e-Front runners

FUJI SERVO SYSTEM

ALPHA5 SERIES

WSZ Controller

SIMPLE & SMART

ALPHA5 SERIES

WSZ Controller

MEH557a

Features

·The Ultimate Compact Controller

The slender design not only saves mounting space, but allows the entire system including distribution panel and control box to be downsize.

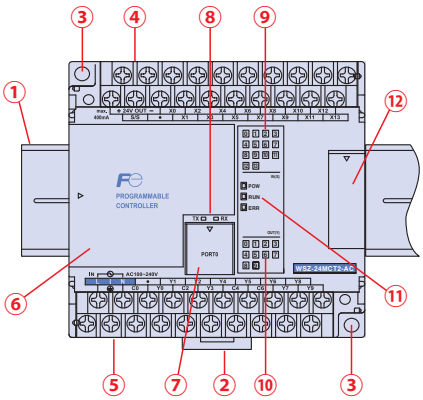
·More simple configuration

The combination of WSZ controller, Fuji's servo system and HMI enables to reduce wiring, simplify control and maximize performance.

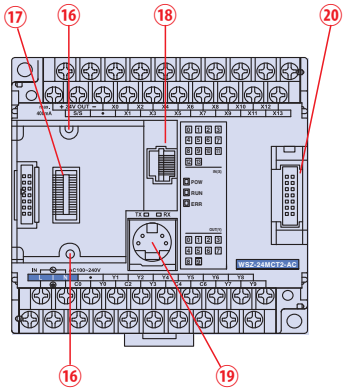
·High Performance

With "System on Chips " (SoC), WSZ controller realized integration of powerful features such as three high-speed communication ports,four sets of hardware high-speed counters / timers, four axes of high-speed pulse outputs for NC positioning control (with linear interpolation or dynamic tracking) 16 high-speed interrupts or captured inputs.

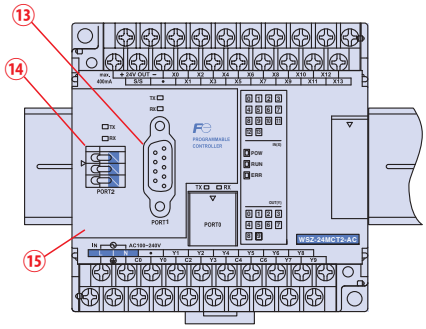
Description of the Main Units



Front view without Communication Board



Front view with cover plate removed

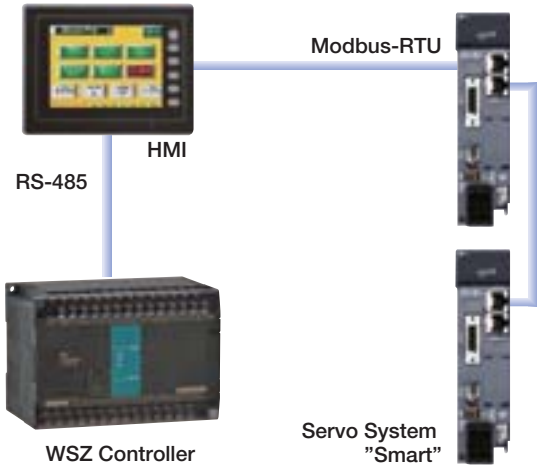


Front view with CB25 Board installed

① 35mm-width DIN RAIL
② DIN RAIL tab
③ Hole for screw fixation (Φ4.532)
④ Terminals of 24VDC power output and digital input (Pitch 7.62mm)
⑤ Terminals of main power input and digital output (Pitch 7.62mm)
⑥ Standard cover plate (without communication board)
⑦ Cover plate of built-in communication port (Port 0)
⑧ Indicators for transmit (TX) and receive (RX) status of built-in communication port (Port0)
⑨ Indicator for Digital Input (Xn)
⑩ Indicator for Digital Output (Yn)
⑪ Indicator for system status (POW, RUN, ERR)
⑫ I/O expansion header cover [units of 20 points or beyond only], with esthetic purpose and capable of securing expansion cable
⑬ RS232 communication port (Port1)
⑭ RS485 communication port (Port2)
⑮ WSZ-CB25 Communication Board (CB)
⑯ Screw holes of communication board
⑰ Connector for communication board
⑱ Connector for Memory Pack
⑲ Connector for built-in RS232 communication port (Port 0)
⑳ I/O expansion header, for connecting with cables from expansion units/modules

Achieves the Total Support for Motion System!!

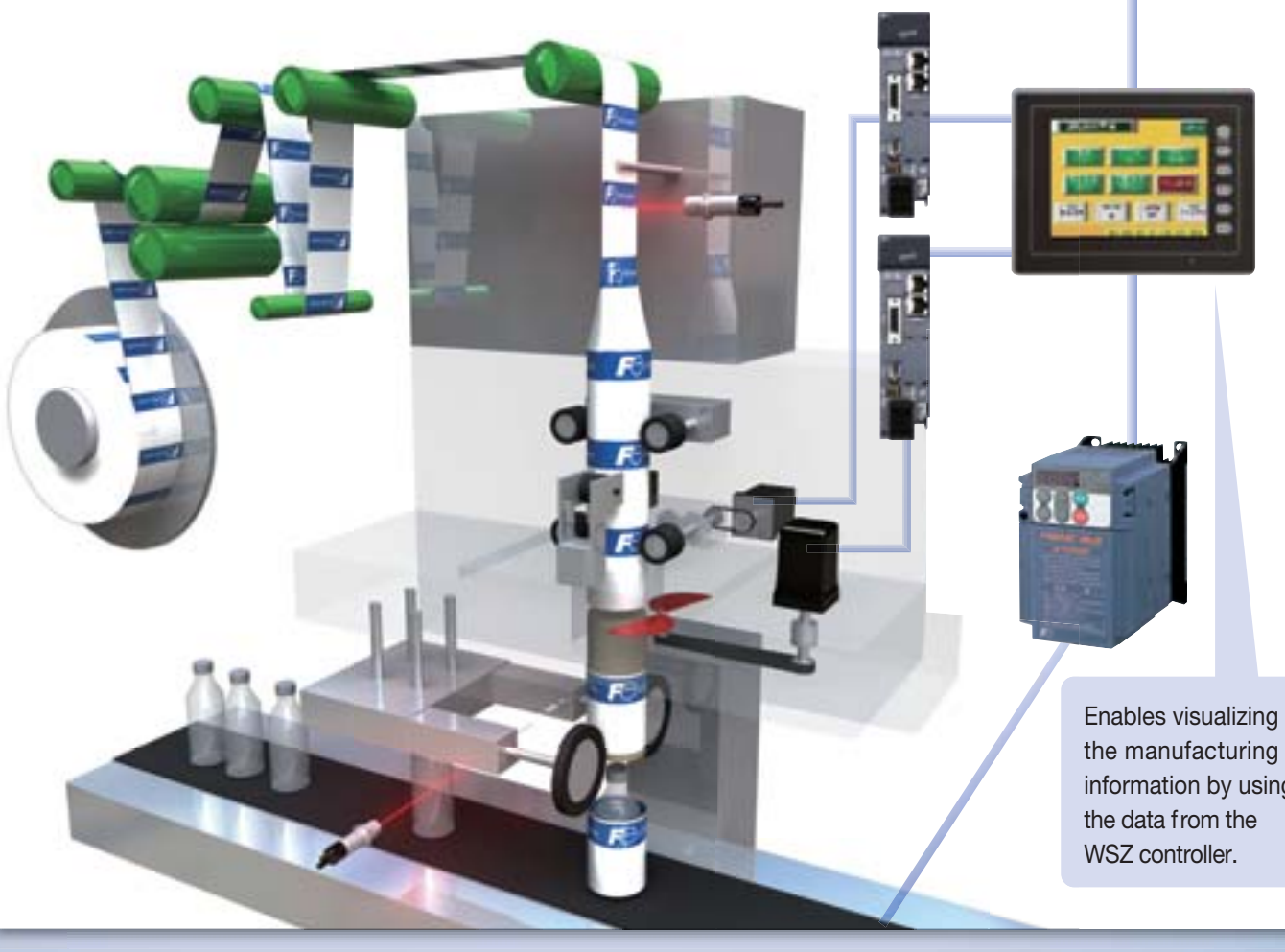
System Configuration Example



Application Example

Controls the film feed starting timing in response to the rate of plastic bottles.

Allows the manufacturing information to be controlled including the no. of shots of plastic bottle, total no. of shots of plastic bottle, and percentage of defectiveness,etc.



Enables visualizing the manufacturing information by using the data from the WSZ controller.

Specifications

Environmental Specifications

General Specifications	Data
Ambient temperature	Enclosure equipment: 5 - 40℃ Open equipment: 5 - 55℃
Storage temperature	-25 - +70℃
Relative humidity (non-condensing,RH-2)	5 - 95%
Pollution level	Degree Ⅱ
Corrosion resistance	By IEC-68 standard
Altitude	≦2000 m
Vibration	Fixated by DIN RAIL: 0.5 G, for 2 hours each along the 3 axes Secured by screww : 2 G, for 2 hours each along the 3 axes
Shock	10 G, 3 times each along the 3 axes
Noise suppression	1500 Vp-p width 1 μs
Withstand voltage	1500 VAC, 1 minute

Programming Specifications

System Specifications	Data
I/O points	Input contact (DI): 256 Output relay (DO): 256
Program capacity	20 K words
Program memory	SRAM + Lithium battery for back-up (Option: FLASH ROM)
Internal relays	1912
Special relays	90
Step ladder	1000
Timer	256
Counter	16-bit: 200, 32-bit: 56
High-speed counter	32 bit HHSC*3 4 (max.200 kHz), SHSC*4 4 (max.5 kHz)
Real-time clock	Year, Month, Day, Hour, Minute, Second, Weekday
Data register	10912
File register	8192
Index register	12
Special register	293
Interrupt control	External interrupt control: 32 (16 points positive/ negative edges) Internal interrupt control: 8 (1,2,3,4,5,10,50,100 ms)
Data link	WSZ CPU LINK, Modbus master, Modbus slave
Communication interface	RS232C, RS485 (option)

Digital Specifications

Power Supply Specifications	Data
Power supply	100 - 240 VAC (-15%/+10%), 50/60 Hz (-5%/+5%)
Max. power consumption	36 W
Inrush Current	20 A @ 264 VAC
Allowable power interrupt	20 ms(min.)
Fuse	2 A, 250 VAC
Isolation type	Transformer/Photo Couple isolation, 1500 VAC/minute

Output Specifications	Data
5 VDC (logic circuit)	5 V, ±5%, 1 A (max.)
24 VDC (output circuit)	24 V, ±10%, 400 mA (max.)
24 VDC (input circuit)	24 V, ±10%, 400 mA (max.)

Communication Board (WSZ-CB25)

Specifications	Data
Port	RS232C, RS485
Communication method	Compliance with EIA RS232C, EIA RS485
Synchronization method	Start-stop synchronous transmission
Transmission speed	4800 bps - 921.6 kbps

Digital Input Specifications

Specification \ Item		24 VDC single-end input				
		Main Unit				Expansion Unit
		High speed (HSC)*2	Medium speed (HSC)*		Medium low speed	Low speed
Maximum input frequency*1 Accumulated time		200 KHz	20 KHz (HHSC)*3	Total 5 KHz (SHSC)*4	0.47 ms	4.7 ms
Input signal voltage		24 VDC±10%				
Threshold Current	ON	> 8 mA	> 4 mA			> 2.3 mA
	OFF	< 2 mA	< 1.5 mA			< 0.9 mA
Maximum input current		10.5 mA	7.6 mA			4.5 mA
Input indication		Display by LED : Light when "ON", Dark when "OFF"				
Isolation method		Photocouple isolation, 500 VAC, 1 minute				
SINK/SOURCE wiring		Via variation of internal common terminal S/S and external common wiring				
List of input response speed for various models	WSZ-24MCT2-AC	4 points	4 points	6 points	-	-
	WSZ-32MCT2-AC	6 points	2 points	8 points	4 points	-
	WSZ-40MCT2-AC	6 points	2 points	8 points	8 points	-
	WSZ-60MCT2-AC	8 points	-	8 points	20 points	-
	Expansion unit	-	-	-	-	All input points
Noise filtering method		DHF (0 ms ~ 15 ms) + AHF (0.47 μs)	DHF (0 ms ~ 15 ms) + AHF (4.7 μs)		DHF (1 ms ~ 15 ms) + AHF (0.47 ms)	AHF (4.7 ms)

Digital Output Specifications

Specification \ Item		Single-end transistor output			
		Main Unit			Expansion Unit
		High speed	Medium speed (HSC)*	Low speed	Low speed
Maximum output frequency*1		200 KHz	20 KHz	On,Off	
Working voltage		5 ~ 30 VDC±10%			
Maximum load current	Resistive	0.5 A			0.1 A
	Inductive				
Maximum voltage drop/ Conducting resistance		0.6 V	2.2 V		
Leakage current		< 0.1 mA / 30 VDC			
Maximum output delay time	ON → OFF	2 μs	15 μs		
	OFF → ON		30 μs		
Output status indication		Display by LED : Light when "ON", Dark when "OFF"			
Over current protection		N / A			
Isolation type		Photocouple isolation, 500 VAC, 1 minute			
Output type		SINK			
List of output response speed for various models	WSZ-24MCT2-AC	4 points	4 points	2 points	-
	WSZ-32MCT2-AC	6 points	2 points	4 points	-
	WSZ-40MCT2-AC	6 points	2 points	8 points	-
	WSZ-60MCT2-AC	8 points	-	16 points	-
	Expansion unit	-	-	-	All output points

*1 : Half of the maximum frequency while A/B pahse output *2 : High-Speed Counter *3 : Hardware High-Speed Counte
*4 : Software High-Speed Counter

Analog Input Specifications (WSZ-6AD)

Specifications		Data	
Input source		Voltage input	Current input
Number of input point		6 points / 14-bit	
Digital input value		-8192 - +8191 or 0 - 16383	
Input signal range	Bipolar	-10 - +10 V or -5 - +5 V	-20 - 20 mA or -10 - 10 mA
	Unipolar	0 - +10 V or 0 - +5 V	0 - +20 mA or 0 - +10 mA
Maximum resolution		0.3 mV (5 V / 16384)	0.61 μA (10 mA / 16384)
Accuracy		±1 %	
Converion time		Conversion once for each scan	
Maximum input signal		±15 V	±30 mA
Input impedance		63.2 KΩ	250 Ω
Isolation method		Transformer (power) and photocouple (signal) isolation	
Power consumption		24 VDC -15 % / +20 %, 2 VA max.	

Analog Output Specifications (WSZ-2DA)

Specifications		Data	
Output source		Voltage output	Current output
Number of output point		2 points / 14-bit	
Digital output value		-8192 - +8191 or 0 - 16383	
Output signal range	Bipolar	-10 - +10 V or -5 - +5 V	-20 - 20 mA or -10 - 10 mA
	Unipolar	0 - +10 V or 0 - +5 V	0 - +20 mA or 0 - +10 mA
Maximum resolution		0.3 mV (5 V / 16384)	0.61 μA (10 mA / 16384)
Accuracy		±1 %	
Converion time		Conversion once for each scan	
Allowable loading		500 Ω - 1 MΩ	0 - 500 Ω
Isolation method		Transformer (power) and photocouple (signal) isolation	
Power consumption		24 VDC -15 % / +20 %, 2 VA max.	

List of Product

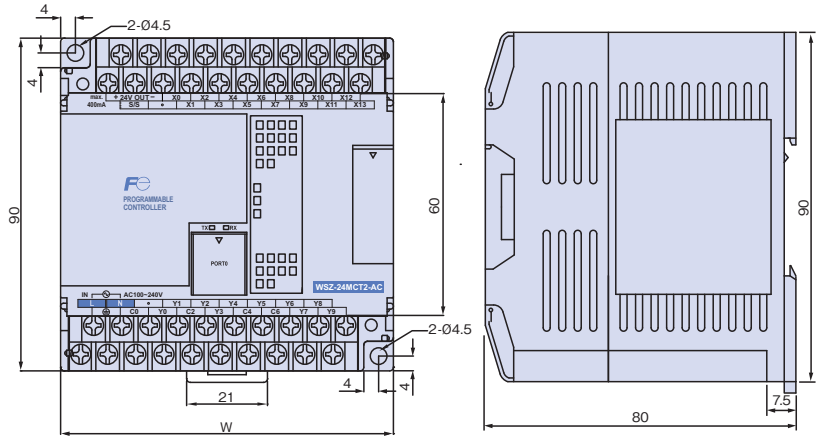
Product		Type Code	Specification
Main Units		WSZ-24MCT2-AC	DI: 14 points DO: 10 points
		WSZ-32MCT2-AC	DI: 20 points DO: 12 points
		WSZ-40MCT2-AC	DI: 24 points DO: 16 points
		WSZ-60MCT2-AC	DI: 36 points DO: 24 points
Communication board		WSZ-CB25	(RS485: 1ch/ RS232C: 1ch)
Digital I/O Expansion Unit		WSZ-24XYT-AC	DI: 14 points DO: 10 points
AI module		WSZ-6AD	AI: 6 points
AO module		WSZ-2DA	AO: 2 points
Memory Pack		WSZ-PACK	Memory: FLASH ROM Memory capacity: 20 K words program + 20 K words data
Communication Cables		WSZ-232P0-9F-150	1.5 m, 9-pin D-sub female connector (PC loader cable)
		WSZ-232P0-9M-400	4.0 m, 9-pin D-sub male connector (External device cable)

Regarding to programming support tool (PC loader), please contact to the local distributor in your area.

External Dimensions

[Unit : mm]

・Main Unit / Digital I/O Expansion Unit



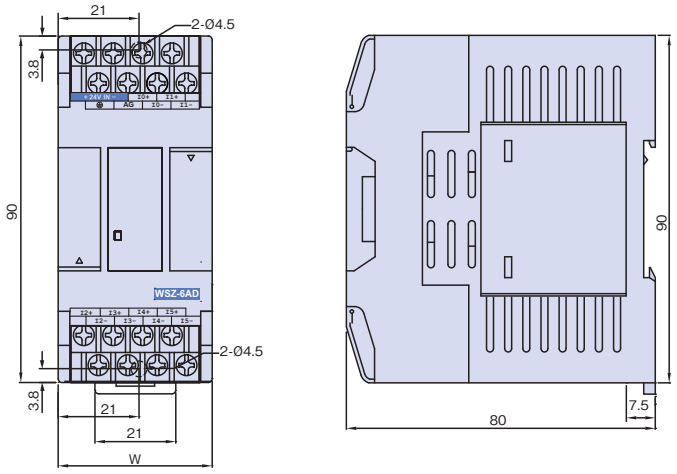
【Main Units】

W	Model	Mass(g)
90mm	WSZ-24MCT2-AC	400
130mm	WSZ-32MCT2-AC,WSZ-40MCT2-AC	500
175mm	WSZ-60MCT2-AC	600

【Digital I/O Expansion Unit】

W	Model	Mass(g)
90mm	WSZ-24XYT-AC	350

・AI Module / AO Module



【AI Module/AO Module】

W	Model	Mass(g)
40mm	WSZ-6AD	140
	WSZ-2DA	120

Safety Considerations

- For safe operation, before using the product read the instruction manual or user's manual that comes with the product carefully or consult the Fuji sales representative from which you purchased the product.
- Products introduced in this catalogue have not been designed or manufactured for such applications in a system or equipment that will affect human bodies or lives.
- Customers, who want to use the products introduced in this catalogue for special systems or devices such as for atomic-energy control, aerospace use, medical use, passenger vehicle, and traffic control, are requested to consult the Fuji sales division.
- Customers are requested to prepare safety measures when they apply the products introduced in this catalogue to such systems or facilities that will affect human lives or cause severe damage to property if the products become faulty.
- For safe operation, wiring should be conducted only by qualified engineers who have sufficient technical knowledge about electrical work or wiring.

Fuji Electric Co.,Ltd.

2011-07（G11/G11）04CM