performance & accuracy
- Control Motion profile
- Fast Response
- · Quick and easy settings

# **Internal Positioning**



# **Fuji Motion Control System**







50W to 5 KW 200V 3ph

# New functions and performance

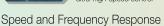
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Modules









Maximum Instantaneous Torque



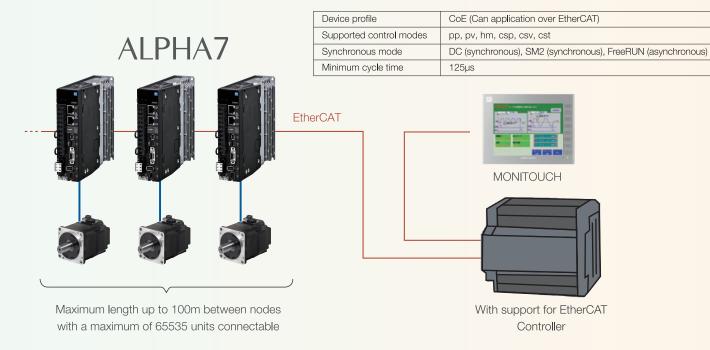




Standard Equipment

# Open Network (with support for EtherCAT) VC Type

EtherCAT applications (with support for six different control modes and for synchronous (DC, SM2) and asynchronous (FreeRUN) modes)



### Introducing a New Motor type - Series 7 >

Lead wire Connection: Connector in-between Motor and

Connector Connection Type: Director connection from Motor to amplifier















# TS1000 Smart Series

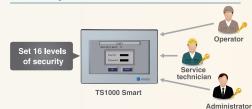
- 7" W/o Ethernet and with Ethernet
- 10" with Ethernet
- · Supports remote operation via VNC server
- CE/KC/UL/cUL compliant
- FROM capacity significantly expanded by 2.2 times\* (26 MB)

## Multilanguage



Easily toggle between upto 16 languages. Support Windows fonts.

# **Security Features**



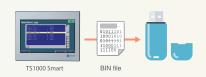
Restirct functions according to the user to configure a high-level Security environment

### **VNC Server**



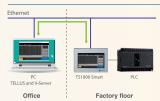
Easily remote access TS smart screens on the factory floor via PC over Ethernet

# **Operation Log**



Record chronological on-screen input, from switch operations to numerical inputs. Data Recording of Machine like temp, speed etc.

### **Remote Maintenance**



Use the TELLUS application software to easily monitor, operate TS smart screen & PLC information remotely at low cost

# Pr N

Programmable Operator Interface

MONITOUCH

V9
series

5.7" ~ 15" Size

Built in wireless Compatible with Mobile and tablet

VNC Compatible system

Capacitive touch screen

Advance Wireless Specification

### **PDF Viewer Function**

PDF files stored on SD cards can be displayed. PDF instruction manuals can be used for troubleshooting



Fast navigation to the desired page, using bookmarks

### 7-segment Fonts for Realistic Expression



7-segment fonts allow for realistic, highly visible expression of measuring instruments. Non-illuminated segments

Non-illuminated segments can be shown in a subtle color.

### Widescreen LCD

V9 Advanced

V9 Advanced models are equipped with a high-precision, high-resolution widescreen (16:9) Greater volume and variety of information can be displayed on the screen

4:3

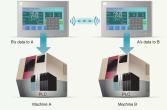
### Wireless Data Transfer

By Connecting a PC to a V9 via wireless LAN, transmission of screen program and the reading and writing of files through FTP server/client function becomes available. On-site debugging can be conducted easily, without the need for a cable connection.



### Data Transfer via V9 Panels

With macro EREAD/EWRITE, data can be transferred between machines using V9 panels as a gateway



## Video/RGB Input-Output Support

By attaching an optional unit, videos and RGB images can be displayed on the V9. Also, images displayed on the V9 can be sent external displays.



Model	Item
GUR-00	Video 4ch input
GUR-01	RGB 1ch input
GUR-02	RGB 1ch output
GUR-04	Video 1ch input
GUR-10	Video 2ch input/ RGB 1ch input
GUR-11	RGB 2ch input

# Fuji Integrated Controller

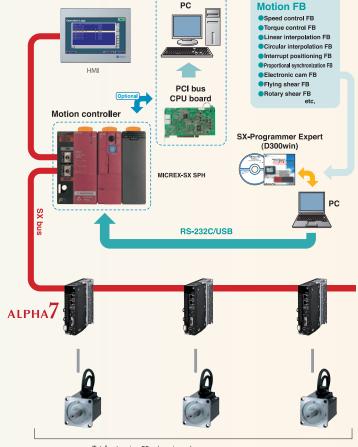
# **Programmable Controllers**

# MICREX-SX Series



# **SPH Motion CPU**

- Ultra High Speed Processing 9nSec
- IO Points :8192 Points
- IEC 61131-3 Conformed
- IL,ST, SFC, LD, FBD and SFC languages
- Built-in SD/CF Card Slot
- On Board USB and Ethernet Connectivity
- Up to 32 Axis Motion Control
- Built-in Motion Function Library



Total extension 25m (maximum),

Fuji Integrated Controllers MICREX-5X Series

# **SPF Plus** 4 Axis Pulse Motion Controller

- 4 ch 500KHz Axis control 5VDC Line driver I/O
- Type Input-Sink/source | Output Sink type 24VDC-20/8
- DIO / AIO / Comm Expandable with SPF Exp
- · Actual Close Loop Feedback of axis
- Virtual Axis & External PG-500KHz
- Built-in Standard Motion FB Library | D300Win Expert Software

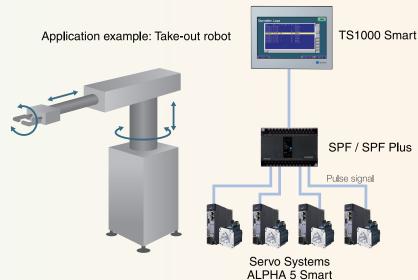
# WENT THE RESERVENCE OF THE PARTY OF THE PART

# SPF-PLC

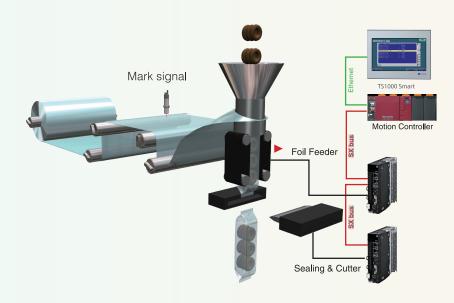
- Max I/O Capacity : DIDO 512 AIAO 64/64
- Power Supply: 1 ph 230V / 24VDC
- High performance with System on Chipset
- High Speed Counter: 200KHz 4Ch
- 4 Axis High Speed Pulse Output for NC Position Control
- High Speed Interrupts Or Captured Inputs
- Multi Step Motion Programming, Calender Function

# **Positioning function**

This function is compatible with a 200 kHz / 500 kHz, 4-axis pulse output. It can be utilized for increasingly sophisticated and high-accuracy positioning



# **Vertical Form Fill Seal Machine**



## **Operator Interface:**

- Easy to operate
- Minimum down time by showing alarms and machine Operations
- Built-in Recipe

### **Motion Controller:**

 Used for intermittent & Continues Motion with Special Motion Function Blocks

# Film Transporter Servo:

- Film transport belt pulls the film tube together
- Vertical Sealing bars seals the edge of film tube together
- High Mark sensor detection on SX servo

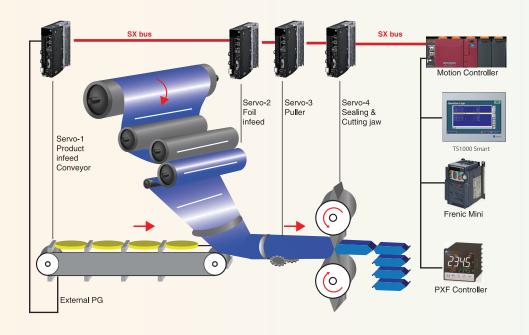
### **Cross Servo Sealer**

- Seals Top and bottom Seal of pouch
- Servo Degree AM Operation for better sealing and low mechanical noise

### **Mark Position Sensing**

Fuji electric's Offset range settings function help to set mark on seal Jaw edge without Adjusting Movement of physical mark sensor. This often reduces mechanical adjustment and downtime

# **Horizontal Form Fill Seal Machine**



- Sealer Synchronization with Product Mark and Line speed
- Motion Controller with E-CAM, Gearing, Rotary and intermittent Synchronization
- Film Feeder Speed CAM
- Trouble free Operation

### **Infeed Servo Conveyor:**

- Master Encoder in SX-Servo
- Precise Axis Motion detection

### Foil infeed Servo:

 Synchronize Gearing Motion following of Master axis

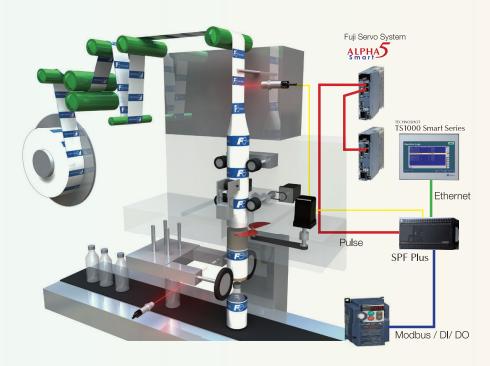
### Film Puller Servo:

 Built-in Mark sensor detection to control web mark to mark adjustments

## Sealing and Cutting Jaw:

 Sealing and cutting being done by servo & control by Motion PLC with E-CAM Functionality

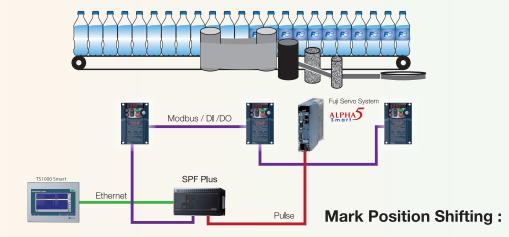
# **Sleeve Applicator**



- Sleeve Label is pulled from the roll and stops on mark sensor using built-in mark detection servo feature
- Sleeve label is cut by servo cutter
- Sleeve axis synchronized product conveyor axis
- Motion controller detects
   High Speed Mark and CAM
   Functionality
- Motion controller:
   Pulse base motion controller
   with built in library of mark
   correction enables easy control
   and fine accuracy

Master axis following E-CAM Functionality | Precise Pulse Motion Control | Close Loop Operation

# **BOPP Labeling machine**



# **Easy Operation:**

CAM Position setting for Gum injection for Precise gum injection

Virtual axis control for seamless control

### **Mark Position:**

Plastic film can be stretchable at speed where mark control is challenge.
Built in Mark control FB can help to get accurate Mark-to-Mark data and servo feed correct length

### **Mark Position Shifting:**

Phase adjustment is built in feature of controller, which help to adjust labelcutting edge position shifting w.r.t. cutter position without adjusting Phyicial mark sensor

# Data Recipe:

HMI has capability to store Production data where based upon its operator select product set parameter setup and start machine with nominal start timing

# Best Performance in combination with.

### The New Micro Inverter

# **FVR-New Micro**

- Range: 1ph 220V: 0.4KW to 2.2 KW
   3ph 440V: 0.4KW to 2.2KW
- Output Hz 400Hz
- With Built-in braking Transistor
- Non Linear V/F pattern Settings is possible.
- Built-in RS-485 Communication
- High Starting Torque of 200% for 0.5sec, 150% for 60S



# Compact Inverter

# FRENIC-Mini Series

- Range: 1ph 220V: 0.1KW to 2.2 KW
   3ph 440V: 0.4KW to 15KW
- Overload 150% -1 Min, 200% 0.5 Sec
- Built-in breaking chopper
- Stable Operation at Low Speed
- Built-in RS-485 Communication



# High Performance Inverter

# FRENIC-Ace

- Range: 3ph 440VAC: 0.75KW to 315KWOver load: 150%- 1 Min | 200% 0.5 Sec
- Dynamic Vector Control
- Customize Logic Built in 200 Steps
- Built in Communication: RS485 & CANOpen



# **Digital Temperature Controller**

- 4 Loop Modular Controller
- Fuzzy Auto tune, PID Algorithm
- 64-Step Ramp-Soak Function
- All Communication Network Enabled
- 16-bit Resolution



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