Ezi-Motion Network

New Proposals to Respond to Various Motion Networks

- Connect to Real Time Field Network
- Connect to Various Network with Motion Gateway
- I/O Control by PLC
- Simple I/O Control by Switch

FASTECH

Fast, Accurate, Smooth Motion

I/O Control

Control by Connection with Various High Level Systems such as PC, PLC and Embedded System
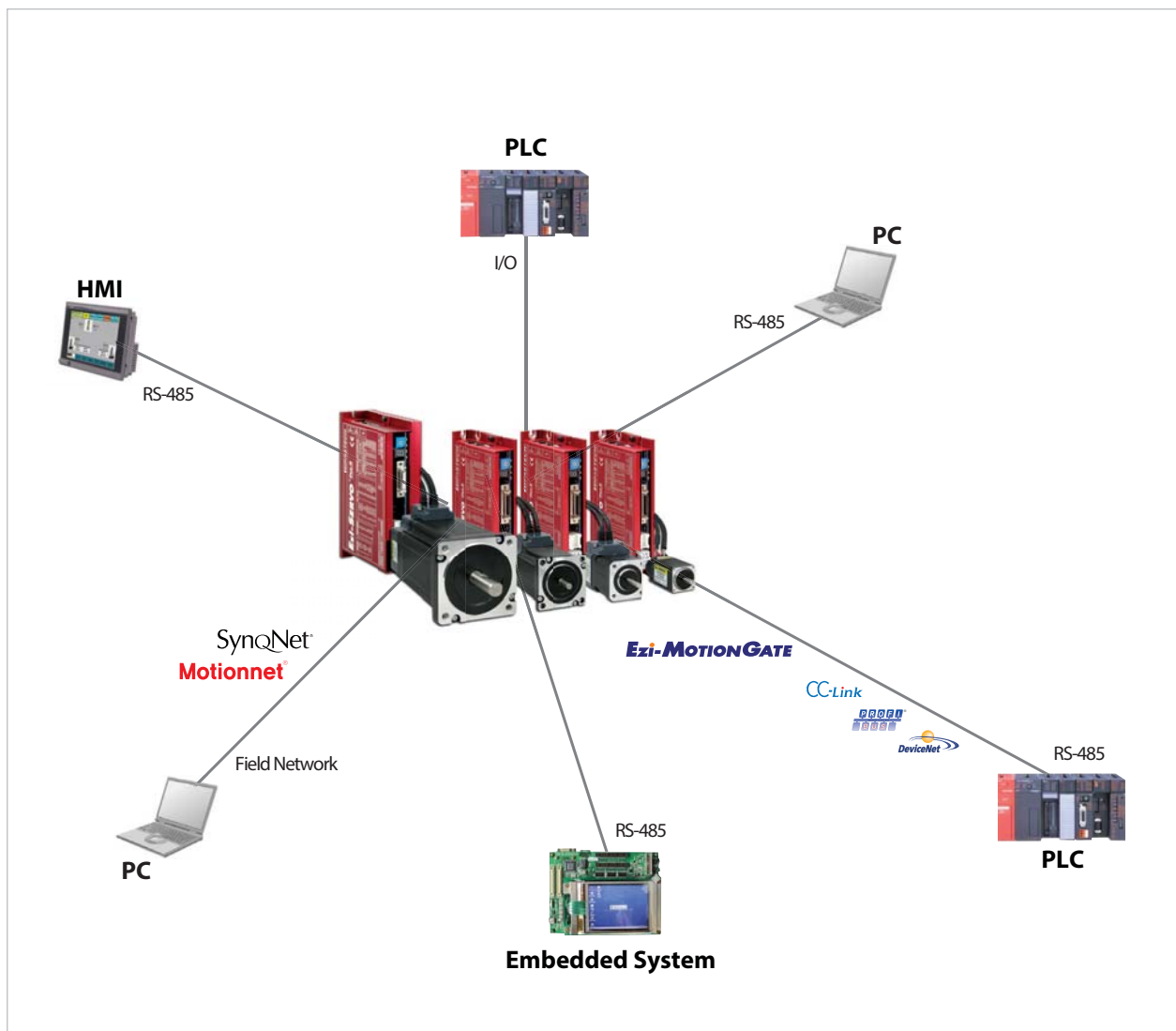
Ezi-MotionNetwork Categorized 6 Type as of Products

- Motion Control by I/O Control as PLC and by RS-485 Network.
- Motion Control by Ezi-MOTIONGATE for Field Networks(CC-Link, PROFIBUS-DPV1, DeviceNet)
- Motion control by using of high-speed serial system(Motionnet) applied Network
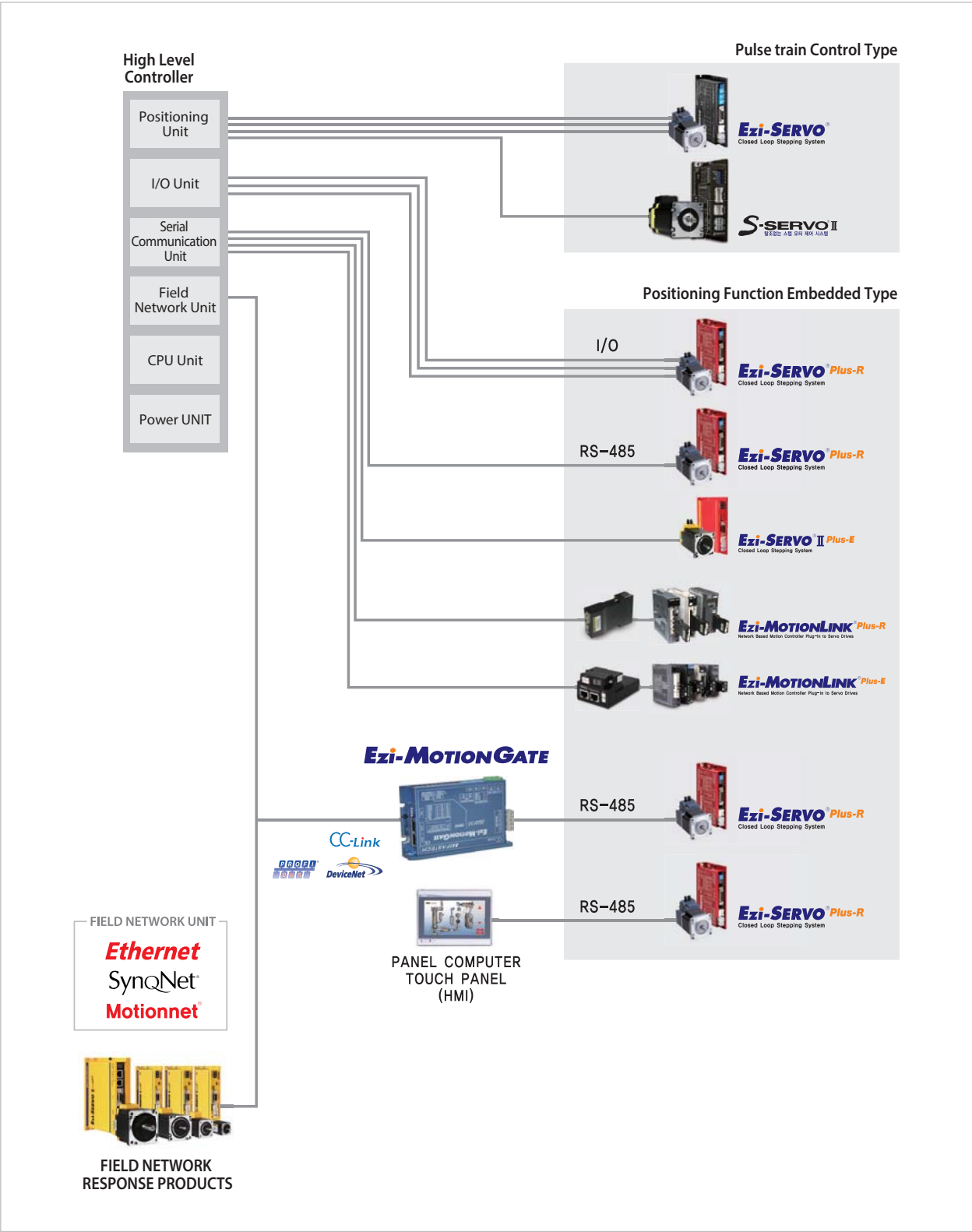- Motion Control by Real Time Network(SynQNet, Motionnet)

Ezi-MotionNetwork enables simple connection and control. Therefore it can shorten lead time for designing machine with reduction of cost and wiring.

Advantages of Ezi-MotionNetwork

- Cost Reduction
- Time Shortening
- Wiring Reduction
- Manpower Reduction

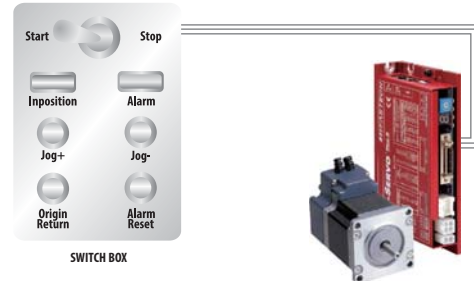# Respond to Various High Level of Controller System Structure

High Level Controller

- Positioning Unit
- I/O Unit
- Serial Communication Unit
- Field Network Unit
- CPU Unit
- Power UNIT

Pulse train Control Type

Ezi-SERVO
Closed Loop Stepping System

S-SERVO II
펄조없는 스텝 모터 제어 시스템

Positioning Function Embedded Type

I/O — Ezi-SERVO Plus-R
Closed Loop Stepping System

RS-485 — Ezi-SERVO Plus-R
Closed Loop Stepping System

Ezi-SERVO II Plus-E
Closed Loop Stepping System

Ezi-MOTIONLINK Plus-R
Network Based Motion Controller Plug-in to Servo Drives

Ezi-MOTIONLINK Plus-E
Network Based Motion Controller Plug-in to Servo Drives

Ezi-MOTIONGATE

CC-Link
PROFI
DeviceNet

RS-485 — Ezi-SERVO Plus-R
Closed Loop Stepping System

RS-485 — Ezi-SERVO Plus-R
Closed Loop Stepping System

PANEL COMPUTER
TOUCH PANEL
(HMI)

FIELD NETWORK UNIT

Ethernet
SynqNet
Motionnet

**FIELD NETWORK
RESPONSE PRODUCTS**

I/O Control

Ezi-MotionNetwork 1

I/O Control by Switch

Position table function embedded drive enables start / stop of motor with sending motion data to drive by switch signal. simple I/O motion control is capable without high level controller like PLC.

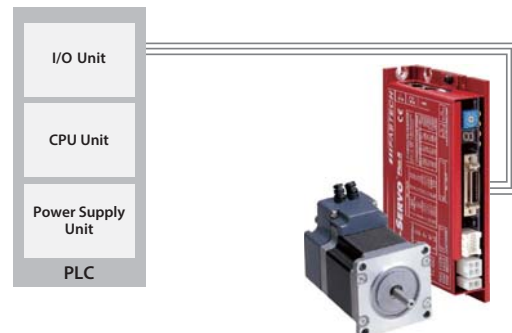**Features**
- Simple Control
- Low Cost Design

Ezi-MotionNetwork 2

I/O Control from PLC(Non-using of Positioning Unit)

Possible to operate drive by PLC I/O unit under PLC operation system. No need to systemize PLC positioning unit(Pulse generation module) and it enables minimization of system.

Features
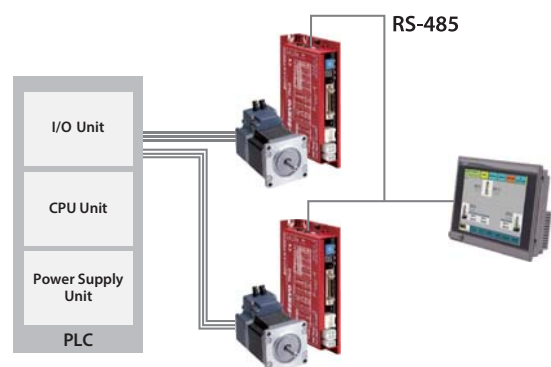- Simple Control
- Space Minimization
- Low Cost Design

Ezi-MotionNetwork 3

I/O Control from PLC, Changes Speed and Amount of Movement by HMI

Usually execute motion command by PLC I/O. with using HMI supports RS-485, can change operation date as position and velocity information. Also can indicate monitoring and Alarm.

Features
- Simple Control
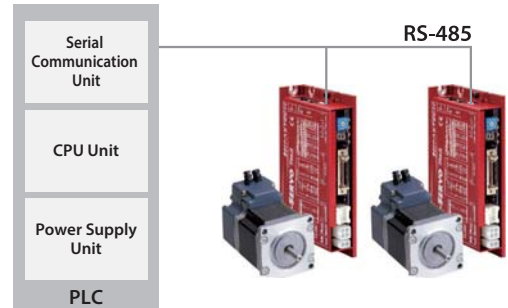- Enables Small lot Batch Applications

RS-485 Communication Control

Ezi-MotionNetwork 4

RS-485 Control by PLC

Verification of motion command and operation data by RS-485 communication. Able to connect to Max. 16 drives at 1 channel of communication unit of PLC's serial communication and set parameters. Also there is broadcast function to enable synchronized Start for connected all of drives.

Features
- Simple Control
- Wiring Reduction
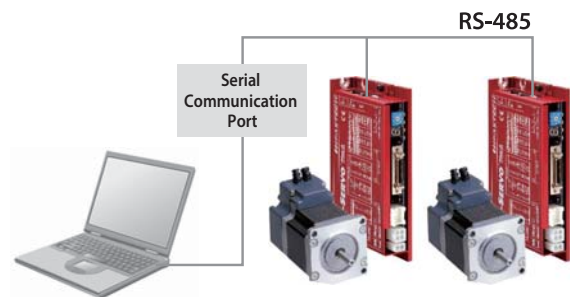- Respond to Most of Serial Communication Units

Ezi-MotionNetwork 5

RS-485 Control by PC

From PC serial communication port(COM), RS-485 communication enables motion command, verification of operation data, parameter setting. Max. 16 drives can be connected at one port.

Features
- Simple Control
- Wiring Reduction
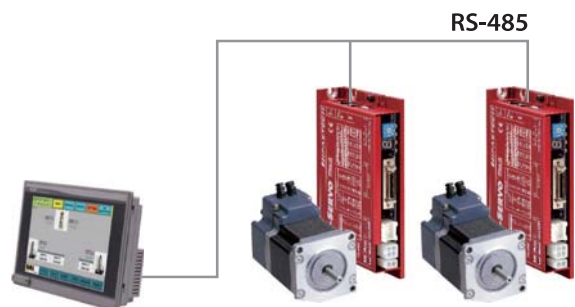- Provide Motion Library(DLL)

Ezi-MotionNetwork 6

Monitoring and Execute Motion Command by HMI

RS-485 communication enables direct connection control with HMI. Enable to execute setting of operation status, parameter, check alarm status and position table run without PLC.

Features
- Simple Control
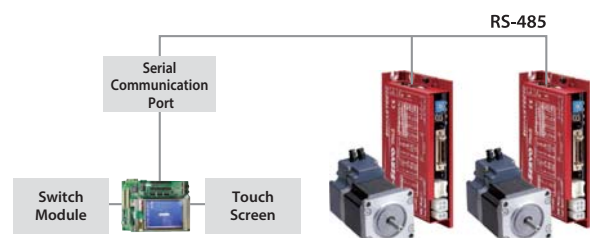- Wiring Reduction
- System Minimization

Ezi-MotionNetwork 7

Control from Embedded System

Available to control drives with communication library based Standard C opened at Embedded System. Can realize minimization of system and creative UI with only application of necessary functions from whole command supportable communication library. *** User Interface**

Features
- Simple Control
- Wiring Reduction
- System Minimization
- USER Interface Control

Ezi-MOTIONGATE Control

Ezi-MotionNetwork 8

Control by Ezi-MOTIONGATE

Respond to various field networks with Ezi-MOTIONGATE and can check motion command, parameter setting, status information and alarm information from each one of network. Ezi-MOTIONGATE allows customer to shorten timing of system design because Ezi-MOTIONGATE is very flexible to each different networks what customer prefers to use.
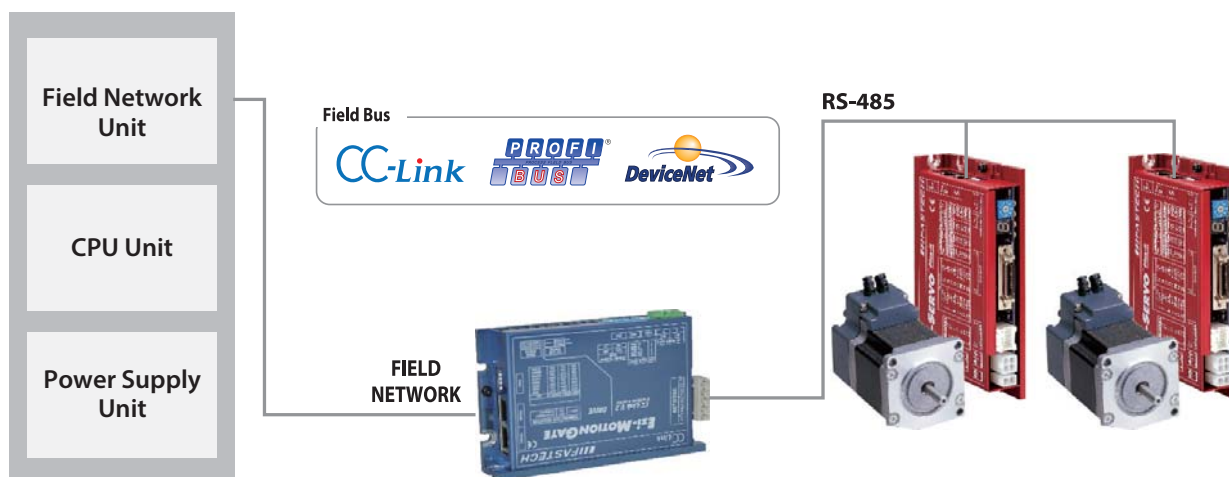• Processing minization of high level controller(Master Device) for Multi-Axes control.
• Handle commands by I/O type of bit control
• Available to install various type of drives

Supportable Field Network

• CC-Link supports Max. 13 Axes
• PROFIBUS-DPV1 supports Max. 9 Axes
• DeviceNet supports Max. 16 Axes

Features

• Simple Control
• Wiring Reduction
• System Minimization
• Low Cost Multi-Axes Control

※ Ezi-MOTIONGATE system will be expanded to support more type of field networks as Ethernet / IP, PROFINET, Mechatrolink II, Mechatrolink III and SERCOS III

Applicable Product Line-up

Products	Specifications
Ezi-SERVO Plus-R/Ezi-STEP Plus-R	Controller Embedded
Ezi-SERVO Plus-R-MI/Ezi-STEP Plus-R MINI	Controller Embedded, Mini Type
Ezi-SERVO ALL/Ezi-STEP ALL	Controller Embedded(Integrated)

Ezi-MOTIONGATE Series

Ezi-MOTIONGATE CC-Link CE

Ezi-MOTIONGATE CC-Link is motion gateway device to be connected with CC-Link network from Mitsibishi PLC. It supports Max. 13 Axes for Ezi-SERVO Plus -R, Ezi-STEP Plus R, Ezi-SERVO Plus R MINI, Ezi-SERVO ALL and others can be connected by Ezi-MotionNetwork.

Ezi-MOTIONGATE PROFIBUS

Ezi-MOTIONGATE PROFIBUS-DPV1 is motion gateway device to be connected with PROFIBUS network from Siemens PLC, Mitsubishi PLC and LS PLC.
It supports Max. 9 Axes for Ezi-SERVO Plus R, Ezi-STEP Plus R, Ezi-SERVO Plus-R MINI, Ezi-SERVO ALL and others can be connected by Ezi-MotionNetwork.

Ezi-MOTIONGATE DeviceNet CE

Ezi-MOTIONGATE DeviceNet is motion gateway device to be connected with DeviceNet network from Rockwell/Allen-Bradley PLC, Mitsubishi PLC and LS PLC.
It supports Max. 16 Axes for Ezi-SERVO Plus R, Ezi-STEP Plus R, Ezi-SERVO Plus-R MINI, Ezi-SERVO ALL and others can be connected by Ezi-MotionNetwork.
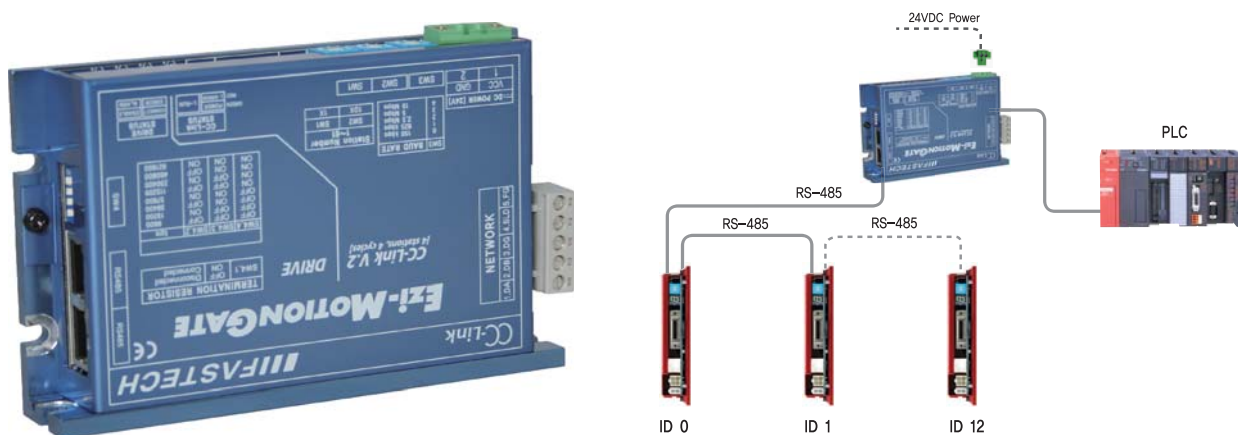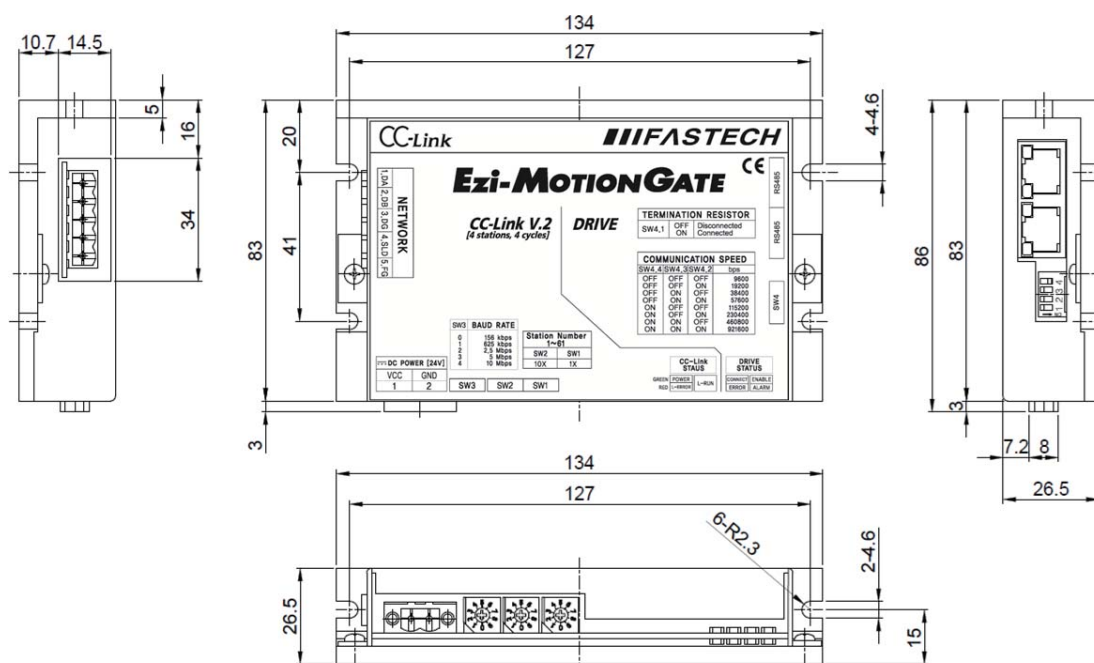
CC-Link Detail Information

Drive Information

Ezi-MOTIONGATE CC-Link is motion gateway device to be connected with CC-Link network from Mitsibishi PLC. It supports Max.
13 Axes for Ezi-SERVO Plus R, Ezi-STEP Plus R, Ezi-SERVO Plus R MINI, Ezi-SERVO ALL and Ezi-STEP ALL can be connected by Ezi-MotionNetwork.
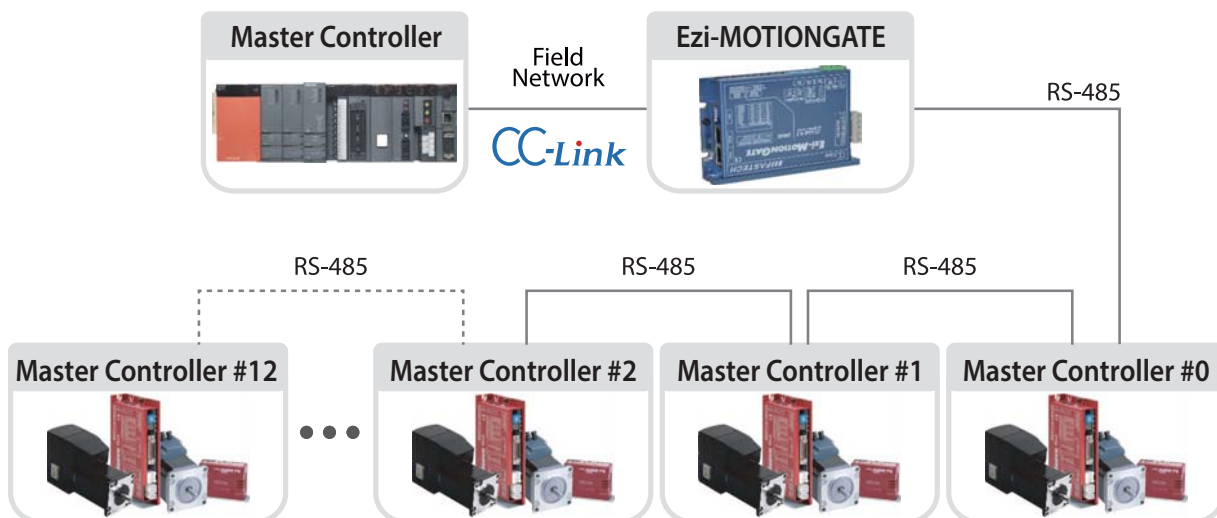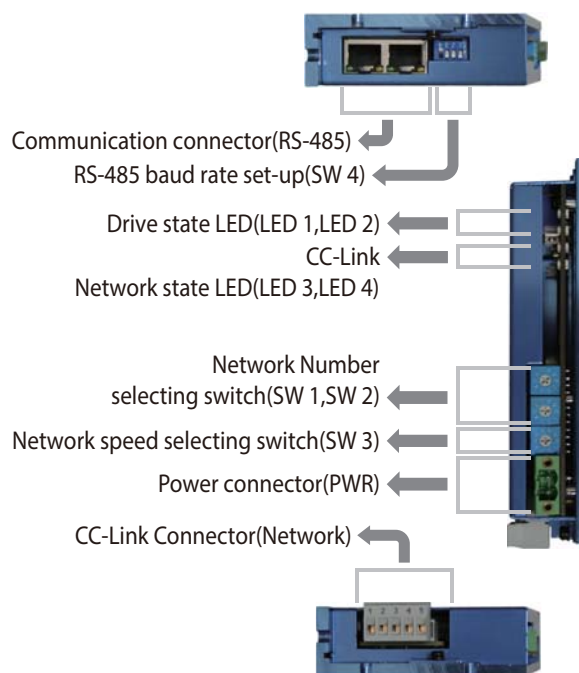
Ezi-MOTIONGATE Dimension(mm)

Specifications

Network Type	CC-Link Ver.2
Network Speed	156kbps / 625kbps / 2.5Mbps / 5Mbps / 10Mbps
Network Node type	Remote device station
Occupation station	4 Station
Expansion Cyclic	4X
Maximum Axis	13Axis
Occupation station(Point/Register)	448 point / 64 word
Maximum MOTIONGATE(CC-Link)	16 Gateway
Operating Condition	Ambient Temperature	· In Use : 0 ~ 55˚C · In Storage : -20 ~ 70˚C
	Humidity	· In Use : 35 ~ 85% RH(Non-condensing) · In Storage : -10 ~ 90% RH(Non-condensing)
	Vib. Resist.	0.5G
Function	Select Switch	Set network station No., Set network Baud-Rate
	LED Display	LED display based on industrial network standard as check network status, abnomal connection with master, Servo on status of drive, alarm generation status of drive
Special Function	Jog Control	4-Speed Step, Speed Ratio
	Step Move Control	4-Step Distance
	Communication Function	Ezi-STEP Plus-R Series Ezi-SERVO Plus-R Series

Communication connector(RS-485)
RS-485 baud rate set-up(SW 4)
Drive state LED(LED 1,LED 2)
CC-Link
Network state LED(LED 3,LED 4)

Network Number selecting switch(SW 1,SW 2)
Network speed selecting switch(SW 3)
Power connector(PWR)

CC-Link Connector(Network)

Master Controller

Field Network

CC-Link

Ezi-MOTIONGATE

RS-485

RS-485

RS-485

RS-485

RS-485

Master Controller #12

Master Controller #2

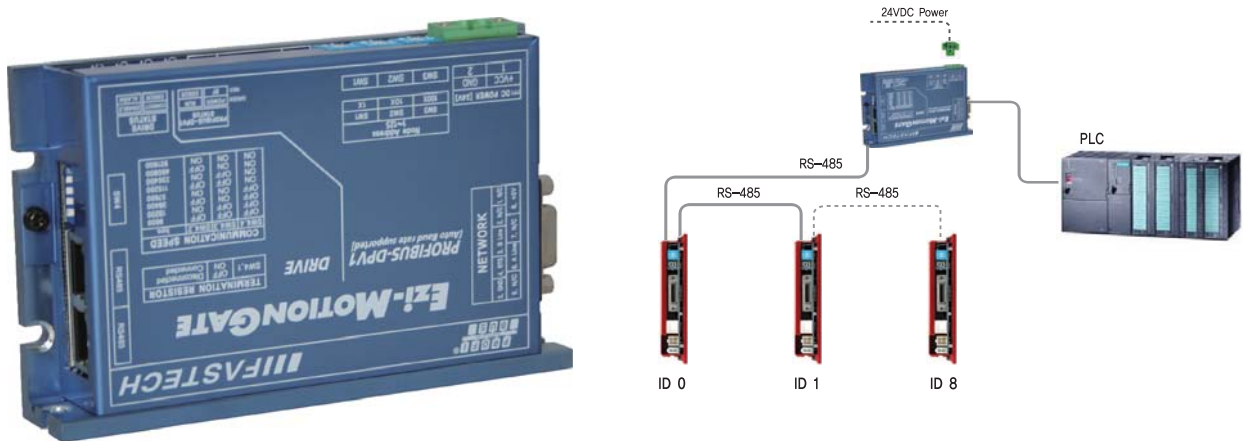Master Controller #1

Master Controller #0
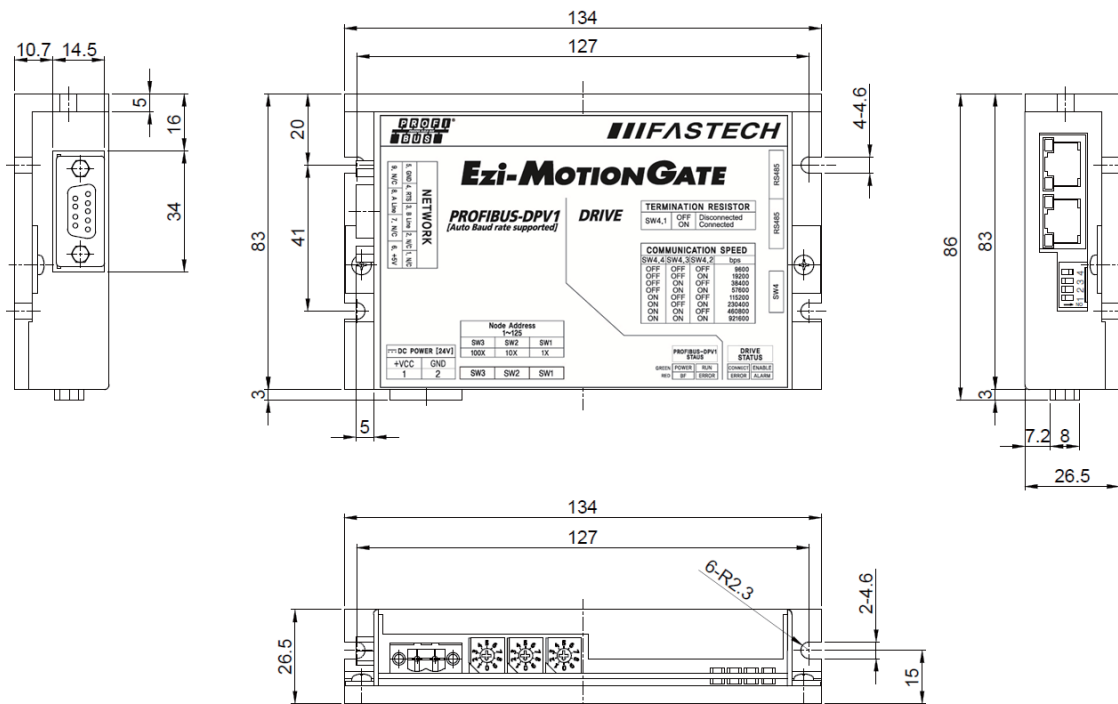
PROFIBUS Detail Information

Drive Information

CE

Ezi-MOTIONGATE PROFIBUS-DPV1 is motion gateway device to be connected with PROFIBUS network from Siemens PLC, Mitsubishi PLC and LS PLC. It supports Max. 9 Axes for Ezi-SERVO Plus-R, Ezi-STEP Plus-R, Ezi-SERVO Plus-R MINI, Ezi-SERVO ALL and Ezi-STEP ALL can be connected by Ezi-MotionNetwork.
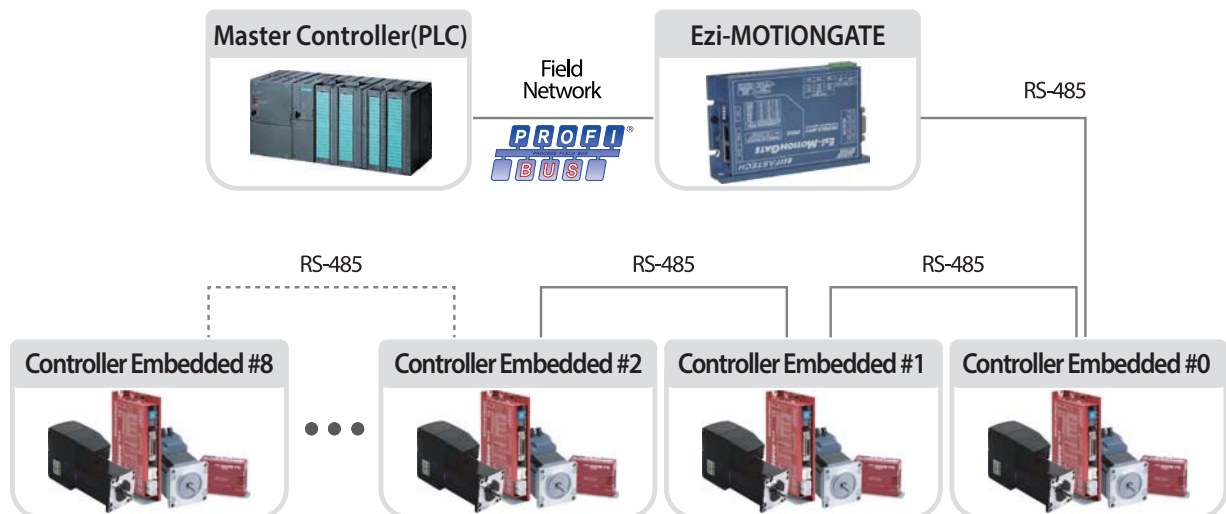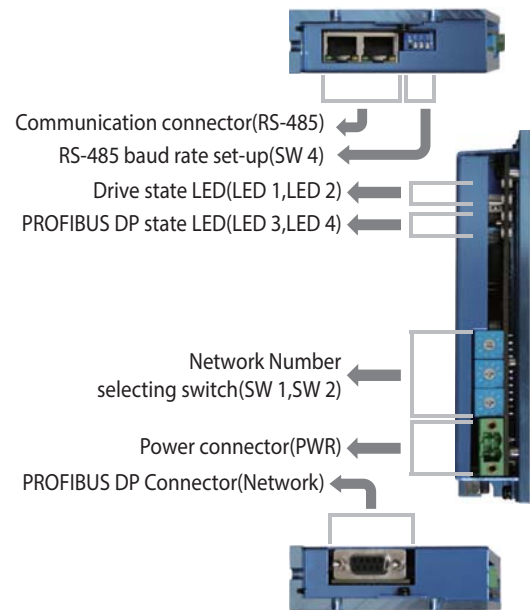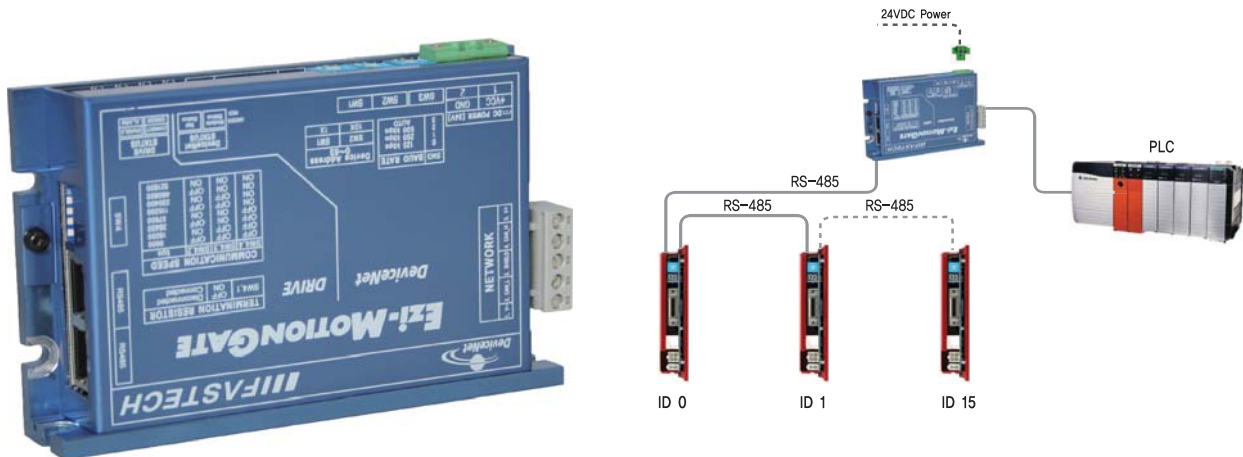
Ezi-MOTIONGATE Dimension(mm)

Specifications

Network Type	PROFIBUS-DPV1
Network Speed	9.6kbps / 19.2kbps / 93.75kbps / 187.5kbps / 0.5Mbps / 1.5Mbps / 12Mbps
	Auto Baud-Rate
Network Node type	Slave device station
Maximum Axis	9 Axis
Occupation station(Output/Input)	72 byte / 72 byte (When 9 axes drives connected)
Maximum MOTIONGATE(PROFIBUS-DPV1)	125 Gateway
Operating Condition	Temperature	· In Use : 0 ~ 55°C · In Storage : -20 ~ 70°C
	Humidity	· In Use : 35 ~ 85% RH(Non-condensing) · In Storage : -10 ~ 90% RH(Non-condensing)
	Vib. Resist.	0.5G
Function	Select Switch	Set network station No.
	LED Display	LED display based on industrial network standard as check network status, abnormal connection with master, Servo-On status of drive, alarm generation status of drive
Special Function	Jog Control	4-Speed Step, Speed Ratio
	Step Move Control	4-Step Distance
	Communication Function	Ezi-STEP Plus-R Series Ezi-SERVO Plus-R Series

Communication connector(RS-485)
RS-485 baud rate set-up(SW 4)
Drive state LED(LED 1,LED 2)
PROFIBUS DP state LED(LED 3,LED 4)

Network Number selecting switch(SW 1,SW 2)
Power connector(PWR)
PROFIBUS DP Connector(Network)

Master Controller(PLC)

Field Network

Ezi-MOTIONGATE

RS-485

RS-485   RS-485   RS-485

Controller Embedded #8   **Controller Embedded #2**   **Controller Embedded #1**   **Controller Embedded #0**
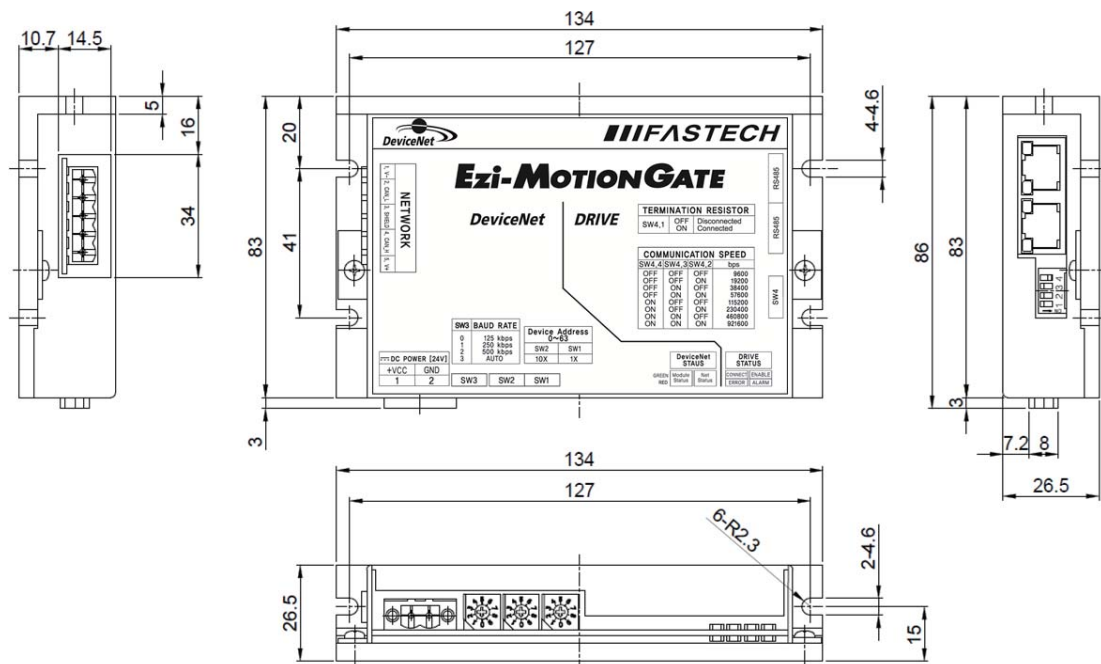
DeviceNet Detail Information

Drive Information

Ezi-MOTIONGATE DeviceNet is motion gateway device to be connected with DeviceNet network from Rockwell/Allen-Bradley PLC, Mitsubishi PLC and LS PLC. It supports Max. 16 Axes for Ezi-SERVO Plus-R, Ezi-STEP Plus-R, Ezi-SERVO Plus-R MINI, Ezi-SERVO ALL and Ezi-STEP ALL can be connected by Ezi-MotionNetwork.
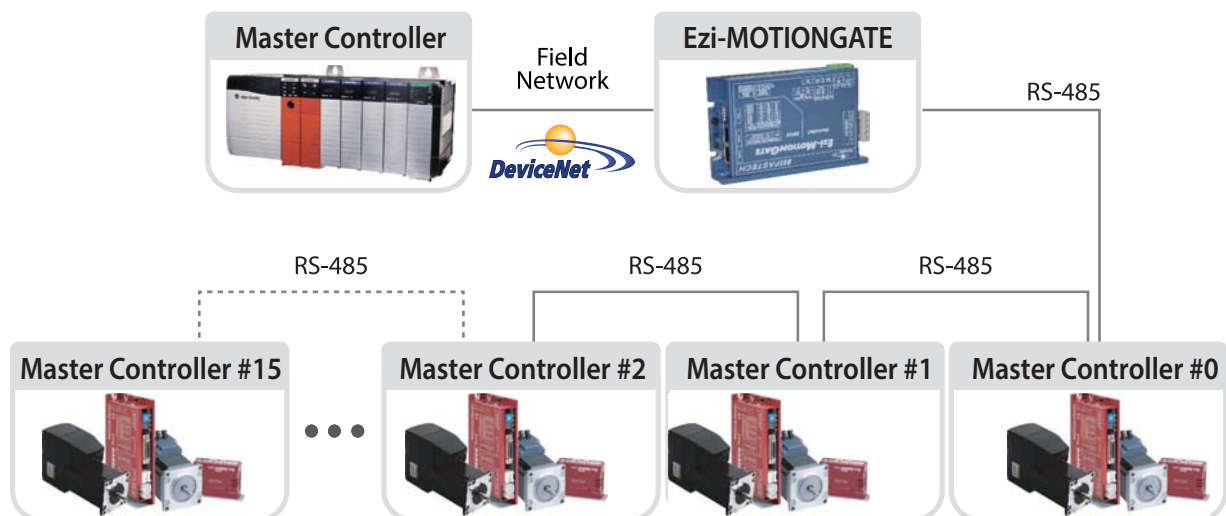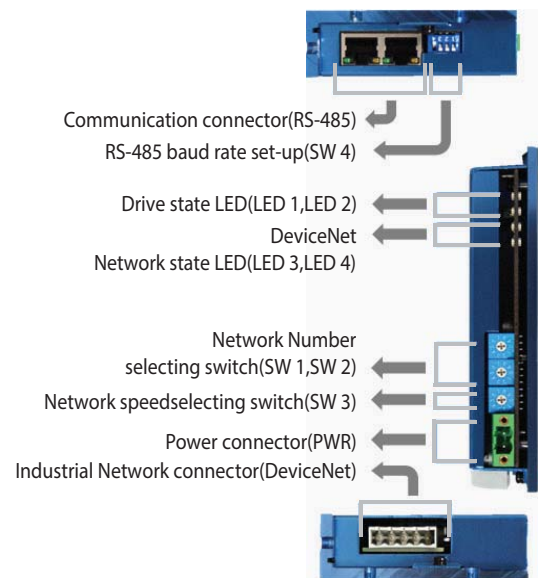
Ezi-MOTIONGATE Dimension(mm)

Specifications

Network Type	DeviceNet		
Network Speed	125kbps / 150kbps / 500kbps		
Network Node type	Slave device station		
Maximum Axis	16 Axis		
Occupation station(Output/Input)	128 byte / 128 byte(64 word / 64 word)		
Maximum MOTIONGATE(DeviceNet)	63 Gateway		
Operating Condition	Temperature	· In Use : 0 ~ 55°C · In Storage : -20 ~ 70°C	
	Humidity	· In Use : 35 ~ 85% RH(Non-condensing) · In Storage : -10 ~ 90% RH(Non-condensing)	
	Vib. Resist.	0.5G	
Function	Select Switch	Set network station No., Set network Baud-Rate	
	LED Display	LED display based on industrial network standard as check network status, abnormal connection with master, Servo on status of drive, alarm generation status of drive	
Special Function	Jog Control	4-Speed Step, Speed Ratio	
	Step Move Control	4-Step Distance	
	Communication Function	Ezi-STEP Plus-R Series Ezi-SERVO Plus-R Series	

Communication connector(RS-485)
RS-485 baud rate set-up(SW 4)

Drive state LED(LED 1,LED 2)
DeviceNet
Network state LED(LED 3,LED 4)

Network Number selecting switch(SW 1,SW 2)
Network speedselecting switch(SW 3)
Power connector(PWR)
Industrial Network connector(DeviceNet)

FASTECH

Fast, Accurate, Smooth Motion

FASTECH Co., Ltd.

Rm#1202, 401-dong, Bucheon Techno-Park,
655, Pyeongcheon-ro, Bucheon-si Gyeonggi-do,
Republic of Korea (Zip:14502)
TEL : +82-32-234-6300 FAX : +82-32-234-6302
E-mail : fastech@fastech.co.kr
Homepage : www.fastech.co.kr