



for a greener tomorrow



**MITSUBISHI
ELECTRIC**

Changes for the Better

FACTORY AUTOMATION

MELSEC iQ-F Series
Simple Motion Module FX5-40SSC-S

SERVO SYSTEM CONTROLLER



MELSEC iQ-F
series

**Superior Motion Control
with Easy Settings**

GLOBAL IMPACT OF MITSUBISHI ELECTRIC



Through Mitsubishi Electric's vision, "Changes for the Better" are possible for a brighter future.

Changes for the Better

We bring together the best minds to create the best technologies. At Mitsubishi Electric, we understand that technology is the driving force of change in our lives. By bringing greater comfort to daily life, maximizing the efficiency of businesses and keeping things running across society, we integrate technology and innovation to bring changes for the better.

Mitsubishi Electric is involved in many areas including the following

Energy and Electric Systems

A wide range of power and electrical products from generators to large-scale displays.

Electronic Devices

A wide portfolio of cutting-edge semiconductor devices for systems and products.

Home Appliance

Dependable consumer products like air conditioners and home entertainment systems.

Information and Communication Systems

Commercial and consumer-centric equipment, products and systems.

Industrial Automation Systems

Maximizing productivity and efficiency with cutting-edge automation technology.

Contents

Overview	2
Solutions	3
Features	4
System configuration	8
Specifications	9
Exterior dimensions	10
Component/Engineering environment	11

The next level of industry

MELSEC iQ-F series

Witness the evolution of the micro PLC.
Designed on the concepts of outstanding performance, superior drive control,
and user centric programming,
Mitsubishi's MELSEC-F Series has been reborn as the MELSEC iQ-F Series.
From standalone use to networked system application,
MELSEC iQ-F series brings your business to the next level of industry.



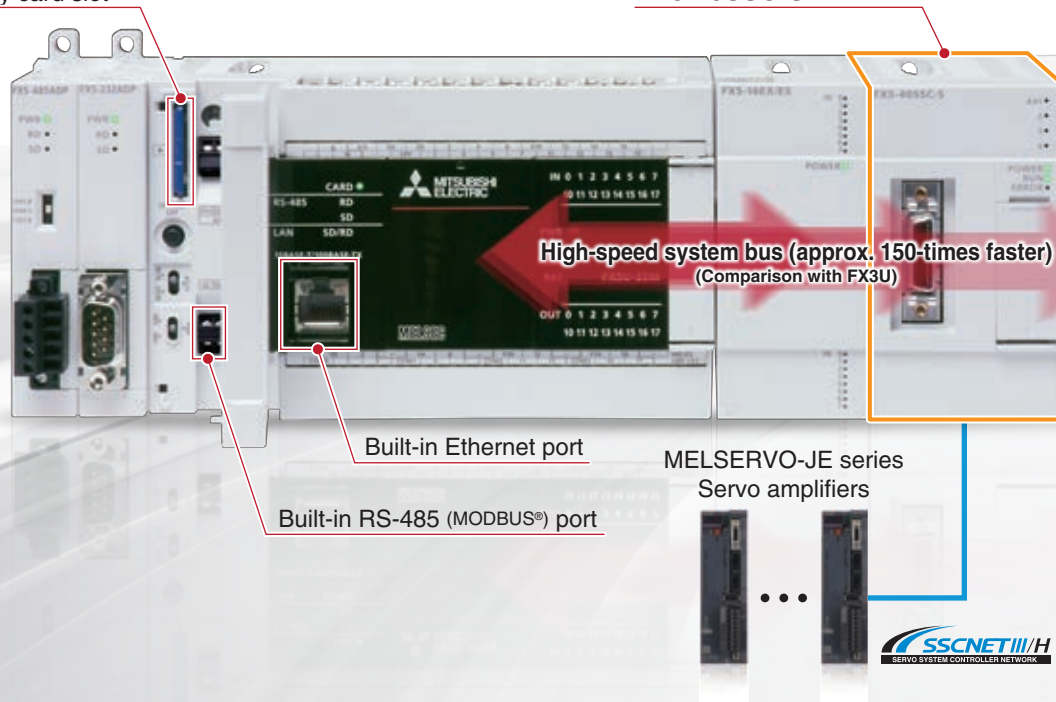
FX5-40SSC-S

Superior Drive Control Achieved

Simple Motion Module Debut

Built-in
SD memory card slot

Simple Motion Module
FX5-40SSC-S



High-speed system bus (approx. 150-times faster)
(Comparison with FX3U)

Built-in Ethernet port

Built-in RS-485 (MODBUS®) port

MELSERVO-JE series
Servo amplifiers

SSCNET III/H
SERVO SYSTEM CONTROLLER NETWORK

Synchronous/Cam Controls Contribute to Higher Performance of Small-sized Equipment

The Simple Motion module is provided with synchronous and cam controls required for food processing machines and packaging machines. Combined with the Mitsubishi Electric's high-performance servo amplifier, the Simple Motion module enables downsizing of machinery while achieving outstanding performance. In addition, our extensive engineering environment allows you to create desired systems with ease.

Central Control via SSCNET III/H Boosts Efficiency in Startup

The Simple Motion module can consolidate multiple servo amplifier parameters, shortening the startup time further. Also, operation information, such as power consumption and total power consumption of the servo amplifiers, can be monitored in real time, which enables further reduction in maintenance time.

Solutions

The Simple Motion Module Opens up Many Possibilities for Higher Performance

➤ Rotary Knife

Sheet can be cut accurately at high speed by using synchronous control, cam control, and mark detection function. Additionally, cam data for the rotary knife axis can be easily created with the cam auto-generation function, which enables further reduction in programming time.



MELSEC iQ-F series



Positioning Control

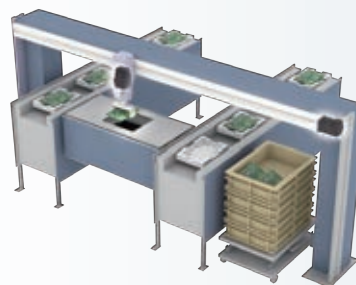
Advanced Sync.

Mark Detection

Cam Auto-Generation

➤ Material Handling Machines

The machine can move workpieces easily from one line to another by using a combination of linear interpolation, 2-axis circular interpolation, and continuous trajectory control. Smooth trajectory can be traced with S-curve acceleration/deceleration function. As a result, the machine vibration can be minimized.



MELSEC iQ-F series



Linear Interpolation

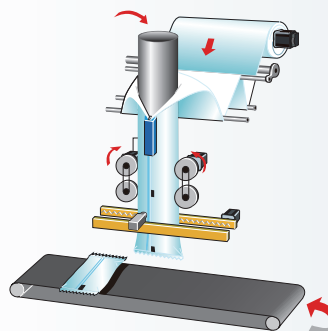
Circular Interpolation

Trajectory Control

S-curve Accel./decel.

➤ Packing Machines

When the machine packs food, the whole process is synchronized by using advanced synchronous and cam controls. The high synchronization between the conveying roller axis and the sealing & cutting axis improves the packing accuracy, achieving high-quality production.



MELSEC iQ-F series



Positioning Control

Advanced Sync.

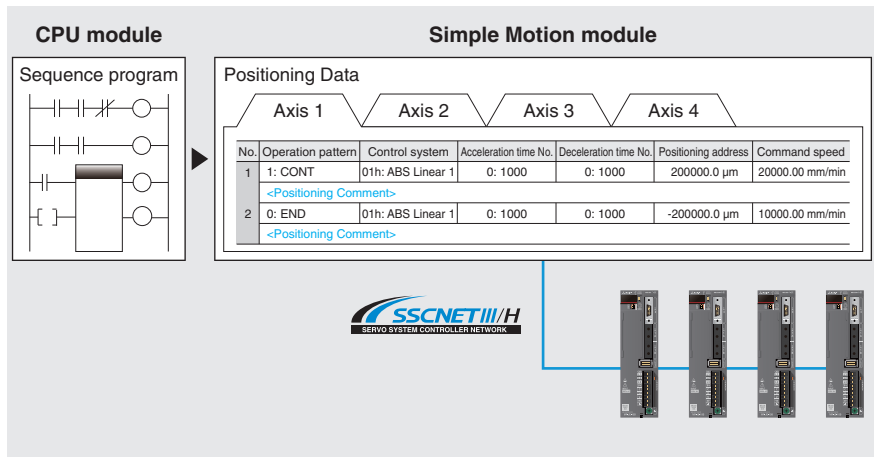
Cam Control

Cutting-edge Technologies Packed in a Compact Module

► Basic Positioning Control

Positioning Control

Positioning control is easily performed with a sequence program starting positioning data of a point table. To respond to extensive applications, various positioning controls are available: Linear interpolation, 2-axis circular interpolation, fixed-pitch feed, and continuous trajectory controls, etc.



► Synchronous/Cam controls

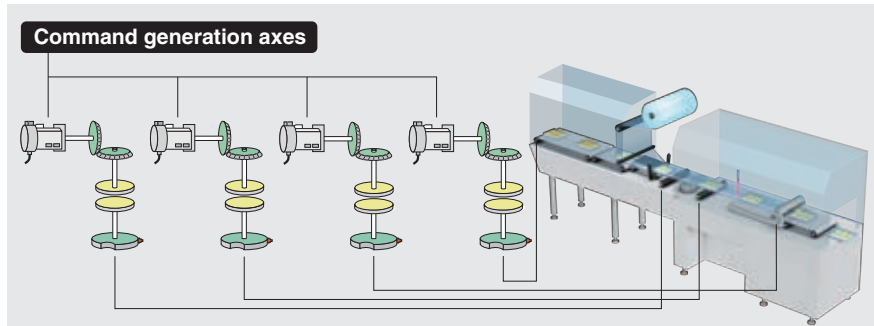
Advanced Sync.

Cam Auto-Generation

● Advanced synchronous control Upgraded

The advanced synchronous control is the software-based control that can be used as an alternative to mechanical control such as gear, shaft, clutch, speed change gear, and cam.

The settings are easily made with parameters on MELSOFT GX Works3. In addition, the output axes for the synchronous control are operated with a cam.

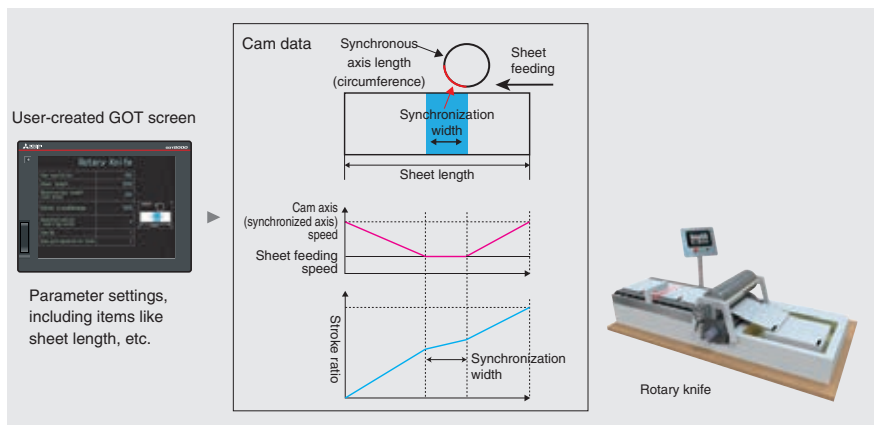


[Command generation axis]

Command generation axis is the axis that performs only the command generation. It is controlled independently of other axes connected to servo amplifiers. (not counted as a control axis)

● Cam auto-generation

Cams for rotary knife can be generated automatically. An ideal cam data can be created just by registering sheet length, synchronous width, and cam resolution to the specified device memory on GOT screen.

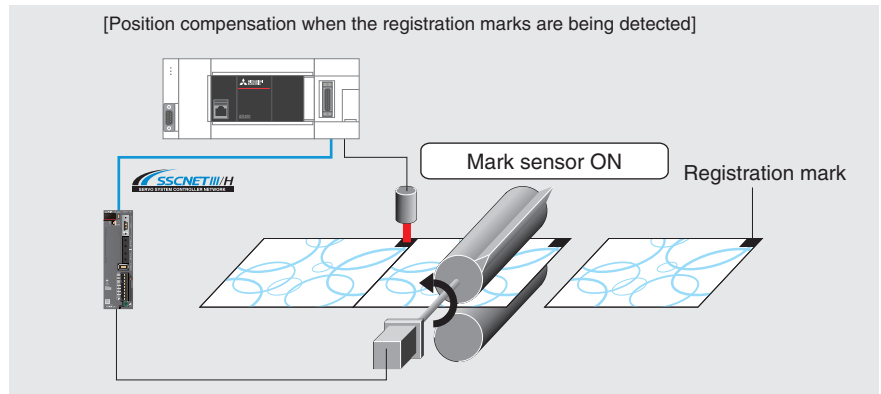




➤ Mark Detection Function

Mark Detection

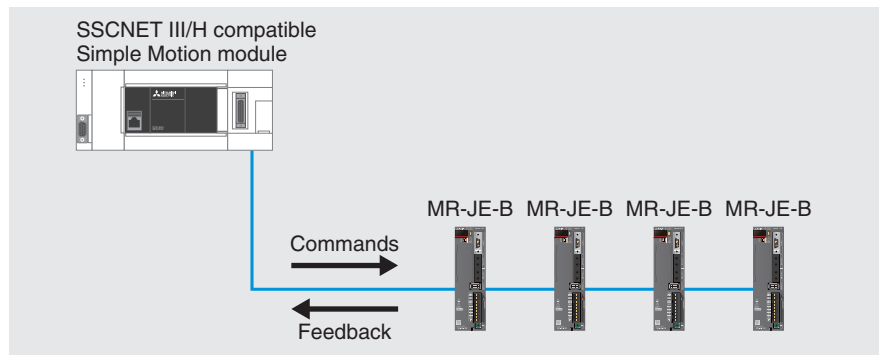
The actual position of the servo motor can be obtained based on the inputs from the sensor that detects the registration marks printed on the high-speed moving film. By compensating the cutter axis position errors based on those inputs from the sensor, the film can be cut at the set position.



➤ Supporting the Servo High-speed Synchronous Network "SSCNET III/H"

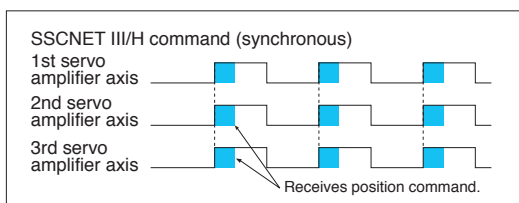


Communication speed is increased to 150 Mbps full duplex (equivalent to 300 Mbps half duplex), three times faster than the conventional speed. Moreover, the network achieves faster system response, multiple-axis operation, and reduced wiring, contributing to improving machine performance further.



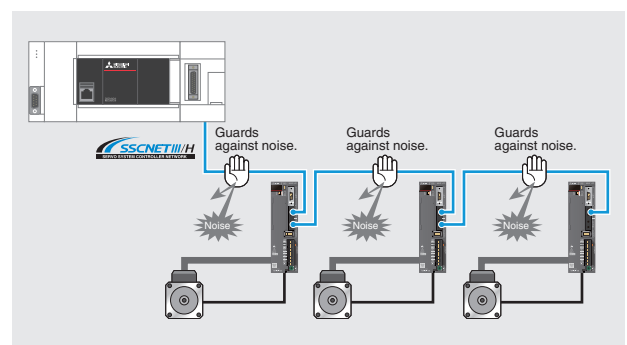
● Synchronous communication realizing a higher-performance machine

Complete deterministic and synchronized communication is achieved with SSCNET III/H, offering technical advantages in machines such as printing and food processing machines that require synchronous accuracy.



● No transmission collision

The fiber-optic cables thoroughly shut out noise that enters from the power cable or external devices. Noise tolerance is dramatically improved as compared to metal cables.



Easy point-and-click programming architecture

MELSOFT GX Works3



This software supports the whole product development cycle - creation, startup, debugging and maintenance of sequence programs, parameters, positioning/cam data.

➤ Designed for Efficiency and Ease of Use over a Whole Development Process

System configuration through point-and-click

A system can be configured just through drag and drop of a necessary module name from the list.

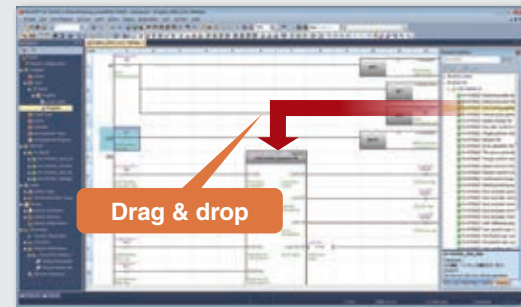
[Module configuration]



Easy programming using module FB

A sequence program can be created through drag & drop of module FB to the editor.

[Sequence program]



System design

Programming

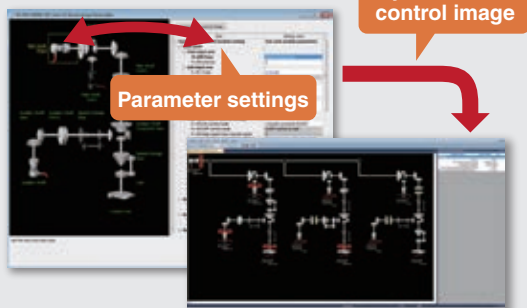
Startup

Maintenance

Only parameter settings required

The synchronous control is achieved just by setting parameters with the graphical configuration screen for mechanical modules.

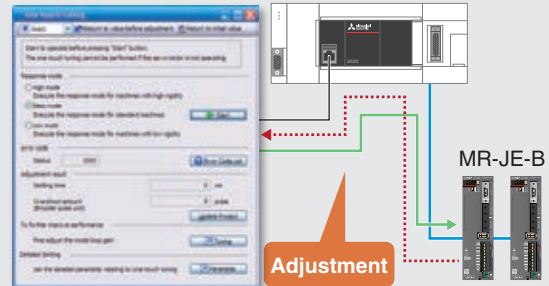
[Synchronous parameter]



Quick startup and adjustment

Servo amplifier settings and adjustment can be done without unplugging the cables.

[One-touch tuning]



Reliable basic performance and advanced ease-of-use

MITSUBISHI SERVO AMPLIFIERS & MOTORS

MELSERVO-JE



Advanced ease-of-use without compromising high performance. The reliable basic performance and the advanced servo gain adjustment boost machine performance further.

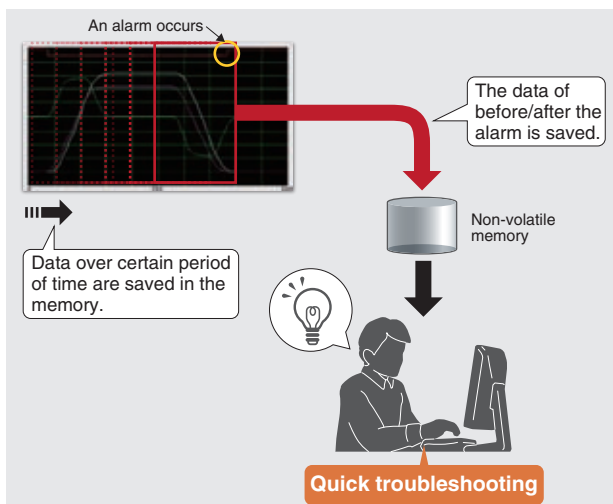
➤ Reliable Basic Performance

MELSERVO-JE series with class top-level basic performance enables shorter settling time and reduced tact time, boosting machine performance in combination with the Simple Motion module.

- Speed frequency response of 2.0 kHz
- High-resolution encoder of 131072 pulses/rev
- Dramatically reduced torque ripple during conduction
- Absolute position detection system configurable with ease
- Conformity to global standards (European EC directives, etc.)

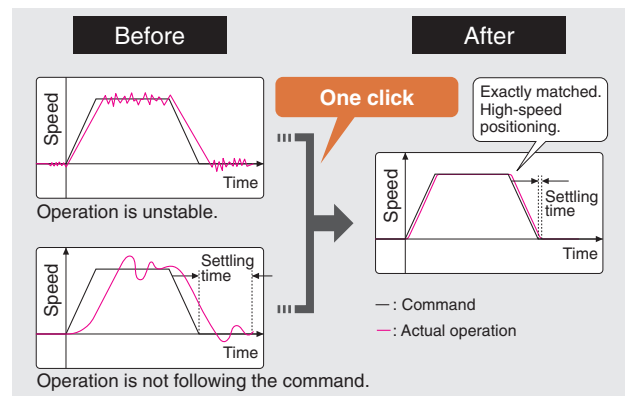
➤ Large-capacity Drive Recorder for Quick Troubleshooting

The drive recorder saves data of before/after the alarms in the non-volatile memory in the servo amplifier. This helps you investigate the condition of before/after the alarm in details through those data, enabling quick troubleshooting.



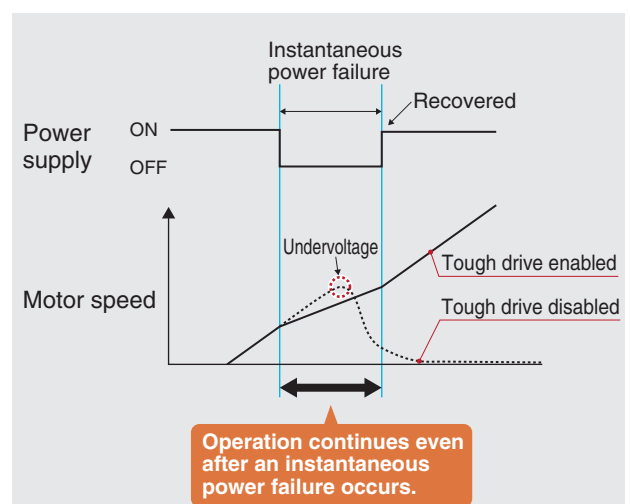
➤ Servo Gain Adjustment is Just a Click Away

Mitsubishi Electric's unique "Advanced one-touch tuning" enables servo gain adjustment with one-touch ease. Machine performance is utilized to the fullest using the advanced vibration suppression control function.

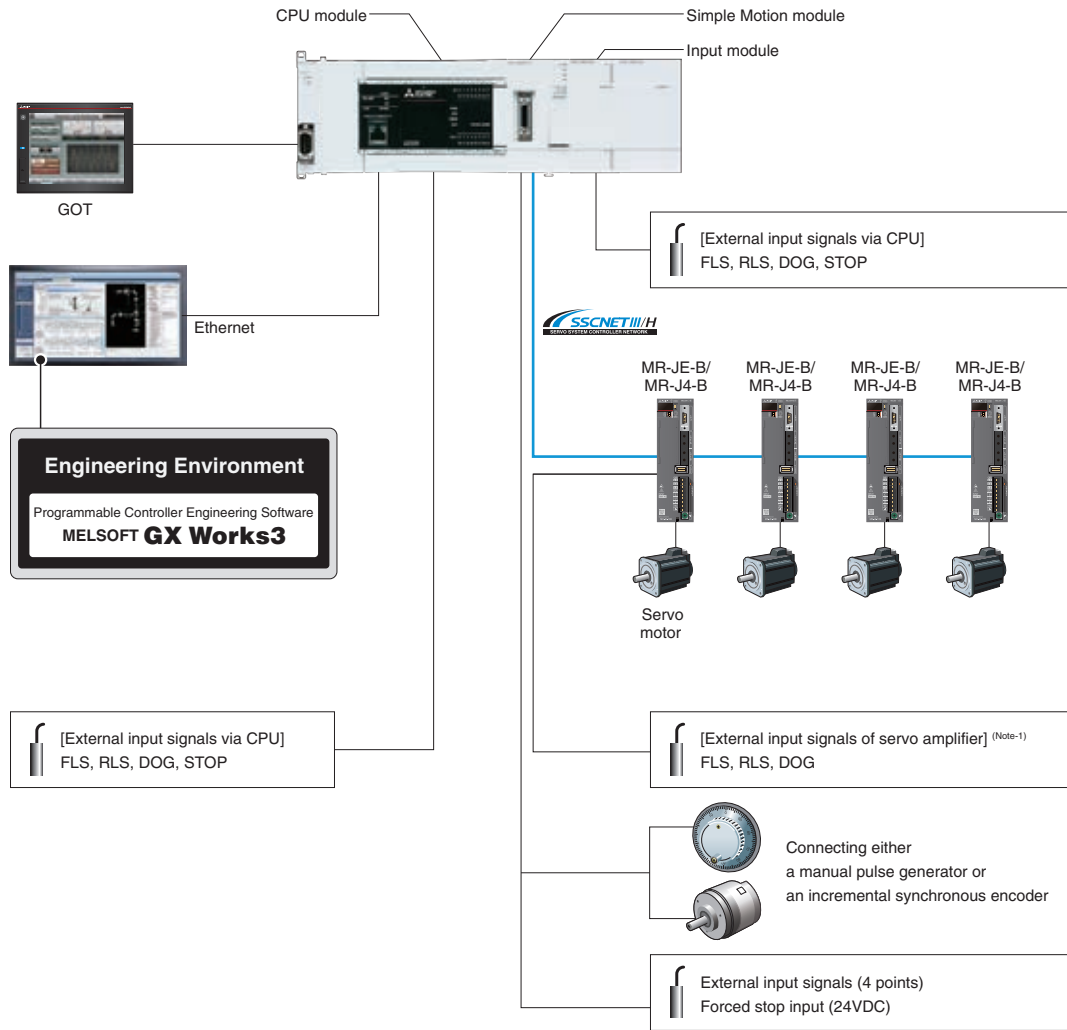


➤ Instantaneous Power Failure Tough Drive

When an instantaneous power failure is detected, this function allows the servo amplifier to use the electric energy charged in the main circuit capacitor in the servo amplifier to avoid an alarm occurrence, increasing the machine availability even with an unstable power supply.



System configuration



(Note-1): Available only when the MR-J4-B servo amplifiers are connected.

MELSEC iQ-F series product lineup

MELSEC iQ-F series



Expansion adapter (Up to 6 modules) CPU modules Expansion modules (Up to 16 modules)

● CPU modules

FX5U
Terminal block type



FX5UC
Connector type



● Expansion adapters

- Communication adapter (RS-232C, RS-485)
- Analog I/O adapter

● Expansion modules

- I/O module
- Intelligent function module (Simple Motion module, etc.)
- Connector conversion module
- Bus conversion module
- Extension power supply module

Control specifications

Item		Specifications
		FX5-40SSC-S
Number of control axes		Up to 4 axes
Operation cycle		1.777ms
Interpolation function		Linear interpolation (Up to 4 axes), Circular interpolation (2 axes)
Control modes		PTP (Point To Point) control, Trajectory control (both linear and arc), Speed control, Speed-position switching control, Position-speed switching control, Speed-torque control
Acceleration/deceleration process		Trapezoidal acceleration/deceleration, S-curve acceleration/deceleration
Compensation function		Backlash compensation, Electronic gear, Near pass function
Synchronous control	Input axis	Servo input axis, Synchronous encoder axis, Command generation axis
	Output axis	Cam axis (Up to 4 axes)
Cam control	Number of cam registration	Up to 64 (depending on memory capacity, cam resolution and number of coordinates)
	Cam data type	Stroke ratio data type, Coordinate data type
	Cam auto-generation	Cam auto-generation for rotary knife
Control unit		mm, inch, degree, pulse
Number of positioning data		600 data (positioning data No. 1 to 600)/axis (Can be set with MELSOFT GX Works3 or a sequence program.)
Backup		Parameters, positioning data, and block start data can be saved on flash ROM (battery-less backup)
Home position return	Home position return method	Proximity dog method, Count method 1, Count method 2, Data set method, Scale home position signal detection method
	Fast home position return control	Provided
	Auxiliary functions	Home position return retry, Home position shift
Positioning control	Linear control	1-axis linear control, 2-axis linear interpolation control, 3-axis linear interpolation control, 4-axis linear interpolation control ^(Note-1) (Vector speed, Reference axis speed)
	Fixed-pitch feed control	1-axis fixed-pitch feed, 2-axis fixed-pitch feed, 3-axis fixed-pitch feed, 4-axis fixed-pitch feed
	2-axis circular interpolation	Auxiliary point-specified circular interpolation, Central point-specified circular interpolation
	Speed control	1-axis speed control, 2-axis speed control, 3-axis speed control, 4-axis speed control
	Speed-position switching control	INC mode, ABS mode
	Position-speed switching control	INC mode
	Current value change	Positioning data, Start No. for a current value changing
	NOP instruction	Provided
	JUMP instruction	Unconditional JUMP, Conditional JUMP
	LOOP, LEND	Provided
High-level positioning control		Block start, Condition start, Wait start, Simultaneous start, Repeated start
Manual control	JOG operation	Provided
	Inching operation	Provided
	Manual pulse generator	Possible to connect 1 module (Incremental), Unit magnification (1 to 10000 times)
Expansion control	Speed-torque control	Speed control without positioning loops, Torque control, Tightening & press-fit control
Absolute position system		Made compatible by setting a battery to servo amplifier
Synchronous encoder interface		Up to 4 channels (Total of the internal interface, via PLC CPU interface, and servo amplifier interface ^(Note-3))
Functions that limit control	Internal interface	1 channel (Incremental)
	Speed limit function	Speed limit value, JOG speed limit value
	Torque limit function	Torque limit value same setting, Torque limit value individual setting
	Forced stop	Valid/Invalid setting
	Software stroke limit function	Movable range check with current feed value, Movable range check with machine feed value
Functions that change control details	Hardware stroke limit function	Provided
	Speed change function	Provided
	Override function	1 to 300 [%]
	Acceleration/deceleration time change function	Provided
	Torque change function	Provided
Target position change function		Target position address and speed are changeable
Other functions	M-code output function	Provided
	Step function	Deceleration unit step, Data No. unit step
	Skip function	Via PLC CPU, Via external command signal
	Teaching function	Provided
Parameter initialization function		Provided
External input signal setting function		Via CPU, Via servo amplifier ^(Note-3)
Amplifier-less operation function		Provided
Mark detection function		Regular mode, Specified Number of Detections mode, Ring Buffer mode
	Mark detection signal	Up to 4 points
	Mark detection setting	16 settings
Optional data monitor function		4 points/axis
Driver communication function		Provided ^(Note-3)
SSCNET connect/disconnect function		Provided
Digital oscilloscope function ^(Note-2)	Bit data	16 channels
	Word data	16 channels

(Note-1): 4-axis linear interpolation control is enabled only at the reference axis speed.

(Note-2): 8CH word data and 8CH bit data can be displayed in real time.

(Note-3): Available only when the MR-J4-B servo amplifiers are connected.

Module specifications



Item		Specifications	
		FX5-40SSC-S	
Number of control axes		Up to 4 axes	
Servo amplifier connection method		SSCNET III/H	
Maximum overall cable distance [m(ft.)]		400 (1312.32)	
Maximum distance between stations [m(ft.)]		100 (328.08)	
Peripheral I/F		Via CPU module (Ethernet)	
Manual pulse generator operation function		Possible to connect 1 module	
Synchronous encoder operation function		Possible to connect 4 modules (Total of the internal interface, via PLC CPU interface, and servo amplifier interface ^(Note-1))	
Input signals (DI)	Number of input points	4 points	
	Input method	Positive common/Negative common shared (Photocoupler isolation)	
	Rated input voltage/current	24 VDC/ Approx. 5 mA	
	Operating voltage range	19.2 to 26.4 VDC (24 VDC +10%/-20%, ripple ratio 5% or less)	
	ON voltage/current	17.5 VDC or more/ 3.5 mA or more	
	OFF voltage/current	7 VDC or less/ 1.0 mA or less	
	Input resistance	Approx. 6.8 kΩ	
	Response time	1 ms or less (OFF→ON, ON→OFF)	
Forced stop input signal (EMI)	Number of input points	1 point	
	Input method	Positive common/Negative common shared (Photocoupler isolation)	
	Rated input voltage/current	24 VDC/ Approx. 5 mA	
	Operating voltage range	19.2 to 26.4 VDC (24 VDC +10%/-20%, ripple ratio 5% or less)	
	ON voltage/current	17.5 VDC or more/ 3.5 mA or more	
	OFF voltage/current	7 VDC or less/ 1.0 mA or less	
	Input resistance	Approx. 6.8 kΩ	
	Response time	4 ms or less (OFF→ON, ON→OFF)	
Signal input form	Phase A/Phase B (magnification by 4/magnification by 2/ magnification by 1), PULSE/SIGN		
	Up to 1 Mpulse/s (After magnification by 4, up to 4 Mpulse/s)		
Manual pulse generator/ Incremental synchronous encoder signal	Differential output type (26LS31 or equivalent)	Input pulse frequency	Up to 1 Mpulse/s (After magnification by 4, up to 4 Mpulse/s)
		Pulse width	1 μs or more
		Leading edge/trailing edge time	0.25 μs or less
		Phase difference	0.25 μs or more
		Rated input voltage	5.5 VDC or less
		High/Low-voltage	2.0 to 5.25 VDC/0 to 0.8 VDC
		Differential voltage	±0.2V
	Cable length	Up to 30 m (98.43ft.)	
	Voltage-output/ Open-collector type (5 VDC)	Input pulse frequency	Up to 200 kpulse/s (After magnification by 4, up to 800 kpulse/s)
		Pulse width	5 μs or more
		Leading edge/trailing edge time	1.2 μs or less
		Phase difference	1.2 μs or more
		Rated input voltage	5.5 VDC or less
		High/Low-voltage	3.0 to 5.25 VDC/2 mA or less, 0 to 1.0 VDC/5 mA or more
Cable length		Up to 10m (32.81ft.)	
24 VDC internal current consumption [A]		0.25	
Mass [kg]		0.30	
Exterior dimensions [mm(inch)]		90.0 (3.55)(H) × 50.0 (1.97)(W) × 83.0 (3.27)(D)	

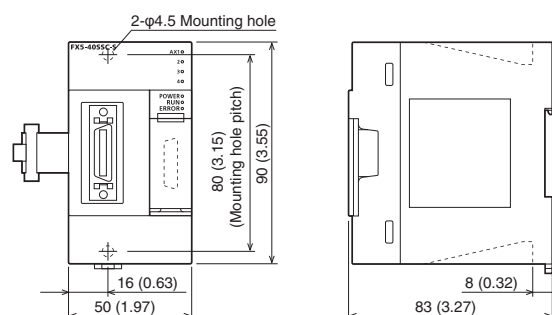
(Note-1): Available only when the MR-J4-B servo amplifiers are connected.

Applicable CPU

PLC CPU	FX5U, FX5UC
---------	-------------

Exterior dimensions

Simple Motion module FX5-40SSC-S



Unit: mm (inch)

Component

Simple Motion dedicated equipment

Item	Model	Specifications	Standards		
Simple Motion module	FX5-40SSC-S	Up to 4 axes	CE, UL, KC		
Internal I/F connector set	LD77MHIOCON	Incremental synchronous encoder/Mark detection signal interface connector set	–		
SSCNET III cable	MR-J3BUS_M	<ul style="list-style-type: none"> • FX5-40SSC-S ⇔ Servo amplifier • Servo amplifier ⇔ Servo amplifier 	Standard code for inside panel	0.15m (0.49ft.), 0.3m (0.98ft.), 0.5m (1.64ft.), 1m (3.28ft.), 3m (9.84ft.)	–
	MR-J3BUS_M-A		Standard cable for outside panel	5m (16.40ft.), 10m (32.81ft.), 20m (65.62ft.)	–
	MR-J3BUS_M-B		Long distance cable	30m (98.43ft.), 40m (131.23ft.), 50m (164.04ft.)	–
Manual pulse generator	MR-HDP01	Number of pulses per revolution: 25pulse/rev (100pulse/rev after magnification by 4), Permitted speed: 200r/min (Normal rotation)	–		

Servo amplifiers

Model	Description
MR-JE-B	SSCNET III/H compatible servo amplifier rated output: 0.1 to 3kW
MR-J4-B(-RJ)	SSCNET III/H compatible servo amplifier rated output: 0.1 to 55kW
MR-J4W2-B	SSCNET III/H 2-axis servo amplifier rated output: 0.2 to 1kW
MR-J4W3-B	SSCNET III/H 3-axis servo amplifier rated output: 0.2 to 0.4kW

(Note): Only the rotary servo motors are supported.

Engineering environment

Engineering software list

Product	Model	Description	Version
MELSOFT GX Works3	SW1DND-GXW3-E	Sequence program creation, FX5-40SSC-S settings	DVD-ROM 1.007H or later
MELSOFT iQ Works	SW2DND-IQWK-E	FA Engineering Software ^(Note-1) <ul style="list-style-type: none"> • System Management Software [MELSOFT Navigator] • Programmable Controller Engineering Software [MELSOFT GX Works3] • Motion Controller Engineering Software [MELSOFT MT Works2] • Screen Design Software [MELSOFT GT Works3] • Robot Total Engineering Support Software [MELSOFT RT ToolBox2 mini] • Inverter Setup Software [MELSOFT FR Configurator2] 	DVD-ROM –

(Note-1): Refer to each product manual for software needed for the model.

Operating environment

Item	Description
OS	Microsoft® Windows® 8.1 (64bit/32bit), Microsoft® Windows® 8.1 (Enterprise, Pro) (64bit/32bit) Microsoft® Windows® 8 (64bit/32bit), Microsoft® Windows® 8 (Enterprise, Pro) (64bit/32bit) Microsoft® Windows® 7 (Enterprise, Ultimate, Professional, Home Premium, Starter) (64bit/32bit) Microsoft® Windows Vista® (Enterprise, Ultimate, Business, Home Premium, Home Basic) (32bit) Microsoft® Windows® XP Service Pack3 or later (Professional, Home Edition) (32bit)
CPU	Intel® Core™2 Duo Processor 2 GHz or more recommended
Required memory	For 32-bit edition: 1GB or more recommended For 64-bit edition: 2GB or more recommended
Available hard disk capacity	When installing MELSOFT GX Works3: HDD available capacity is 5GB or more.
Optical drive	DVD-ROM supported disk drive
Monitor	Resolution 1024 × 768 dots or higher

Microsoft, Windows, Excel are registered trademarks of Microsoft Corporation in the United States and other countries.
Ethernet is a registered trademark of Xerox Corporation.
MODBUS is a registered trademark of Schneider Electric.
All other company names and product names used in this document are trademarks or registered trademarks of their respective companies.

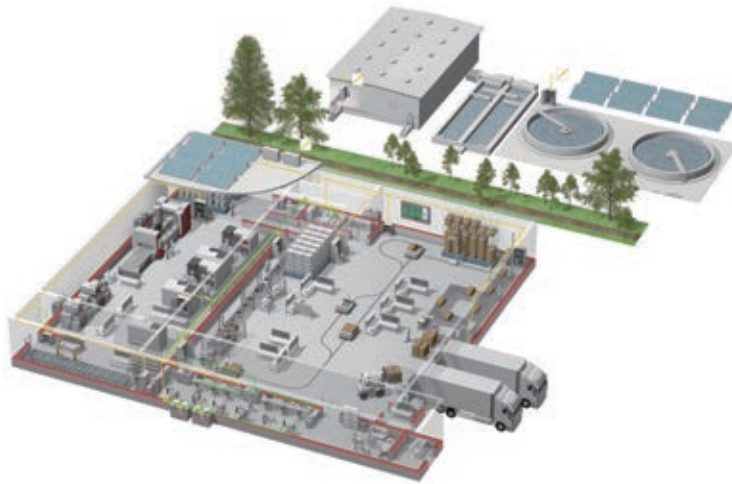
Precautions before use

This publication explains the typical features and functions of the products herein and does not provide restrictions or other information related to usage and module combinations. Before using the products, always read the product user manuals. Mitsubishi Electric will not be held liable for damage caused by factors found not to be the cause of Mitsubishi Electric; opportunity loss or lost profits caused by faults in Mitsubishi Electric products; damage, secondary damage, or accident compensation, whether foreseeable or not, caused by special factors; damage to products other than Mitsubishi Electric products; or any other duties.

For safe use

- To use the products given in this publication properly, always read the relevant manuals before beginning operation.
- The products have been manufactured as general-purpose parts for general industries, and are not designed or manufactured to be incorporated in a device or system used in purposes related to human life.
- Before using the products for special purposes such as nuclear power, electric power, aerospace, medicine or passenger-carrying vehicles, consult with Mitsubishi Electric.
- The products have been manufactured under strict quality control. However, when installing the products where major accidents or losses could occur if the products fail, install appropriate backup or fail-safe functions in the system.

YOUR SOLUTION PARTNER



Mitsubishi Electric offers a wide range of automation equipment from PLCs and HMIs to CNC and EDM machines.

A NAME TO TRUST

Since its beginnings in 1870, some 45 companies use the Mitsubishi name, covering a spectrum of finance, commerce and industry.

The Mitsubishi brand name is recognized around the world as a symbol of premium quality.

Mitsubishi Electric Corporation is active in space development, transportation, semi-conductors, energy systems, communications and information processing, audio visual equipment and home electronics, building and energy management and automation systems, and has 237 factories and laboratories worldwide in over 121 countries.

This is why you can rely on Mitsubishi Electric automation solution - because we know first hand about the need for reliable, efficient, easy-to-use automation and control in our own factories.

As one of the world's leading companies with a global turnover of over 4 trillion Yen (over \$40 billion), employing over 100,000 people, Mitsubishi Electric has the resource and the commitment to deliver the ultimate in service and support as well as the best products.



Low voltage: MCCB, MCB, ACB



Medium voltage: VCB, VCC



Power monitoring, energy management



Compact and Modular Controllers



Inverters, Servos and Motors



Visualization: HMIs, Software, MES connectivity



Numerical Control (NC)



Robots: SCARA, Articulated arm



Processing machines: EDM, Lasers, IDS

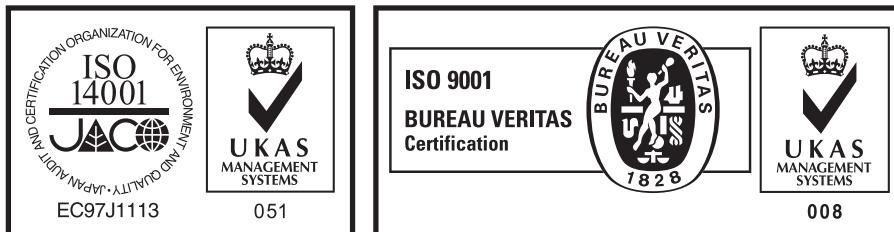


Air-conditioning, Photovoltaic, EDS

MELSEC iQ-F Series Simple Motion Module FX5-40SSC-S

Country/Region	Sales office	Tel/Fax
USA	Mitsubishi Electric Automation, Inc. 500 Corporate Woods Parkway, Vernon Hills, IL 60061, U.S.A.	Tel : +1-847-478-2100 Fax : +1-847-478-2253
Mexico	Mitsubishi Electric Automation, Inc. Mexico Branch Mariano Escobedo #69, Col.Zona Industrial, Tlalnepantla Edo. Mexico, C.P.54030	Tel : +52-55-3067-7500 Fax : -
Brazil	Mitsubishi Electric do Brasil Comercio e Servicos Ltda. Rua Jussara, 1750- Bloco B Anexo, Jardim Santa Cecilia, CEP 06465-070, Barueri - SP, Brasil	Tel : +55-11-4689-3000 Fax : +55-11-4689-3016
Germany	Mitsubishi Electric Europe B.V. German Branch Mitsubishi-Electric-Platz 1, 40882 Ratingen, Germany	Tel : +49-2102-486-0 Fax : +49-2102-486-1120
UK	Mitsubishi Electric Europe B.V. UK Branch Travellers Lane, UK-Hatfield, Hertfordshire, AL10 8XB, U.K.	Tel : +44-1707-28-8780 Fax : +44-1707-27-8695
Italy	Mitsubishi Electric Europe B.V. Italian Branch Centro Direzionale Colleoni - Palazzo Sirio, Viale Colleoni 7, 20864 Agrate Brianza (Milano), Italy	Tel : +39-039-60531 Fax : +39-039-6053-312
Spain	Mitsubishi Electric Europe B.V. Spanish Branch Carretera de Rubi, 76-80-Apdo. 420, 08190 Sant Cugat del Valles (Barcelona), Spain	Tel : +34-935-65-3131 Fax : +34-935-89-1579
France	Mitsubishi Electric Europe B.V. French Branch 25, Boulevard des Bouvets, 92741 Nanterre Cedex, France	Tel : +33-1-55-68-55-68 Fax : +33-1-55-68-57-57
Czech Republic	Mitsubishi Electric Europe B.V. Czech Branch Avenir Business Park, Radlicka 751/113e, 158 00 Praha 5, Czech Republic	Tel : +420-251-551-470 Fax : +420-251-551-471
Poland	Mitsubishi Electric Europe B.V. Polish Branch ul. Krakowska 50, 32-083 Balice, Poland	Tel : +48-12-347-65-00 Fax : +48-12-630-47-01
Russia	Mitsubishi Electric (Russia) LLC St. Petersburg Branch Piskarevsky pr. 2, bld 2, lit "Sch", BC "Benua", office 720; 195027 St. Petersburg, Russia	Tel : +7-812-633-3497 Fax : +7-812-633-3499
Sweden	Mitsubishi Electric Europe B.V. (Scandinavia) Fjellievagen 8, SE-22736 Lund, Sweden	Tel : +46-8-625-10-00 Fax : +46-46-39-70-18
Turkey	Mitsubishi Electric Turkey A.S. Umraniye Branch Serifali Mahallesi Nutuk Sokak No:5, TR-34775 Umraniye / Istanbul, Turkey	Tel : +90-216-526-3990 Fax : +90-216-526-3995
UAE	Mitsubishi Electric Europe B.V. Dubai Branch Dubai Silicon Oasis, P.O.BOX 341241, Dubai, U.A.E.	Tel : +971-4-3724716 Fax : +971-4-3724721
South Africa	Adroit Technologies 20 Waterford Office Park, 189 Witkoppen Road, Fourways, South Africa	Tel : +27-11-658-8100 Fax : +27-11-658-8101
China	Mitsubishi Electric Automation (China) Ltd. Mitsubishi Electric Automation Center, No.1386 Hongqiao Road, Shanghai, China	Tel : +86-21-2322-3030 Fax : +86-21-2322-3000
Taiwan	SETSUYO ENTERPRISE CO., LTD. 6F, No.105, Wugong 3rd Road, Wugu District, New Taipei City 24889, Taiwan	Tel : +886-2-2299-2499 Fax : +886-2-2299-2509
Korea	Mitsubishi Electric Automation Korea Co., Ltd. 7F-9F, Gangseo Hangang Xi-tower A, 401, Yangcheon-ro, Gangseo-Gu, Seoul 07528, Korea	Tel : +82-2-3660-9510 Fax : +82-2-3664-8372/8335
Singapore	Mitsubishi Electric Asia Pte. Ltd. 307 Alexandra Road, Mitsubishi Electric Building, Singapore 159943	Tel : +65-6473-2308 Fax : +65-6476-7439
Thailand	Mitsubishi Electric Factory Automation (Thailand) Co., Ltd. 12th Floor, SV.City Building, Office Tower 1, No. 896/19 and 20 Rama 3 Road, Kwaeng Bangpongpan, Khet Yannawa, Bangkok 10120, Thailand	Tel : +66-2682-6522 to 6531 Fax : +66-2682-6020
Indonesia	PT. Mitsubishi Electric Indonesia Gedung Jaya 11th Floor, JL. MH. Thamrin No.12, Jakarta Pusat 10340, Indonesia	Tel : +62-21-3192-6461 Fax : +62-21-3192-3942
Vietnam	Mitsubishi Electric Vietnam Company Limited Unit 01-04, 10th Floor, Vincom Center, 72 Le Thanh Ton Street, District 1, Ho Chi Minh City, Vietnam	Tel : +84-8-3910-5945 Fax : +84-8-3910-5947
India	Mitsubishi Electric India Pvt. Ltd. Pune Branch Emerald House, EL-3, J Block, M.I.D.C., Bhosari, Pune - 411026, Maharashtra, India	Tel : +91-20-2710-2000 Fax : +91-20-2710-2100
Australia	Mitsubishi Electric Australia Pty. Ltd. 348 Victoria Road, P.O. Box 11, Rydalmere, N.S.W 2116, Australia	Tel : +61-2-9684-7777 Fax : +61-2-9684-7245

Mitsubishi Electric Corporation Nagoya Works is a factory certified for ISO 14001 (standards for environmental management systems) and ISO 9001 (standards for quality assurance management systems).



MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BUILDING, 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN
NAGOYA WORKS: 1-14, YADA-MINAMI 5, HIGASHI-KU, NAGOYA, JAPAN