

- FIBER SENSORS
- LASER SENSORS
- PHOTO-ELECTRIC SENSORS
- MICRO PHOTO-ELECTRIC SENSORS
- AREA SENSORS
- SAFETY LIGHT CURTAINS / SAFETY COMPONENTS
- PRESSURE / FLOW SENSORS
- INDUCTIVE PROXIMITY SENSORS
- PARTICULAR USE SENSORS
- SENSOR OPTIONS
- SIMPLE WIRE-SAVING UNITS
- WIRE-SAVING SYSTEMS
- MEASUREMENT SENSORS
- STATIC CONTROL DEVICES
- LASER MARKERS
- PLC
- HUMAN MACHINE INTERFACES
- ENERGY MANAGEMENT SOLUTIONS
- FA COMPONENTS
- MACHINE VISION SYSTEMS
- UV CURING SYSTEMS
- Applications
- PLC
- Software
- Program Transfer
- Others
- FP7
- FP-X0
- FP0R
- FPΣ
- FP-X
- FP2SH
- FP-e

FPΣ	Control units
	<ul style="list-style-type: none"> <li>● C32 control unit (NPN transistor output) <b>AFP0R2543H (FPG-C32TH)</b></li> <li>● C32 control unit (NPN transistor output) Left-side expansion type, built-in linear interpolation and circular interpolation functions <b>AFP0R2643H (FPG-C32T2H)</b></li> <li>● C32 control unit (NPN transistor output) With thermistor input <b>AFP0R2543HTM (FPG-C32THTM)</b></li> <li>● C32 control unit (NPN transistor output) Left-side expansion type, built-in linear interpolation and circular interpolation functions, with thermistor input <b>AFP0R2643HTM (FPG-C32T2HTM)</b></li> </ul>
	<ul style="list-style-type: none"> <li>● C24 control unit (Relay output) Left-side expansion type, with thermistor input <b>AFP0R2423HTM (FPG-C24R2HTM)</b></li> <li>● C24 control unit (Relay output) Left-side expansion type <b>AFP0R2423H (FPG-C24R2H)</b></li> </ul>
	<ul style="list-style-type: none"> <li>● C28 control unit (PNP transistor output) Left-side expansion type, built-in linear interpolation and circular interpolation functions <b>AFP0R2653H (FPG-C28P2H)</b></li> <li>● C28 control unit (PNP transistor output) Left-side expansion type, built-in linear interpolation and circular interpolation functions, with thermistor input <b>AFP0R2653HTM (FPG-C28P2HTM)</b></li> </ul>

Left-side expansion possible up to 4 units

FP0R	Control units
<b>10 points</b>	Input: 6 points, Relay output: 4 points
Terminal block type	Molex connector type
<b>AFP0R10RS</b>	<b>AFP0R10RM</b>
<b>AFP0R10CRS (with RS-232C)</b>	<b>AFP0R10CRM (with RS-232C)</b>
<b>AFP0R10MRS (with RS-485)</b>	
<b>14 points</b>	Input: 8 points, Relay output: 6 points
Terminal block type	Molex connector type
<b>AFP0R14RS</b>	<b>AFP0R14RM</b>
<b>AFP0R14CRS (with RS-232C)</b>	<b>AFP0R14CRM (with RS-232C)</b>
<b>AFP0R14MRS (with RS-485)</b>	

Right-side expansion possible up to 3 units

Right-side expansion possible up to 3 units

FPΣ	Expansion units
	<ul style="list-style-type: none"> <li>● 64 points expansion I/O unit <b>AFP0R3467 (FPG-XY64D2T)</b> (NPN transistor output) <b>AFP0R3567 (FPG-XY64D2P)</b> (PNP transistor output)</li> </ul>
	<ul style="list-style-type: none"> <li>● Positioning unit                             <ul style="list-style-type: none"> <li>1 axis, Transistor output <b>AFP0R430 (FPG-PP11)</b></li> <li>1 axis, Line driver output <b>AFP0R432 (FPG-PP12)</b></li> <li>2 axes, Transistor output <b>AFP0R431 (FPG-PP21)</b></li> <li>2 axes, Line driver output <b>AFP0R433 (FPG-PP22)</b></li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>● Positioning unit RTEX                             <ul style="list-style-type: none"> <li>2-axis unit <b>AFP0R43610 (FPG-PN2AN)</b></li> <li>4-axis unit <b>AFP0R43620 (FPG-PN4AN)</b></li> <li>8-axis unit <b>AFP0R43630 (FPG-PN8AN)</b></li> </ul> </li> </ul>
	<ul style="list-style-type: none"> <li>● CC-Link slave unit <b>AFP0R7943 (FPG-CCLS)</b></li> </ul>

FP0R	Expansion units	
<b>8 points</b>	Input: 8 points	
MIL connector type	Terminal block type	Molex connector type
<b>AFP0R8X</b>	<b>AFP0R8RS</b>	<b>AFP0R8RM</b>
Relay output: 8 points	Transistor output: 8 points	
Terminal block type	MIL connector type	
<b>AFP0R8YRS</b>	<b>AFP0R8YT</b>	<b>AFP0R8YP</b>

Communication cassettes	
	<ul style="list-style-type: none"> <li>● RS-232C, 1 channel <b>AFP0R801 (FPG-COM1)</b></li> <li>● RS-485 (insulated), 1 channel <b>AFP0R803 (FPG-COM3)</b></li> </ul>
	<ul style="list-style-type: none"> <li>● RS-232C, 2 channels <b>AFP0R802 (FPG-COM2)</b></li> <li>● RS-232C, 1 channel RS-485 (insulated), 1 channel <b>AFP0R806 (FPG-COM4)</b></li> </ul>

FP0R	Intelligent units	
<b>Analog input unit</b> Input: 4 channels	<b>Analog input unit</b> Input: 8 channels	<b>Analog output unit</b> Output: 4 channels
Terminal block type	Terminal block type	Terminal block type
<b>AFP0RAD4</b>	<b>AFP0RAD8</b>	<b>AFP0RDA4</b>
<b>Analog I/O unit</b> Input: 2 channels, Output: 1 channel	<b>Analog I/O unit</b> Input: 4 channels, Output: 2 channels	<b>Thermocouple units</b>
Terminal block type	Terminal block type	4-ch
<b>AFP0RA21</b>	<b>AFP0RA42</b>	<b>AFP0420 (FP0-TC4)</b>
		8-ch
		<b>AFP0421 (FP0-TC8)</b>

FP memory loader	Others
	Data clear type <b>AFP8670</b>
	Data hold type <b>AFP8671</b>
	Note: FP memory loader will be discontinued at the end of September, 2019.

**16 points** Input: 8 points, Transistor output: 8 points

MIL connector type



- AFP0RC16T
- AFP0RC16P
- AFP0RC16CT (with RS-232C)
- AFP0RC16CP (with RS-232C)
- AFP0RC16MT (with RS-485)
- AFP0RC16MP (with RS-485)

**32 points** Input: 16 points, Transistor output: 16 points

MIL connector type



- AFP0RC32T
- AFP0RC32P
- AFP0RC32CT (with RS-232C)
- AFP0RC32CP (with RS-232C)
- AFP0RC32MT (with RS-485)
- AFP0RC32MP (with RS-485)



- AFP0RT32CT (with RS-232C)
- AFP0RT32CP (with RS-232C)
- AFP0RT32MT (with RS-485)
- AFP0RT32MP (with RS-485)

T type



- AFP0RF32CT (with RS-232C)
- AFP0RF32CP (with RS-232C)
- AFP0RF32MT (with RS-485)
- AFP0RF32MP (with RS-485)

F type

Expansion possible up to 3 units

Expansion FP0 adapter



AFPX-EFP0

**16 points**

Input: 16 points

MIL connector type



AFP0RE16X

Transistor output: 16 points

MIL connector type



AFP0RE16YT  
AFP0RE16YP

Input: 8 points, Transistor output: 8 points

MIL connector type



AFP0RE16T  
AFP0RE16P

**32 points**

Input: 16 points, Transistor output: 16 points

MIL connector type



AFP0RE32T  
AFP0RE32P

Input: 8 points, Relay output: 8 points

Terminal block type



AFP0RE16RS

Molex connector type



AFP0RE16RM

**Link and communication units**

I/O link unit



AFP0732 (FP0-IOL)

CC-Link slave unit



AFP07943 (FP0-CCLS)

FP WEBSERVER 2 unit



AFP0611 (FP-WEB2)

Note: AFP0732 will be discontinued at the end of September, 2019.

KS1 Signal converter

C-NET adapter S2 type

Adapter to link with a host computer With a 30 cm 11.811 in dedicated cable. No power supply required.



AFP15402



AKS1202

**FP-X**

**Control units**

Relay output

DC power supply

AFPX-C14RD

8 points input of 24 V DC  
6 points relay output of 2 A

AC power supply

AFPX-C14R

8 points input of 24 V DC  
6 points relay output of 2 A

Transistor output

DC power supply

AFPX-C14TD (NPN)

8 points input of 24 V DC  
0.5 A / 5 to 24 V DC  
Transistor output: 6 points

AC power supply

AFPX-C14T (NPN)

8 points input of 24 V DC  
0.5 A / 5 to 24 V DC  
Transistor output: 6 points

Program capacity: 16 k steps  
Potentiometer (volume) input: 2 points



DC power supply

AFPX-C30RD

16 points input of 24 V DC  
14 points relay output of 2 A

AC power supply

AFPX-C30R

16 points input of 24 V DC  
14 points relay output of 2 A

Program capacity: 32 k steps  
Potentiometer (volume) input: 2 points  
Equipped with a USB communication port



DC power supply

AFPX-C60RD

32 points input of 24 V DC  
28 points relay output of 2 A

AC power supply

AFPX-C60R

32 points input of 24 V DC  
28 points relay output of 2 A

Program capacity: 32 k steps  
Potentiometer (volume) input: 4 points  
Equipped with a USB communication port



DC power supply

AFPX-C60TD (NPN)

32 points input of 24 V DC  
0.5 A / 5 to 24 V DC  
Transistor output: 28 points

AC power supply

AFPX-C60T (NPN)

32 points input of 24 V DC  
0.5 A / 5 to 24 V DC  
Transistor output: 28 points



**FP-X**

**Expansion units**

Input

AFPX-E16X

16 points input of 24 V DC

Relay output

AFPX-E14YR

14 points relay output of 2 A

DC power supply

AFPX-E16R

8 points input of 24 V DC  
8 points relay output of 2 A

Remarks: Two or more units can't be connected serially because it can't supply the power to other units.



Transistor output

DC power supply

AFPX-E16T (NPN)

8 points input of 24 V DC  
0.5 A / 5 to 24 V DC (NPN)  
0.5 A / 24 V DC (PNP)  
Transistor output: 8 points

DC power supply

AFPX-E30RD

16 points input of 24 V DC  
14 points relay output of 2 A

AC power supply

AFPX-E30R

16 points input of 24 V DC  
14 points relay output of 2 A

Remarks: Possible to connect up to 8 units including E16 and Expansion FP0 adapter (AFPX-EFP0).



DC power supply

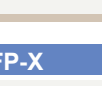
AFPX-E30TD (NPN)

16 points input of 24 V DC  
0.5 A / 5 to 24 V DC (NPN)  
0.5 A / 24 V DC (PNP)  
Transistor output: 14 points

AC power supply

AFPX-E30T (NPN)

16 points input of 24 V DC  
0.5 A / 5 to 24 V DC (NPN)  
0.5 A / 24 V DC (PNP)  
Transistor output: 14 points



**FP-X**

**Add-on cassettes**

Application cassettes

AFPX-IN4T3 I/O

AFPX-IN8 Input

AFPX-TR8 Output

AFPX-TR6P Output

AFPX-PLS (Note) Pulse I/O

AFPX-AD2 Analog input

AFPX-A21 Analog I/O

AFPX-DA2 Analog output, 2 channels

AFPX-TC2 Thermocouple input

AFPX-RTD2 R.T.D. input

AFPX-MRTC Master memory cassette with a real-time clock



Communication cassettes

AFPX-COM1 RS-232C, 1 channel

AFPX-COM2 RS-232C, 2 channels

AFPX-COM3 RS-485 (insulated) / RS-422 selectable, 1 channel

AFPX-COM4 RS-485 (insulated), 1 channel and RS-232C, 1 channel

AFPX-COM5 Ethernet, 1 channel + RS-232C, 1 channel

AFPX-COM6 RS-485 (insulated), 2 channels

Note: Cannot be used with a transistor output type control unit.

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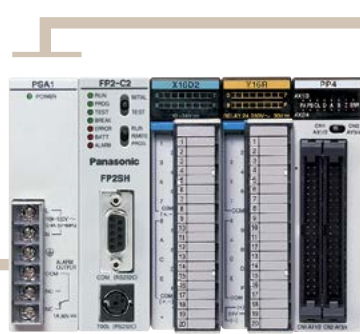
FPΣ

FP-X

FP2SH

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- SIMPLE WIRE-SAVING UNITS
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- MEASUREMENT SENSORS
- STATIC CONTROL DEVICES
- LASER MARKERS
- PLC
- HUMAN MACHINE INTERFACES
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## FP2SH

## Power supply units



100 V AC,  
2.5 A type  
**AFP2631**  
(FP2-PSA1)



200 V AC,  
2.5 A type  
**AFP2632**  
(FP2-PSA2)



100-240 V AC,  
5 A type  
**AFP2633**  
(FP2-PSA3)



24 V DC,  
5 A type  
**AFP2634**  
(FP2-PSD2)

## FP2SH

## Conventional type and H type backplanes

(For use with both master and expansion backplanes. Only the 5-module type can not be used with expansion backplane.)



5-module type  
**AFP25005** (FP2-BP05)



H type master backplanes  
(11 modules): 8 slots  
**AFP25011MH** (FP2-BP11MH)



7-module type  
**AFP25007** (FP2-BP07)



H type expansion backplanes  
(10 modules): 8 slots  
**AFP25010EH** (FP2-BP10EH)



9-module type  
**AFP25009** (FP2-BP09)



12-module type  
**AFP25012** (FP2-BP12)



14-module type  
**AFP25014** (FP2-BP14)

### Units that occupy two modules

There is a two-module type in the power supply and CPU units.

Type	Product No.
Power supply unit, 5 A type	<b>FP2-PSA3</b>
	<b>FP2-PSD2</b>



Expansion cable  
(60 cm 2.0 ft)  
**AFP2510**  
(FP2-EC)



Expansion cable  
(2 m 6.6 ft)  
**AFP2512**  
(FP2-EC2)



Dummy unit  
**AFP2300**  
(FP2-DM)

## FP2SH

## CPU units



32 k steps  
Standard type  
**AFP2221**  
(FP2-C2L)



60 k steps  
Standard type  
**AFP2231**  
(FP2-C2)



60 k steps  
For small PC card  
**AFP2235**  
(FP2-C2P)



120 k steps  
For small PC card  
**AFP2255**  
(FP2-C3P)

### Unit combinations

- Each unit is counted in the number of modules occupied. Most of the units occupy one module each. Some units occupy two modules each.
- Each unit is mounted on a backplane chosen depending on the total number of modules occupied by the all units used. The power supply unit and CPU unit must be mounted on the CPU backplane.
- Only one backplane other than the 5-module type can be added by using an expansion cable. Also, the 5-module type can not be used with expansion backplane. A power supply unit must be mounted on the expansion backplane.
- If the backplane is of the H type, up to three backplanes can be added.
- Most of the units can be used in any combination; however, some combinations are subject to constraints due to the unit type, current consumption, and other factors besides the above requirements. Please contact us for details.

**FP2SH**

**I/O units**



16 points DC input  
**AFP23023 (FP2-X16D2)**  
 16 points NPN transistor output  
**AFP23403 (FP2-Y16T)**  
 16 points PNP transistor output  
**AFP23503 (FP2-Y16P)**  
 6 points Relay output  
**AFP23101 (FP2-Y6R)**  
 16 points Relay output  
**AFP23103 (FP2-Y16R)**



32 points DC input  
**AFP23064 (FP2-X32D2)**  
 32 points NPN transistor output  
**AFP23404 (FP2-Y32T)**  
 32 points PNP transistor output  
**AFP23504 (FP2-Y32P)**



64 points DC input  
**AFP23067 (FP2-X64D2)**  
 64 points NPN transistor output  
**AFP23407 (FP2-Y64T)**  
 64 points PNP transistor output  
**AFP23507 (FP2-Y64P)**  
 32 points input / 32 points NPN output mixed  
**AFP23467 (FP2-XY64D2T)**  
**AFP23477 (FP2-XY64D7T)**  
 32 points input / 32 points PNP output mixed  
**AFP23567 (FP2-XY64D2P)**  
**AFP23577 (FP2-XY64D7P)**

**Analog I/O units**



Voltage / Current input  
**AFP2400L (FP2-AD8VI)**



Multiple analog input  
**AFP2401 (FP2-AD8X)**



R.T.D. input  
**AFP2402 (FP2-RTD)**



Analog output  
**AFP2410 (FP2-DA4)**

**Positioning units RTEX**



(2 axes) **AFP243610 (FP2-PN2AN)**



(4 axes) **AFP243620 (FP2-PN4AN)**



(8 axes) **AFP243630 (FP2-PN8AN)**

**Positioning units**



(2 axes) **AFP2432 (FP2-PP21)**



(4 axes) **AFP2433 (FP2-PP41)**

**FP2SH**

**Optional memories**



Expansion memory unit  
**AFP2208**



IC memory card (2 MB)  
**AFP2209**

**FP memory loader**



Data clear type  
**AFP8670**

Data hold type  
**AFP8671**

\* FP memory loader will be discontinued at the end of September, 2019.

**Positioning units interpolation type**



(2 axes) **AFP243710 (FP2-PP2T)**  
**AFP243711 (FP2-PP2L)**



(4 axes) **AFP243720 (FP2-PP4T)**  
**AFP243721 (FP2-PP4L)**

**Pulse I/O units**



High-speed counter  
**AFP2441 (FP2-HSCT)**



Pulse I/O  
**AFP2451 (FP2-HSCP)**  
**AFP2442 (FP2-PXYT)**  
**AFP2452 (FP2-PXYP)**

**Multi-communication unit**



Multi-communication  
**AFP2465 (FP2-MCU)**  
 \* The communication blocks are available separately.

**Link-related units**



Multi-wire link  
**AFP2720 (FP2-MW)**



Remote I/O slave unit  
**AFP2745 (FP2-RMS)**

**Link-related units**



**VE-LINK**  
**AFP279601 (FP2-VE2)**



**ET-LAN2**  
**AFP27901 (FP2-ET2)**



**S-LINK V**  
**SL-VFP2**

**FP2SH**

**AC servomotor MINAS series**



\* Panasonic Corporation Motor business unit

**FP2SH**

**Motor driver I/F terminal II**



**AFP8503**

1-axis type



**AFP8504**

2-axis type

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FPΣ

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FP-e



## FP-e \* The FP-e will be discontinued at the end of September, 2019 (except for ATC18002, ATA4811, AQM4803, AFP0806)

### Control units

Product name	Specifications	Calendar timer	Thermocouple input	Communication port	Product No.	Part No.
FP-e control unit	RS-232C basic type	Not available	Not available	RS-232C	<b>AFPE224300</b>	<b>AFPE224300</b>
	RS-232C calendar timer type	Available	Not available	RS-232C	<b>AFPE224305</b>	<b>AFPE224305</b>
	RS-232C thermocouple input type	Available	Available	RS-232C	<b>AFPE214325</b>	<b>AFPE214325</b>
	RS-485 basic type	Not available	Not available	RS-485	<b>AFPE224302</b>	<b>AFPE224302</b>
	RS-485 thermocouple input type	Not available	Available	RS-485	<b>AFPE214322</b>	<b>AFPE214322</b>

### Options

Product name	Part No.	Product name	Part No.
Backup battery	<b>AFPG804</b>	Protective cover	<b>AQM4803</b>
Rubber gasket	<b>ATC18002</b>	Terminal screwdriver	<b>AFP0806</b>
Mounting frame	<b>ATA4811</b>	Terminal socket set (4 terminal blocks)	<b>AFPE804</b>
Panel cover (Black) 20 pcs	<b>AFPE803</b>		

## FP0R

### Control units

Product name	Built-in memory (Program capacity)	Specifications					Part No.	
		Number of I/O points	Power supply voltage	Input	Output	Connection method		
FP0R-C10 control unit	Flash EEPROM (16 k steps)	10	Input: 6 Output: 4	24 V DC	24 V DC Sink / Source (± common)	Relay: 2 A	Terminal block	<b>AFP0RC10RS</b>
							Molex connector	<b>AFP0RC10RM</b>
FP0R-C10 control unit with RS-232C port	Flash EEPROM (16 k steps)	10	Input: 6 Output: 4	24 V DC	24 V DC Sink / Source (± common)	Relay: 2 A	Terminal block	<b>AFP0RC10CRS</b>
							Molex connector	<b>AFP0RC10CRM</b>
FP0R-C10 control unit with RS-485 port	Flash EEPROM (16 k steps)	10	Input: 6 Output: 4	24 V DC	24 V DC Sink / Source (± common)	Relay: 2 A	Terminal block	<b>AFP0RC10MRS</b>
FP0R-C14 control unit	Flash EEPROM (16 k steps)	14	Input: 8 Output: 6	24 V DC	24 V DC Sink / Source (± common)	Relay: 2 A	Terminal block	<b>AFP0RC14RS</b>
							Molex connector	<b>AFP0RC14RM</b>
FP0R-C14 control unit with RS-232C port	Flash EEPROM (16 k steps)	14	Input: 8 Output: 6	24 V DC	24 V DC Sink / Source (± common)	Relay: 2 A	Terminal block	<b>AFP0RC14CRS</b>
							Molex connector	<b>AFP0RC14CRM</b>
FP0R-C14 control unit with RS-485 port	Flash EEPROM (16 k steps)	14	Input: 8 Output: 6	24 V DC	24 V DC Sink / Source (± common)	Relay: 2 A	Terminal block	<b>AFP0RC14MRS</b>
FP0R-C16 control unit	Flash EEPROM (16 k steps)	16	Input: 8 Output: 8	24 V DC	24 V DC Sink / Source (± common)	NPN transistor: 0.2 A PNP transistor: 0.2 A	MIL connector	<b>AFP0RC16T</b>
								<b>AFP0RC16P</b>
FP0R-C16 control unit with RS-232C port	Flash EEPROM (16 k steps)	16	Input: 8 Output: 8	24 V DC	24 V DC Sink / Source (± common)	NPN transistor: 0.2 A PNP transistor: 0.2 A	MIL connector	<b>AFP0RC16CT</b>
								<b>AFP0RC16CP</b>
FP0R-C16 control unit with RS-485 port	Flash EEPROM (16 k steps)	16	Input: 8 Output: 8	24 V DC	24 V DC Sink / Source (± common)	NPN transistor: 0.2 A PNP transistor: 0.2 A	MIL connector	<b>AFP0RC16MT</b>
								<b>AFP0RC16MP</b>
FP0R-C32 control unit	Flash EEPROM (32 k steps)	32	Input: 16 Output: 16	24 V DC	24 V DC Sink / Source (± common)	NPN transistor: 0.2 A PNP transistor: 0.2 A	MIL connector	<b>AFP0RC32T</b>
								<b>AFP0RC32P</b>
FP0R-C32 control unit with RS-232C port	Flash EEPROM (32 k steps)	32	Input: 16 Output: 16	24 V DC	24 V DC Sink / Source (± common)	NPN transistor: 0.2 A PNP transistor: 0.2 A	MIL connector	<b>AFP0RC32CT</b>
								<b>AFP0RC32CP</b>
FP0R-C32 control unit with RS-485 port	Flash EEPROM (32 k steps)	32	Input: 16 Output: 16	24 V DC	24 V DC Sink / Source (± common)	NPN transistor: 0.2 A PNP transistor: 0.2 A	MIL connector	<b>AFP0RC32MT</b>
								<b>AFP0RC32MP</b>
FP0R-T32 control unit with RS-232C port and real-time clock function	Flash EEPROM (32 k steps)	32	Input: 16 Output: 16	24 V DC	24 V DC Sink / Source (± common)	NPN transistor: 0.2 A PNP transistor: 0.2 A	MIL connector	<b>AFP0RT32CT</b>
								<b>AFP0RT32CP</b>
FP0R-T32 control unit with RS-485 port and real-time clock function	Flash EEPROM (32 k steps)	32	Input: 16 Output: 16	24 V DC	24 V DC Sink / Source (± common)	NPN transistor: 0.2 A PNP transistor: 0.2 A	MIL connector	<b>AFP0RT32MT</b>
								<b>AFP0RT32MP</b>
FP0R-F32 control unit with RS-232C port and battery-less automatic all data backup function	Flash EEPROM (32 k steps)	32	Input: 16 Output: 16	24 V DC	24 V DC Sink / Source (± common)	NPN transistor: 0.2 A PNP transistor: 0.2 A	MIL connector	<b>AFP0RF32CT</b>
								<b>AFP0RF32CP</b>
FP0R-F32 control unit with RS-485 port and battery-less automatic all data backup function	Flash EEPROM (32 k steps)	32	Input: 16 Output: 16	24 V DC	24 V DC Sink / Source (± common)	NPN transistor: 0.2 A PNP transistor: 0.2 A	MIL connector	<b>AFP0RF32MT</b>
								<b>AFP0RF32MP</b>

Note: A power cable (Part number: **AFPG805**) is supplied with the control units.

## FPΣ

## Control units

Product name	Built-in memory (Program capacity)	Specifications	Product No.	Part No.
FPΣ C32 control unit	Flash EEPROM (32 k steps)	Input 16 points DC, transistor output (NPN) 16 points I/O control points when expanded: 128 points max.	FPG-C32TH	AFPG2543H
FPΣ C32 left-side expansion type control unit	Flash EEPROM (32 k steps)	Input 16 points DC, transistor output (NPN) 16 points I/O control points when expanded: 384 points max. Built-in linear interpolation and circular interpolation functions	FPG-C32T2H	AFPG2643H
FPΣ C24 left-side expansion type control unit	Flash EEPROM (32 k steps)	Input 16 points DC, relay output 8 points I/O control points when expanded: 376 points max. (transistor output)	FPG-C24R2H	AFPG2423H
FPΣ C28 left-side expansion type control unit (PNP)	Flash EEPROM (32 k steps)	Input 16 points DC, transistor output (PNP) 12 points I/O control points when expanded: 380 points max. Built-in linear interpolation and circular interpolation functions	FPG-C28P2H	AFPG2653H
FPΣ C32 control unit with thermistor input	Flash EEPROM (32 k steps)	Input 16 points DC, transistor output (NPN) 16 points I/O control points when expanded: 128 points max.	FPG-C32THTM	AFPG2543HTM
FPΣ C32 left-side expansion type control unit with thermistor input	Flash EEPROM (32 k steps)	Input 16 points DC, transistor output (NPN) 16 points I/O control points when expanded: 384 points max. Built-in linear interpolation and circular interpolation functions	FPG-C32T2HTM	AFPG2643HTM
FPΣ C24 left-side expansion type control unit with thermistor input	Flash EEPROM (32 k steps)	Input 16 points DC, relay output 8 points I/O control points when expanded: 376 points max. (transistor output)	FPG-C24R2HTM	AFPG2423HTM
FPΣ C28 left-side expansion type control unit (PNP) with thermistor input	Flash EEPROM (32 k steps)	Input 16 points DC, transistor output (PNP) 12 points I/O control points when expanded: 380 points max. Built-in linear interpolation and circular interpolation functions	FPG-C28P2HTM	AFPG2653HTM

\* Thermistors with a resistance from 200 Ω to 75 kΩ can be used.

## Expansion I/O units for FPΣ and FP0R (right-side expansion types)

Product name	Specifications	Part No.
FP0R-E8 expansion unit	Input 8 points DC, MIL connector type	AFP0RE8X
	Input 4 points DC, relay output 4 points, terminal block type	AFP0RE8RS
	Input 4 points DC, relay output 4 points, connector type	AFP0RE8RM
	Relay output 8 points, terminal block type	AFP0RE8YRS
	Transistor output (NPN) 8 points, MIL connector type	AFP0RE8YT
	Transistor output (PNP) 8 points, MIL connector type	AFP0RE8YP
FP0R-E16 expansion unit	Input 16 points DC, MIL connector type	AFP0RE16X
	Input 8 points DC, relay output 8 points, terminal block type	AFP0RE16RS
	Input 8 points DC, relay output 8 points, connector type	AFP0RE16RM
	Input 8 points DC, transistor output (NPN) 8 points, MIL connector type	AFP0RE16T
	Input 8 points DC, transistor output (PNP) 8 points, MIL connector type	AFP0RE16P
	Transistor output (NPN) 16 points, MIL connector type	AFP0RE16YT
FP0R-E32 expansion unit	Transistor output (PNP) 16 points, MIL connector type	AFP0RE16YP
	Input 16 points DC, transistor output (NPN) 16 points, MIL connector type	AFP0RE32T
	Input 16 points DC, transistor output (PNP) 16 points, MIL connector type	AFP0RE32P

FIBER  
SENSORSLASER  
SENSORSPHOTO-  
ELECTRIC  
SENSORSMICRO  
PHOTO-  
ELECTRIC  
SENSORSAREA  
SENSORSSAFETY LIGHT  
CURTAINS/  
SAFETY  
COMPONENTSPRESSURE /  
FLOW  
SENSORSINDUCTIVE  
PROXIMITY  
SENSORSPARTICULAR  
USE  
SENSORSSENSOR  
OPTIONSSIMPLE  
WIRE-SAVING  
UNITSWIRE-SAVING  
SYSTEMSMEASURE-  
MENT  
SENSORSSTATIC  
CONTROL  
DEVICESLASER  
MARKERS

PLC

HUMAN  
MACHINE  
INTERFACESENERGY  
MANAGEMENT  
SOLUTIONSFA  
COMPONENTSMACHINE  
VISION  
SYSTEMSUV  
CURING  
SYSTEMS

Applications

PLC

Software

Program  
Transfer

Others

FP7

FP-X0

FP0R

FPΣ

FP-X

FP2SH

FP-e

## FPΣ

## Intelligent units for FPΣ and FP0R (right-side expansion types)

Product name	Specifications	Product No.	Part No.
FP0R analog input unit	<Input specifications> Number or channels: 4 channels Voltage: -10 to +10 V, -5 to +5 V, 0 to +10 V, 0 to +5 V (Resolution: 1/16,000) Current: 0 to 20 mA (Resolution: 1/16,000)	—	AFP0RAD4
FP0R analog input unit	<Input specifications> Number or channels: 8 channels Voltage: -10 to +10 V, -5 to +5 V, 0 to +10 V, 0 to +5 V (Resolution: 1/16,000) Current: 0 to 20 mA (Resolution: 1/16,000)	—	AFP0RAD8
FP0R analog I/O unit	<Input specifications> Number or channels: 2 channels Voltage: -10 to +10 V, -5 to +5 V, 0 to +10 V, 0 to +5 V (Resolution: 1/16,000) Current: 0 to 20 mA (Resolution: 1/16,000)	—	AFP0RA21
	<Output specifications> Number or channels: 1 channel Voltage: -10 to +10 V, -5 to +5 V, 0 to +10 V, 0 to +5 V (Resolution: 1/16,000) Current: 0 to 20 mA, 4 to 20 mA (Resolution: 1/16,000)		
FP0R analog I/O unit	<Input specifications> Number or channels: 4 channels Voltage: -10 to +10 V, -5 to +5 V, 0 to +10 V, 0 to +5 V (Resolution: 1/16,000) Current: 0 to 20 mA (Resolution: 1/16,000)	—	AFP0RA42
	<Output specifications> Number or channels: 2 channels Voltage: -10 to +10 V, -5 to +5 V, 0 to +10 V, 0 to +5 V (Resolution: 1/16,000) Current: 0 to 20 mA, 4 to 20 mA (Resolution: 1/16,000)		
FP0R analog output unit	<Output specifications> Number or channels: 4 channels Voltage: -10 to +10 V, -5 to +5 V, 0 to +10 V, 0 to +5 V (Resolution: 1/16,000) Current: 0 to 20 mA, 4 to 20 mA (Resolution: 1/16,000)	—	AFP0RDA4
FP0 thermocouple unit	K, J, T, R thermocouple, Resolution: 0.1 °C, 4-ch	FP0-TC4	AFP0420
	K, J, T, R thermocouple, Resolution: 0.1 °C, 8-ch	FP0-TC8	AFP0421
FP WEB-SERVER2	Unit for connecting FP series RS-232C interface and Ethernet Web-server function and E-mail sending function, compatible with 100BASE-TX (100 Mbps).	FP0-WEB2	AFP0611
Control FP WEB configurator tool 2	Setting tool software for FP WEB-server 2	Japanese version	AFPS30120
		English version	AFPS30520
FP0 I/O link unit (Note)	This is a link unit designed to connect FP0 as a station to MEWNET-F (our remote I/O system).	FP0-IOL	AFP0732
FP0 CC-Link slave unit	Unit to connect to FP0 CC-link	FP0-CCLS	AFP07943
KS1 signal converter	RS-232C / RS-485 data can be easily monitored by LAN.	—	AKS1202

Note: It will be discontinued at the end of September, 2019.

## Expansion units for FPΣ (left-side expansion type)

Product name	Specifications	Product No.	Part No.
FPΣ 64 points expansion I/O unit	Input 32 points DC, transistor output (NPN) 32 points, maximum possible expansion is with a total of 4 units to the left side of the FPΣ control units	FPG-XY64D2T	AFPG3467
	Input 32 points DC, transistor output (PNP) 32 points, maximum possible expansion is with a total of 4 units to the left side of the FPΣ control units	FPG-XY64D2P	AFPG3567

## Intelligent units for FPΣ (left-side expansion types)

Product name	Specifications	Product No.	Part No.
FPΣ positioning unit	Pulse output type	1 axis, transistor output	FPG-PP11
FPΣ positioning unit	Pulse output type	1 axis, line driver output	FPG-PP12
FPΣ positioning unit	Pulse output type	2 axes, transistor output	FPG-PP21
FPΣ positioning unit	Pulse output type	2 axes, line driver output	FPG-PP22
FPΣ positioning unit RTEX	Network type	2-axis type	FPG-PN2AN
FPΣ positioning unit RTEX	Network type	4-axis type	FPG-PN4AN
FPΣ positioning unit RTEX	Network type	8-axis type	FPG-PN8AN
Control configurator PM	Dedicated tool software for positioning unit RTEX, Japanese version		—
	Dedicated tool software for positioning unit RTEX, English version		—
FPΣ CC-Link slave unit	Unit to connect to CC-Link		FPG-CCLS

## Communication cassettes

Product name	Specifications	Product No.	Part No.
FPΣ communication cassette 1 channel, RS-232C type	Cassette for control unit installation. Enables communications with devices with RS-232C interface.	FPG-COM1	AFPG801
FPΣ communication cassette 2 channels, RS-232C type	Cassette for control unit installation. Enables communications with devices with RS-232C interface.	FPG-COM2	AFPG802
FPΣ communication cassette 1 channel, RS-485 type	Cassette for control unit installation. PLC linking between FPΣs or communication with devices with RS-485 interface possible.	FPG-COM3	AFPG803
FPΣ communication cassette 1 channel, RS-232C and 1 channel, RS-485 type	Cassette for control unit installation. Enables communications with devices with RS-232C interface and RS-485 interface.	FPG-COM4	AFPG806

## Options for FP0 and FPΣ

## C-NET

Product name	Specifications	Part No.
For connection with a PLC (with cable)	C-NET adapter S2 type Connects <b>FP0</b> to C-NET. Connects the <b>FP0</b> programmer with the supplied cable. Requires no power supply	<b>AFP15402</b>

## Options and maintenance parts

Product name	Specifications	Part No.	
Backup battery for <b>FPΣ</b>	Battery for full-time back up of operation memory and clock / calendar function	<b>AFPG804</b>	
<b>FPΣ</b> high capacity battery holder	Battery does not come with battery holder. Purchase a commercially available CR123A battery.	<b>AFPG807</b>	
<b>FP0</b> slim 30 type mounting plate	Plastic plate to mount <b>FPΣ</b> units and <b>FPΣ</b> expansion units on a panel (including 10 pieces)	<b>AFP0811</b>	
<b>FP0</b> slim type mounting plate	Plastic plate to mount <b>FP0</b> expansion units on a panel (including 10 pieces)	<b>AFP0803</b>	
Power cable for <b>FP0</b>	Included with <b>FP0</b> unit. Maintenance part. 1 m <b>3.281 ft</b> length (including 1 piece)	<b>AFP0581</b>	
Power cable for <b>FPΣ</b>	Included with control unit. Maintenance part. 1 m <b>3.281 ft</b> length	<b>AFPG805</b>	
<b>FP</b> memory loader (Note)	Data clear type	<b>AFP8670</b>	
	Data hold type	<b>AFP8671</b>	
Terminal screwdriver	Relay output type. Necessary when wiring terminals block (Phoenix).	<b>AFP0806</b>	
Multi-wire connector pressure contact tool	Necessary when wiring transistor output type connectors.	<b>AXY52000FP</b>	
I/O cable for relay output molex type	Loose-wiring cable (9 leads) AWG20, with Molex socket attached at one end, 0.5 mm <sup>2</sup> , 1 set: 2 cables (blue & white).	Length: 1 m <b>3.281 ft</b>	<b>AFP0551</b>
		Length: 3 m <b>9.845 ft</b>	<b>AFP0553</b>
I/O cable for transistor output type	Wire-pressed terminal cable (10 leads) AWG22, 0.3 mm <sup>2</sup> with connectors attached at one end, 1 set: 2 cables (blue & white).	Length: 1 m <b>3.281 ft</b>	<b>AFP0521</b>
		Length: 3 m <b>9.845 ft</b>	<b>AFP0523</b>
Connector set for flat cable (10 leads)	If you are using flat cable connector, request the part specified below for a connector with an asymmetrical design to prevent mistaken polarity. (including 4 pieces)	<b>AFP0808</b>	
Terminal socket	Attaches to relay output and terminal block type. Maintenance part. (2 sockets per pack)	<b>AFP0802</b>	
Molex socket	Attaches to relay output and Molex connector types. Maintenance part. (2 sockets per pack)	<b>AFP0801</b>	
Wire-press socket (10 leads)	Attaches to transistor output type. Maintenance part. (2 sockets per pack)	<b>AFP0807</b>	

Note: **FP** memory loader will be discontinued at the end of September, 2019.

## Motor driver I/F terminal II

Product name	Specifications	Part No.
Motor driver I/F terminal II 1-axis type	I/F terminal for connecting the MINAS series and <b>FPΣ</b> positioning unit / <b>FP2</b> multi function type positioning unit.	<b>AFP8503</b>
Motor driver I/F terminal II 2-axis type		<b>AFP8504</b>
Exclusive cable for MINAS A4 / A5 series, 1 m <b>3.281 ft</b>	Cable for connecting the MINAS A4 / A5 series and motor driver I/F terminal II.	<b>AFP85151</b>
Exclusive cable for MINAS A4 / A5 series, 2 m <b>6.562 ft</b>		<b>AFP85152</b>
Connection cable for positioning unit, 0.5 m <b>1.640 ft</b>		<b>AFP85100</b>
Connection cable for positioning unit, 1 m <b>3.281 ft</b>	Cable for connecting the <b>FPΣ</b> positioning unit / <b>FP2</b> multi function type positioning unit and motor driver I/F terminal II.	<b>AFP85101</b>

## FP-X

## Control Units

Product name	Power supply	Specifications	Program capacity	Potentiometer	USB port	Part No.	
Relay output	<b>FP-X C14R</b>	100-240 V AC	8-point input of 24 V DC, 6-point relay output of 2 A	16 k steps	2-point	Not available	<b>AFPX-C14R</b>
	<b>FP-X C14RD</b>	24 V DC	8-point input of 24 V DC, 6-point relay output of 2 A	16 k steps	2-point	Not available	<b>AFPX-C14RD</b>
	<b>FP-X C30R</b>	100-240 V AC	16-point input of 24 V DC, 14-point relay output of 2 A	32 k steps	2-point	Available	<b>AFPX-C30R</b>
	<b>FP-X C30RD</b>	24 V DC	16-point input of 24 V DC, 14-point relay output of 2 A	32 k steps	2-point	Available	<b>AFPX-C30RD</b>
	<b>FP-X C60R</b>	100-240 V AC	32-point input of 24 V DC, 28-point relay output of 2 A	32 k steps	4-point	Available	<b>AFPX-C60R</b>
	<b>FP-X C60RD</b>	24 V DC	32-point input of 24 V DC, 28-point relay output of 2 A	32 k steps	4-point	Available	<b>AFPX-C60RD</b>
Transistor output	<b>FP-X C14T</b>	100-240 V AC	8-point input of 24 V DC, 0.5 A / 5 to 24 V DC, 6-point output of transistor (NPN)	16 k steps	2-point	Not available	<b>AFPX-C14T</b>
	<b>FP-X C14TD</b>	24 V DC	8-point input of 24 V DC, 0.5 A / 5 to 24 V DC, 6-point output of transistor (NPN)	16 k steps	2-point	Not available	<b>AFPX-C14TD</b>
	<b>FP-X C14P</b>	100-240 V AC	8-point input of 24 V DC, 0.5 A / 24 V DC, 6-point output of transistor (PNP)	16 k steps	2-point	Not available	<b>AFPX-C14P</b>
	<b>FP-X C14PD</b>	24 V DC	8-point input of 24 V DC, 0.5 A / 24 V DC, 6-point output of transistor (PNP)	16 k steps	2-point	Not available	<b>AFPX-C14PD</b>
	<b>FP-X C30T</b>	100-240 V AC	16-point input of 24 V DC, 0.5 A / 5 to 24 V DC, 14-point output of transistor (NPN)	32 k steps	2-point	Available	<b>AFPX-C30T</b>
	<b>FP-X C30TD</b>	24 V DC	16-point input of 24 V DC, 0.5 A / 5 to 24 V DC, 14-point output of transistor (NPN)	32 k steps	2-point	Available	<b>AFPX-C30TD</b>
	<b>FP-X C30P</b>	100-240 V AC	16-point input of 24 V DC, 0.5 A / 24 V DC, 14-point output of transistor (PNP)	32 k steps	2-point	Available	<b>AFPX-C30P</b>
	<b>FP-X C30PD</b>	24 V DC	16-point input of 24 V DC, 0.5 A / 24 V DC, 14-point output of transistor (PNP)	32 k steps	2-point	Available	<b>AFPX-C30PD</b>
	<b>FP-X C60T</b>	100-240 V AC	32-point input of 24 V DC, 0.5 A / 5 to 24 V DC, 28-point output of transistor (NPN)	32 k steps	4-point	Available	<b>AFPX-C60T</b>
	<b>FP-X C60TD</b>	24 V DC	32-point input of 24 V DC, 0.5 A / 5 to 24 V DC, 28-point output of transistor (NPN)	32 k steps	4-point	Available	<b>AFPX-C60TD</b>
	<b>FP-X C60P</b>	100-240 V AC	32-point input of 24 V DC, 0.5 A / 24 V DC, 28-point output of transistor (PNP)	32 k steps	4-point	Available	<b>AFPX-C60P</b>
	<b>FP-X C60PD</b>	24 V DC	32-point input of 24 V DC, 0.5 A / 24 V DC, 28-point output of transistor (PNP)	32 k steps	4-point	Available	<b>AFPX-C60PD</b>

Note: The 24 V DC inputs of all units are bi-directional (sink/source) inputs.

FIBER

SENSORS

LASER

SENSORS

PHOTO-

ELECTRIC

SENSORS

MICRO

PHOTO-

ELECTRIC

SENSORS

AREA

SENSORS

SAFETY LIGHT

CURTAINS /

SAFETY

COMPONENTS

PRESSURE /

FLOW

SENSORS

INDUCTIVE

PROXIMITY

SENSORS

PARTICULAR

USE

SENSORS

SENSOR

OPTIONS

SIMPLE

WIRE-SAVING

UNITS

WIRE-SAVING

SYSTEMS

MEASURE-

MENT

SENSORS

STATIC

CONTROL

DEVICES

LASER

MARKERS

PLC

HUMAN

MACHINE

INTERFACES

ENERGY

MANAGEMENT

SOLUTIONS

FA

COMPONENTS

MACHINE

VISION

SYSTEMS

UV

CURING

SYSTEMS

Applications

PLC

Software

Program

Transfer

Others

FP7

FP-X0

FP0R

FPΣ

FP-X

FP2SH

FP-e



## FP-X

### Expansion units

Product name		Power supply	Specifications	Part No.	
Input	<b>FP-X E16X</b> expansion input unit	(Power is supplied from the left-side unit.)	16-point input of 24 V DC	<b>AFPX-E16X</b>	
	<b>FP-X 14YR</b> expansion output unit	(Power is supplied from the left-side unit.)	14-point output of 24 V DC	<b>AFPX-E14YR</b>	
Relay output	<b>FP-X E16R</b> expansion I/O unit	(Power is supplied from the left-side unit.)	8-point input of 24 V DC, 8-point relay output of 2 A Remarks; Two or more units can't be connected serially because it can't supply the power to other units. With an 8 cm <b>3.15 in</b> extension cable	<b>AFPX-E16R</b>	
	<b>FP-X E30R</b> expansion I/O unit	100-240 V AC	16-point input of 24 V DC, 14-point relay output of 2 A Remarks; Possible to connect up to 8 units including <b>E16</b> and <b>AFPX-EFP0</b> . With an 8 cm <b>3.15 in</b> extension cable	<b>AFPX-E30R</b>	
	<b>FP-X E30RD</b> expansion I/O unit	24 V DC	16-point input of 24 V DC, 14-point relay output of 2 A Remarks; Possible to connect up to 8 units including <b>E16</b> and <b>AFPX-EFP0</b> . With an 8 cm <b>3.15 in</b> extension cable	<b>AFPX-E30RD</b>	
Transistor output	Input and output	<b>FP-X E16T</b> expansion I/O unit	(Power is supplied from the left-side unit.) 8-point input of 24 V DC, 0.5 A / 5 to 24 V DC, 8-point output of transistor (NPN) Remarks; Two or more units can't be connected serially because it can't supply the power to other units. With an 8 cm <b>3.15 in</b> extension cable	<b>AFPX-E16T</b>	
		<b>FP-X E16P</b> expansion I/O unit	(Power is supplied from the left-side unit.) 8-point input of 24 V DC, 0.5 A / 24 V DC, 8-point output of transistor (PNP) Remarks; Two or more units can't be connected serially because it can't supply the power to other units. With an 8 cm <b>3.15 in</b> extension cable	<b>AFPX-E16P</b>	
	Input and output	<b>FP-X E30TD</b> expansion I/O unit	24 V DC	16-point input of 24 V DC, 0.5 A / 5 to 24 V DC, 14-point output of transistor (NPN) Remarks; Possible to connect up to 8 units including <b>E16</b> and <b>AFPX-EFP0</b> . With an 8 cm <b>3.15 in</b> extension cable	<b>AFPX-E30TD</b>
		<b>FP-X E30T</b> expansion I/O unit	100-240 V AC	16-point input of 24 V DC, 0.5 A / 5 to 24 V DC, 14-point output of transistor (NPN) Remarks; Possible to connect up to 8 units including <b>E16</b> and <b>AFPX-EFP0</b> . With an 8 cm <b>3.15 in</b> extension cable	<b>AFPX-E30T</b>
		<b>FP-X E30PD</b> expansion I/O unit	24 V DC	16-point input of 24 V DC, 0.5 A / 24 V DC, 14-point output of transistor (PNP) Remarks; Possible to connect up to 8 units including <b>E16</b> and <b>AFPX-EFP0</b> . With an 8 cm <b>3.15 in</b> extension cable	<b>AFPX-E30PD</b>
		<b>FP-X E30P</b> expansion I/O unit	100-240 V AC	16-point input of 24 V DC, 0.5 A / 24 V DC, 14-point output of transistor (PNP) Remarks; Possible to connect up to 8 units including <b>E16</b> and <b>AFPX-EFP0</b> . With an 8 cm <b>3.15 in</b> extension cable	<b>AFPX-E30P</b>
		Expansion <b>FP0</b> Adapter	24 V DC	Up to three <b>FP0</b> expansion units can be connected via an adapter. With an 8 cm <b>3.15 in</b> extension cable and power cable	<b>AFPX-EFP0</b>

Note: The 24 V DC inputs of all units are bi-directional (sink / source) inputs.

### Add-on cassettes

Product name	Specifications	Part No.
<b>FP-X</b> I/O cassette	4-point input of 24 V DC, bi-directional (sink / source), 3-point output of NPN transistor 0.3 A / 24 V DC	<b>AFPX-IN4T3</b>
<b>FP-X</b> input cassette	8-point input of 24 V DC, bi-directional (sink / source)	<b>AFPX-IN8</b>
<b>FP-X</b> output cassette	8-point output of NPN transistor, 0.3 A / 24 V DC	<b>AFPX-TR8</b>
	6-point output of PNP transistor, 0.5 A / 24 V DC	<b>AFPX-TR6P</b>
<b>FP-X</b> pulse I/O cassette	High-speed counter input: single-phase 2 channels, each 80 kHz or two-phase 1 channel, 30 kHz Pulse output: one axis 100 kHz / channel (Use restriction is applied for a two-unit installation) Cannot be used with a transistor output type control unit.	<b>AFPX-PLS</b>
<b>FP-X</b> analog input cassette	2-point analog input, 0 to 10 V / 0 to 20 mA, 12-bit, 2 ms / 2 channels (non-insulated)	<b>AFPX-AD2</b>
<b>FP-X</b> analog output cassette	2-point analog output, 0 to 10 V / 0 to 20 mA, 12-bit, 2 ms / 2 channels (insulated)	<b>AFPX-DA2</b>
<b>FP-X</b> analog I/O cassette	2-point analog input, 0 to 5 V / 0 to 10 V or 0 to 20 mA, 12-bit, 2 ms / 2 channels (insulated) 1 point analog output, 0 to 10 V / 0 to 20 mA, 12-bit, 1 ms / 1 channel (insulated)	<b>AFPX-A21</b>
<b>FP-X</b> thermocouple input cassette	2-point thermocouple input, K / J type, Resolution: 0.2 °C, 200 ms / 2 channels (between channels: insulated)	<b>AFPX-TC2</b>
<b>FP-X</b> R.T.D. input cassette	2-points R.T.D. input, Pt100, Resolution: 0.1 °C, 200 ms (between channels: insulated)	<b>AFPX-RTD2</b>
<b>FP-X</b> master memory cassette with a real-time clock	Master memory: Capable of storing all program steps and comments simultaneously. Storage of <b>FPWIN Pro</b> source files Real time clock: Year, month, day, hour, minute, second, day of week (optional battery required)	<b>AFPX-MRTC</b>
<b>FP-X</b> COM1 communication cassette	RS-232C 1 channel, RS and CS control signal equipped (non-insulated)	<b>AFPX-COM1</b>
<b>FP-X</b> COM2 communication cassette	RS-232C 2 channels (non-insulated)	<b>AFPX-COM2</b>
<b>FP-X</b> COM3 communication cassette	RS-485 / RS-422 selectable 1 channel (insulated)	<b>AFPX-COM3</b>
<b>FP-X</b> COM4 communication cassette	RS-485 1 channel (insulated) and RS-232C 1 channel (non-insulated)	<b>AFPX-COM4</b>
<b>FP-X</b> COM5 communication cassette	Ethernet 1 channel (10BASE-T, 100BASE-TX) and RS-232C 1 channel (non-insulated)	<b>AFPX-COM5</b>
<b>FP-X</b> COM6 communication cassette	RS-485 2 channels (insulated)	<b>AFPX-COM6</b>
Control configurator WD	Tool software for setting the Ethernet port of the COM5 communication cassette (Can be downloaded free of charge from our website)	

### Options and maintenance parts

Product name	Specifications	Part No.
<b>FP-X</b> backup battery	Battery for backing up the operation memory and real-time clock	<b>AFPX-BATT</b>
<b>FP-X</b> expansion cable	Expansion unit connection cable, 8 cm <b>3.15 in</b>	<b>AFPX-EC08</b>
	Expansion unit connection cable, 30 cm <b>11.81 in</b>	<b>AFPX-EC30</b>
	Expansion unit connection cable, 80 cm <b>31.50 in</b>	<b>AFPX-EC80</b>
<b>FP-X</b> terminal block	Terminal block for <b>C30</b> , <b>C60</b> and <b>E30</b> , 21 pins, cover with no marking, four units included	<b>AFPX-TAN1</b>

## FP2SH

## CPU units (Built-in RAM)

Product name	Operation speed	Built-in RAM	Optional memory			Other		Product No.	Part No.	
			Expansion RAM	ROM	IC memory card	Clock/calendar	Comment memory			
FP2SH	32 k standard type	From 0.03 μs	32 k steps	Not available	Available (separately sales)	Not available	Available (built-in)	Available (built-in)	FP2-C2L	AFP2221
	60 k standard type		60 k steps	Not available	Available (separately sales)	Not available	Available (built-in)	Available (built-in)	FP2-C2	AFP2231
	60 k type with IC memory card interface		60 k steps	Not available	Available (built-in)	Available (separately sales)	Available (built-in)	Available (built-in)	FP2-C2P	AFP2235
	120 k type with IC memory card interface		120 k steps	Not available	Available (built-in)	Available (separately sales)	Available (built-in)	Available (built-in)	FP2-C3P	AFP2255

## Optional memories for FP2SH

Product name	Specifications	Product No.	Part No.
Expansion memory unit	Memory board in which the nonvolatile memory was mounted beforehand	AFP2208	AFP2208
IC memory card (Small PC card) for FP2SH CPU unit with IC memory card interface	SRAM Perfect for data memory. Can also be used for program backup. Battery backups.	AFP2209	AFP2209

## Backplanes

Product name	Specifications	Product No.	Part No.	
FP2 backplane	Conventional type	5-module type (for master)	FP2-BP05	AFP25005
		7-module type (for master and expansion)	FP2-BP07	AFP25007
		9-module type (for master and expansion)	FP2-BP09	AFP25009
		12-module type (for master and expansion)	FP2-BP12	AFP25012
	H type	14-module type (for master and expansion)	FP2-BP14	AFP25014
		8 slots (for master)	FP2-BP11MH	AFP25011MH
FP2 expansion cable	8 slots (for expansion)	FP2-BP10EH	AFP25010EH	
	0.6 m 2.0 ft	FP2-EC	AFP2510	
	2 m 6.6 ft	FP2-EC2	AFP2512	

## Power supply units

Product name	Specifications	Product No.	Part No.
FP2 power supply unit	Input: 100-120 V AC, Output: 2.5 A	FP2-PSA1	AFP2631
	Input: 200-240 V AC, Output: 2.5 A	FP2-PSA2	AFP2632
	Input: 100-240 V AC, Output: 5 A	FP2-PSA3	AFP2633
	Input: 24 V DC, Output: 5 A	FP2-PSD2	AFP2634

## I/O units

Product name	Type	Number of point	Connection method	Specifications	Product No.	Part No.
FP2 input unit	DC input	16 points	Terminal block	12 to 24 V DC	FP2-X16D2	AFP23023
		32 points	Connector	24 V DC	FP2-X32D2	AFP23064
		64 points	Connector	24 V DC	FP2-X64D2	AFP23067
FP2 output unit	Relay output	6 points	Terminal block	5 A, 2 points per one common	FP2-Y6R	AFP23101
		16 points	Terminal block	2 A, 8 points per one common	FP2-Y16R	AFP23103
	NPN transistor output	16 points	Terminal block	0.5 A (12 to 24 V DC), 0.1 A (5 V DC)	FP2-Y16T	AFP23403
		32 points	Connector	0.1 A (12 to 24 V DC), 50 mA (5 V DC)	FP2-Y32T	AFP23404
		64 points	Connector	0.1 A (12 to 24 V DC), 50 mA (5 V DC)	FP2-Y64T	AFP23407
	PNP transistor output	16 points	Terminal block	0.5 A (12 to 24 V DC), 0.1 A (5 V DC)	FP2-Y16P	AFP23503
		32 points	Connector	0.1 A (12 to 24 V DC), 50 mA (5 V DC)	FP2-Y32P	AFP23504
		64 points	Connector	0.1 A (12 to 24 V DC), 50 mA (5 V DC)	FP2-Y64P	AFP23507
	FP2 I/O mixed unit	DC input, NPN transistor output	Input: 32 points Output: 32 points	Connector	Input: 24 V DC Output: 0.1 A (12 to 24 V DC), 50 mA (5 V DC)	FP2-XY64D2T
Input: 24 V DC Output: 0.1 A (12 to 24 V DC), 50 mA (5 V DC) with ON pulse catch input					FP2-XY64D7T	AFP23477
DC input, PNP transistor output		Input: 32 points Output: 32 points	Connector	Input: 24 V DC Output: 0.1 A (12 to 24 V DC), 50 mA (5 V DC)	FP2-XY64D2P	AFP23567
				Input: 24 V DC Output: 0.1 A (12 to 24 V DC), 50 mA (5 V DC) with ON pulse catch input	FP2-XY64D7P	AFP23577

Note: Pressure welding socket is supplied. A special tool (Part No.: **AXY52000FP**) is needed for connection. Please purchase separately if you are using a terminal or flat cable socket.

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WIRE-SAVING SYSTEMS

MEASUREMENT SENSORS

STATIC CONTROL DEVICES

LASER MARKERS

PLC

HUMAN MACHINE INTERFACES

ENERGY MANAGEMENT SOLUTIONS

FA COMPONENTS

MACHINE VISION SYSTEMS

UV CURING SYSTEMS

Applications

PLC

Software

Program Transfer

Others

FP7

FP-X0

FP0R

FPΣ

FP-X

FP2SH

FP-e

## FP2SH

### Intelligent units for Analog I/O

Product name		Specifications	Number of I/O points	Product No.	Part No.
FP2 analog input unit	FP2-AD8VI	Between channels: not insulated, Voltage: 1 to 5 V, ±10 V Current: 4 to 20 mA, ±20 mA	Analog input: 8 channels	FP2-AD8VI	AFP2400L
	FP2-AD8X	Between channels: insulated, voltages, currents, thermocouples, R.T.D. (Resistance Thermometer Devices)	Analog input: 8 channels	FP2-AD8X	AFP2401
	FP2-RTD	R.T.D. type: Pt100, JPt100, JPt1000 type	R.T.D. input: 8 channels	FP2-RTD	AFP2402
FP2 analog output unit		Voltage: -10 to +10 V, current: 0 to 20 mA, resolution: 1/4,096	Analog output: 4 channels	FP2-DA4	AFP2410

### Positioning units, High-speed counter units and Pulse I/O units

Product name	Specifications			Product No.	Part No.
	Output type	Number of axes controlled	Speed command		
FP2 positioning unit RTEX	Network	2 axes type	1 pps to 32 Mpps	FP2-PN2AN	AFP243610
		4 axes type		FP2-PN4AN	AFP243620
		8 axes type		FP2-PN8AN	AFP243630
Control configurator PM	Dedicated tool software for positioning unit RTEX, Japanese version			AFPS66110	AFPS66110
	Dedicated tool software for positioning unit RTEX, English version			AFPS66510	AFPS66510
FP2 positioning unit multi function type (Note 3)	Transistor	2 axes, independent	1 pps to 500 kpps	FP2-PP21	AFP2432
		4 axes, independent		FP2-PP41	AFP2433
	Line driver	2 axes, independent	1 pps to 4 Mpps	FP2-PP22	AFP2434
		4 axes, independent		FP2-PP42	AFP2435
FP2 positioning unit interpolation type	Transistor	2 axes (Linear, circular interpolation, synchronization)	1 pps to 500 kpps	FP2-PP2T	AFP243710
		4 axes (2-axis linear, 2-axis circular, 3-axis linear, 3-axis helical interpolation, 2-axis synchronization)		FP2-PP4T	AFP243720
	Line driver	2 axes (Linear, circular interpolation, synchronization)	1 pps to 4 Mpps	FP2-PP2L	AFP243711
		4 axes (2-axis linear, 2-axis circular, 3-axis linear, 3-axis helical interpolation, 2-axis synchronization)		FP2-PP4L	AFP243721
FP2 high-speed counter unit	8 interrupt inputs, 4-channel high-speed counter, 8 comparison outputs, Input: 24 V DC, Output: 5 to 24 V DC (0.1 A, 12 points / 0.8 A, 4 points)		NPN output	FP2-HSCT	AFP2441
			PNP output	FP2-HSCP	AFP2451
FP2 pulse I/O unit	8 interrupt inputs, 4-channel high-speed counter, 8 comparison outputs, 4-channel pulse output, 4-channel PWM output, Input: 24 V DC, Output: 5 to 24 V DC (0.1 A, 12 points / 0.8 A, 4 points)		NPN output	FP2-PXYT	AFP2442
			PNP output	FP2-PXYP	AFP2452

Notes: 1) Pressure welding socket is supplied. A special tool (Part No.: **AXY52000FP**) is needed for connection. Please purchase separately if you are using a terminal or flat cable socket.  
 2) Please refer to "FP2 Part Number List" for Motor driver I/F terminal II.  
 3) Previous FP2 positioning units **AFP2430 (FP2-PP2)** and **AFP2431 (FP2-PP4)** are not compatible with the multi function type FP2 positioning unit. Please contact us.

### Open network, serial communication and link-related intelligent units

Product name	Specifications	Number of channel	Product No.	Part No.	
FP2 VE2 link unit	10 Mbps, 8,192 points / 8,192 words, 99 units max. (VE mode), 254 units max. (FL-net), 2,500 m <b>8,202.1 ft</b>	1 channel	FP2-VE2	AFP279601	
FP2 ET-LAN2 unit	Ethernet-compatible unit To be mounted on the CPU backplane	1 channel	FP2-ET2	AFP27901	
Control configurator ET	ET-LAN unit setting software, Japanese version		-	AFPS32110	AFPS32110
	ET-LAN unit setting software, English version		-	AFPS32510	AFPS32510
FP2 multi-wire link unit	For PLC links Compatible with MEWNET-W / MEWNET-W2	1 channel	FP2-MW	AFP2720	
FP2 multi-communication unit	Up to two blocks to be attached can be selected among RS-232C, RS-422, and RS-485 blocks. General-purpose serial communications, computer links, PLC links ( <b>MEWNET-W0</b> )		2 channels	FP2-MCU	AFP2465
	RS-232C block	(For the multi-communication unit) 230 kbps, 15 m <b>49.0 ft</b> max.	1 channel	FP2-CB232	AFP2803
	RS-422 block	(For the multi-communication unit) 230 kbps, 1,200 m <b>3,937.0 ft</b> max.	1 channel	FP2-CB422	AFP2804
	RS-485 block	(For the multi-communication unit) For PLC links ( <b>MEWNET-W0</b> ): 115 kbps, 16 stations, 1,200 m <b>3,937.0 ft</b>	1 channel	FP2-CB485	AFP2805

### Intelligent units for remote I/O control

Product name	Specifications	Controllable I/O points	Product No.	Part No.
FP2 multi-wire link unit	Can connect as the remote I/O system <b>MEWNET-F</b> master station. Perfect for remote I/O systems using many points	Max. 2,048 points per one unit	FP2-SMW	AFP2720
FP2 remote I/O slave unit	Can connect as the remote I/O system <b>MEWNET-F</b> slave station. Digital I/O unit and positioning unit can be attached.	Max. 2,048 points per one unit	FP2-RMS	AFP2745
FP I/O terminal board [MIL connector type]	12 V DC input / 0.2 A Transistor output	Input: 16 points, Output: 16 points	AFP87445	AFP87445
	24 V DC input / 0.2 A Transistor output	Input: 16 points, Output: 16 points	AFP87446	AFP87446
FP I/O terminal board [Terminal type]	24 V DC input / 0.2 A Transistor output	Input: 16 points, Output: 16 points	AFP87444	AFP87444
	24 V DC input / 2 A Relay output	Input: 16 points, Output: 8 points	AFP87432	AFP87432

**FP2SH**

**Intelligent units for remote I/O control**

Product name	Specifications	Controllable I/O points		Product No.	Part No.	
FP I/O terminal unit	Serves as a slave controller. Expandable up to 32 points. (Operating voltage: 24 V DC)	FP I/O terminal unit (basic)	Input unit 24 V DC input	Input 8 points	<b>AFP87421</b>	<b>AFP87421</b>
			Output unit 0.5 A Transistor output	Input 16 points	<b>AFP87422</b>	<b>AFP87422</b>
		FP I/O terminal expansion unit (basic)	Input unit 24 V DC input	Output 8 points	<b>AFP87423</b>	<b>AFP87423</b>
				Output 16 points	<b>AFP87424</b>	<b>AFP87424</b>
			Output unit 0.5 A Transistor output	Input 8 points	<b>AFP87425</b>	<b>AFP87425</b>
				Input 16 points	<b>AFP87426</b>	<b>AFP87426</b>
		Output 8 points	<b>AFP87427</b>	<b>AFP87427</b>		
		Output 16 points	<b>AFP87428</b>	<b>AFP87428</b>		

**Options and maintenance parts**

Product name	Specifications	Product No.	Part No.
Spare battery	For <b>FP2SH</b> CPU unit, battery with cable	<b>AFP8801</b>	<b>AFP8801</b>
Dummy unit	For blank slot	<b>FP2-DM</b>	<b>AFP2300</b>
Battery for small PC card	For <b>AFP2209</b>	—	<b>AFP2806</b>
Terminal block for <b>FP2</b> I/O unit	<b>FP2</b> I/O unit (terminal block type) supplied. (5 pieces)	—	<b>AFP2800</b>
Discrete-wire connector set (supplied)	<b>FP2</b> I/O unit and positioning unit supplied. (2 pieces)	—	<b>AFP2801</b>
Flat cable connector set (40 leads)	For <b>FP2</b> I/O unit and positioning unit. For simple connection using a flat cable. (2 pieces)	—	<b>AFP2802</b>
Multi-wire connector pressure contact tool	Necessary when wiring transistor output type connectors.	—	<b>AXY52000FP</b>

**FP Memory Loader** \* FP memory loader will be discontinued at the end of September, 2019.

Product name	Specifications	Part No.
FP memory loader	Data non-hold type	<b>AFP8670</b>
	Data hold type	<b>AFP8671</b>

**Control FPWIN Pro7 (IEC61131-3 compliant Windows version software)**

Product name	Specifications	Part No.
Windows® version tool software <b>Control FPWIN Pro7</b>	Supports all <b>FP</b> series PLCs ( <b>FP7</b> series: Supports only CPU without encryption function) Supports English, Japanese, Chinese and Korean	CD-ROM for Windows® <b>AFPSPR7A</b>
Security enhanced type	Supports all <b>FP</b> series PLCs ( <b>FP7</b> series: Supports both CPU with/without encryption function) Supports English, Japanese, Chinese and Korean	CD-ROM for Windows® <b>AFPSPR7AS</b>

\* The production of **FP1**, **FP-M**, **FP3** and **FP10SH** has been discontinued.

**Control FPWIN GR7**

Product name	Type	Part No.
Programming software for Windows® <b>Control FPWIN GR7</b>	Japanese version	Supports only CPU without encryption function
	Security enhanced type	Supports both CPU with/without encryption function
	English version	Supports only CPU without encryption function
	Security enhanced type	Supports both CPU with/without encryption function
		CD-ROM for Windows®
		<b>AFPSGR7JP</b>
		<b>AFPSGR7JPS</b>
		<b>AFPSGR7EN</b>
		<b>AFPSGR7ENS</b>

Note: Applicable PLCs **FP7**, **FP0R**, **FP-X**, **FP-X0**, **FPΣ**, **FP2**, **FP2SH**. However, there are the following restrictions.  
 • Mnemonic ladder is unsupported. • IC card operation function of **FP2** is unsupported. • **FP0** mode of **FP0R** is unsupported.

**PCWAY (Operation data managing software)**

Product name	Part No.
PCWAY Japanese: USB port	<b>AFW1003</b>
PCWAY English: USB port	<b>AFW10031</b>

**Key unit**

Product name	Part No.
PCWAY key unit USB port	<b>AFW1033</b>

Note: Economical type is available for secondary key.



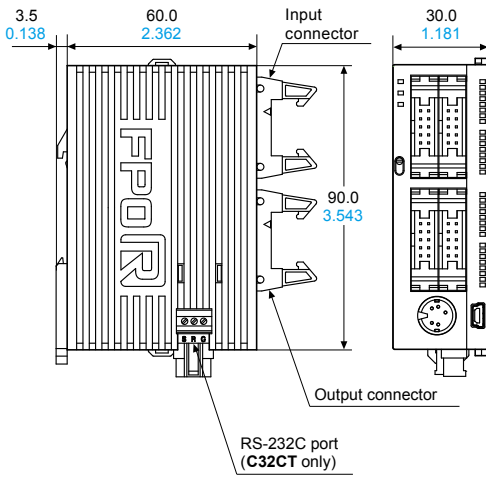
## DIMENSIONS (Unit: mm in)

The CAD data can be downloaded from our website.

### FP0R

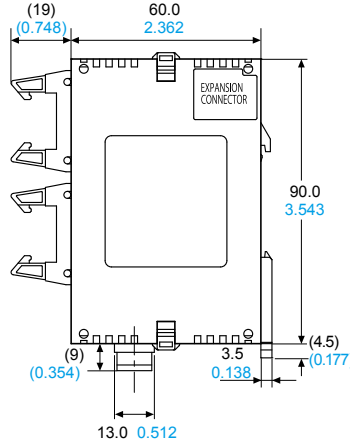
Typical part No.: AFP0RC32T

Note: DIN rail is attached on the center of the unit.



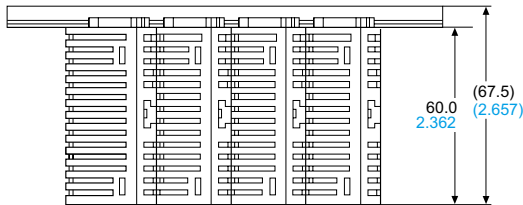
\* DIN rail is attached on the center of the unit.

<Reference measuring for wiring>

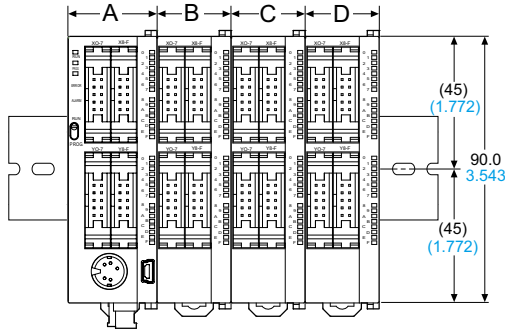


### <Dimensions During Expansions>

• Top view (with DIN rail attached)



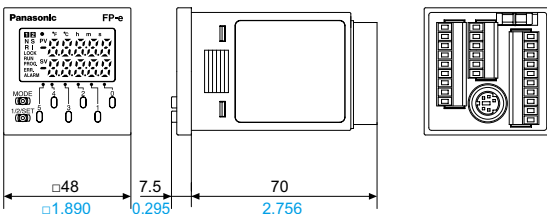
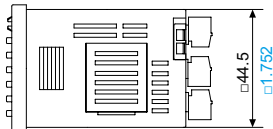
• Front view



### A+B+C+D dimensions (mm in)

Control unit		A	A→B	A→C	A→D
		Control unit only	1 expansion unit connected	2 expansion units connected	3 expansion units connected
C10RS	C16T	25 0.984	50 1.969	75 2.953	100 3.937
C10CRS	C16CT				
C10RM	C16P				
C10CRM	C16CP				
C10MRS	C16MT				
C14RS	C16MP				
C14CRS					
C14RM					
C14CRM					
C14MRS					
C32T	C32MT	30 1.181	55 2.165	80 3.150	105 4.134
C32CT	C32MP				
C32P	T32MT				
C32CP	T32MP				
T32CT	F32MT				
T32CP	F32MP				
F32CT					
F32CP					

### FP-e



FP7

FP-X0

FP0R

FPΣ

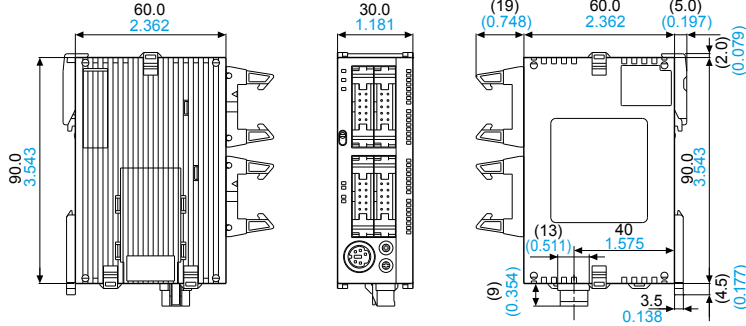
FP-X

FP2SH

FP-e

**FPΣ**

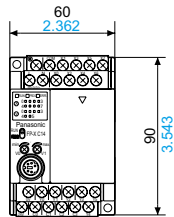
Typical part No.: **AFPG2543H**



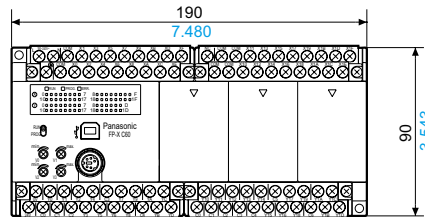
**FP-X**

**FP-X Control Unit**

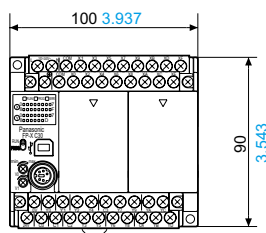
**AFPX-C14\*\***



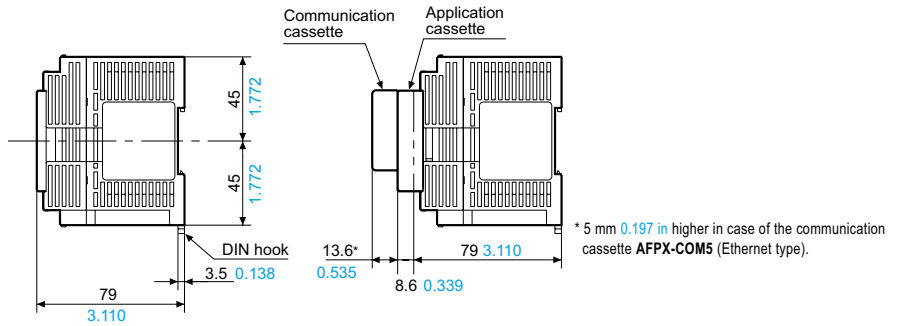
**AFPX-C60\*\***



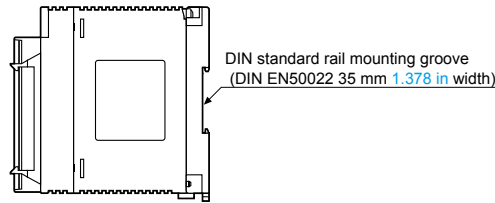
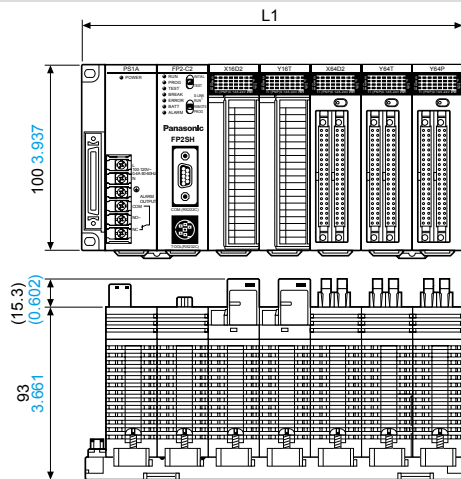
**AFPX-C30\*\***



Dimensions when **FP-X** add-on cassettes (application and communication cassettes) are attached

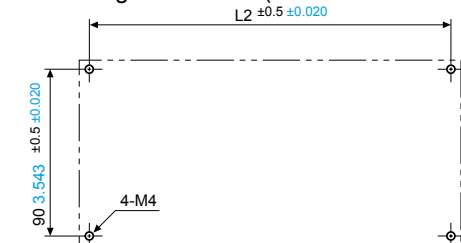


**FP2SH**



\* The illustration shows a conventional 7-module type backplane.

Mounting dimensions (Tolerance:  $\pm 1.0 \pm 0.039$ )



**Conventional backplanes**

	5-module	7-module	9-module	12-module	14-module
L1 (mm in)	140 5.512	209 8.228	265 10.433	349 13.740	405 15.945
L2 (mm in)	130 5.118	199 7.835	255 10.039	339 13.346	395 15.551

**H type backplanes**

	11-module (Master backplane)	10-module (Expansion backplane)
L1 (mm in)	349 13.740	349 13.740
L2 (mm in)	339 13.346	339 13.346

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FP-e