

**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)



(2 axes)  
**AFP2434** (FP2-PP22)

(4 axes)  
**AFP2433** (FP2-PP41) **AFP2435** (FP2-PP42)

**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  
**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**



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



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



S-LINK  
**AFP2780** (FP2-SL2)



S-LINK V  
**SL-VFP2**

**FP2SH**

**AC servomotor MINAS Series**



\* Panasonic Corporation Motor business unit

**FP2SH**

**Motor driver I/F terminal II**



1-axis type

**AFP8503**



2-axis type

**AFP8504**

# Part Number List

**FP-e** \*The FP-e will be discontinued at the end of September, 2019.

## Control units

Product name	Specifications	Calendar timer	Thermocouple input	Communication port	Product No.	Part No.
FP-e Control Unit	RS232C Basic type	Not available	Not available	RS232C	AFPE224300	AFPE224300
	RS232C Calendar timer type	Available	Not available	RS232C	AFPE224305	AFPE224305
	RS232C Thermocouple input type	Available	Available	RS232C	AFPE214325	AFPE214325
	RS485 Basic type	Not available	Not available	RS485	AFPE224302	AFPE224302
	RS485 Thermocouple input type	Not available	Available	RS485	AFPE214322	AFPE214322

## Options

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

## FP0R

### Control units

Product name	Built-in memory (Program capacity)	Specifications					Part No.	
		Number of I/O points	Power supply voltage	Input	Output	Connection type		
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	AFP0RC10RS
					Molex connector	AFP0RC10RM		
FP0R-C10 Control Unit with RS232C 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	AFP0RC10CRS
					Molex connector	AFP0RC10CRM		
FP0R-C10 Control Unit with RS485 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	AFP0RC10MRS
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	AFP0RC14RS
					Molex connector	AFP0RC14RM		
FP0R-C14 Control Unit with RS232C 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	AFP0RC14CRS
					Molex connector	AFP0RC14CRM		
FP0R-C14 Control Unit with RS485 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	AFP0RC14MRS
FP0R-C16 Control Unit	Flash EEPROM (16 k steps)	16	Input: 8 Output: 8	24 V DC	24 V DC Sink/Source (± common)	Transistor NPN: 0.2 A	MIL connector	AFP0RC16T
					Transistor PNP: 0.2 A	AFP0RC16P		
FP0R-C16 Control Unit with RS232C port	Flash EEPROM (16 k steps)	16	Input: 8 Output: 8	24 V DC	24 V DC Sink/Source (± common)	Transistor NPN: 0.2 A	MIL connector	AFP0RC16CT
					Transistor PNP: 0.2 A	AFP0RC16CP		
FP0R-C16 Control Unit with RS485 port	Flash EEPROM (16 k steps)	16	Input: 8 Output: 8	24 V DC	24 V DC Sink/Source (± common)	Transistor NPN: 0.2 A	MIL connector	AFP0RC16MT
					Transistor PNP: 0.2 A	AFP0RC16MP		
FP0R-C32 Control Unit	Flash EEPROM (32 k steps)	32	Input: 16 Output: 16	24 V DC	24 V DC Sink/Source (± common)	Transistor NPN: 0.2 A	MIL connector	AFP0RC32T
					Transistor PNP: 0.2 A	AFP0RC32P		
FP0R-C32 Control Unit with RS232C port	Flash EEPROM (32 k steps)	32	Input: 16 Output: 16	24 V DC	24 V DC Sink/Source (± common)	Transistor NPN: 0.2 A	MIL connector	AFP0RC32CT
					Transistor PNP: 0.2 A	AFP0RC32CP		
FP0R-C32 Control Unit with RS485 port	Flash EEPROM (32 k steps)	32	Input: 16 Output: 16	24 V DC	24 V DC Sink/Source (± common)	Transistor NPN: 0.2 A	MIL connector	AFP0RC32MT
					Transistor PNP: 0.2 A	AFP0RC32MP		
FP0R-T32 Control Unit with RS232C 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)	Transistor NPN: 0.2 A	MIL connector	AFP0RT32CT
					Transistor PNP: 0.2 A	AFP0RT32CP		
FP0R-T32 Control Unit with RS485 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)	Transistor NPN: 0.2 A	MIL connector	AFP0RT32MT
					Transistor PNP: 0.2 A	AFP0RT32MP		
FP0R-F32 Control Unit with RS232C 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)	Transistor NPN: 0.2 A	MIL connector	AFP0RF32CT
					Transistor PNP: 0.2 A	AFP0RF32CP		
FP0R-F32 Control Unit with RS485 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)	Transistor NPN: 0.2 A	MIL connector	AFP0RF32MT
					Transistor PNP: 0.2 A	AFP0RF32MP		

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

## FP0

### Control units

Product name	Built-in memory (Program capacity)	Specifications					Product No.	Part No.	
		Number of I/O points	Power supply voltage	Input	Output	Connection type			
FP0-S-LINK Control Unit with RS232C port	EEPROM (5 k steps)	128 (S-LINK section)	Input: 64 Output: 64	24 V DC	-	-	Terminal block	FP0-SL1	AFP02700

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 k Ω 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
	Transistor output (PNP) 16 points, MIL connector type	AFP0RE16YP
FP0R-E32 Expansion Unit	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

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)	-	<b>NEW</b> 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)	-	<b>NEW</b> 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)	-	<b>NEW</b> 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)	-	<b>NEW</b> 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)	-	<b>NEW</b> AFP0RA44
FP0 Thermocouple Unit	K, J, T, R thermocouple, Resolution: 0.1 °C 32.18 °F, 4-ch	FP0-TC4	AFP0420
	K, J, T, R thermocouple, Resolution: 0.1 °C 32.18 °F, 8-ch	FP0-TC8	AFP0421
FP WEB-SERVER2	Unit for connecting FP series RS232C 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	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 (Note)	Unit to connect to FP0 CC-link	FP0-CCLS	AFP07943
KS1 Signal Converter	RS232C/RS485 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

## FPΣ

### 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	AFPG430
FPΣ Positioning Unit	Pulse output type 1 axis, Line driver output	FPG-PP12	AFPG432
FPΣ Positioning Unit	Pulse output type 2 axes, Transistor output	FPG-PP21	AFPG431
FPΣ Positioning Unit	Pulse output type 2 axes, Line driver output	FPG-PP22	AFPG433
FPΣ Positioning Unit RTEX	Network type 2-axis type	FPG-PN2AN	AFPG43610
FPΣ Positioning Unit RTEX	Network type 4-axis type	FPG-PN4AN	AFPG43620
FPΣ Positioning Unit RTEX	Network type 8-axis type	FPG-PN8AN	AFPG43630
Control Configurator PM	Dedicated tool software for positioning unit RTEX, Japanese version	-	AFPS66110
	Dedicated tool software for positioning unit RTEX, English version	-	AFPS66510
FPΣ CC-Link Slave Unit	Unit to connect to CC-Link	FPG-CCLS	AFPG7943
FPΣ S-LINK Unit	Unit to connect to SUNX S-LINK I/O devices	FPG-SL	AFPG780

### Communication cassettes

Product name	Specifications	Product No.	Part No.
FPΣ Communication Cassette 1 channel, RS232C type	Cassette for control unit installation. Enables communications with devices with RS232C interface.	FPG-COM1	AFPG801
FPΣ Communication Cassette 2 channels, RS232C type	Cassette for control unit installation. Enables communications with devices with RS232C interface.	FPG-COM2	AFPG802
FPΣ Communication Cassette 1 channel, RS485 type	Cassette for control unit installation. PLC linking between FPΣs or communication with devices with RS485 interface possible.	FPG-COM3	AFPG803
FPΣ Communication Cassette 1 channel, RS232C and 1 channel, RS485 type	Cassette for control unit installation. Enables communications with devices with RS232C interface and RS485 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 FP0 to C-NET. Connects the FP0 programmer with the supplied cable. Requires no power supply	AFP15402

### Options and maintenance parts

Product name	Specifications	Part No.
Backup battery for FPΣ	Battery for full-time back up of operation memory and clock/calendar function	AFPG804
FPΣ High capacity battery holder	Battery does not come with battery holder. Purchase a commercially available CR123A battery.	AFPG807
FP0 Slim 30 type mounting plate	Plastic plate to mount FPΣ units and FPΣ expansion units on a panel (including 10 pieces)	AFP0811
FP0 Slim type mounting plate	Plastic plate to mount FP0 expansion units on a panel (including 10 pieces)	AFP0803
Power cable for FP0	Included with FP0 unit. Maintenance part. 1 m 3.3 ft length (including 1 piece)	AFP0581
Power cable for FPΣ	Included with control unit. Maintenance part. 1 m 3.3 ft length	AFPG805
FP memory loader (Note)	Data clear type	AFP8670
	Data hold type	AFP8671
Terminal screwdriver	Relay output type Necessary when wiring terminals block (Phoenix).	AFP0806
Multi-wire connector pressure contact tool	Necessary when wiring transistor output type connectors.	AXY52000FP
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 3.3 ft Length: 3 m 9.8 ft AFP0551 AFP0553
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 3.3 ft Length: 3 m 9.8 ft AFP0521 AFP0523
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)	AFP0808
Terminal socket	Attaches to relay output and terminal block type. Maintenance part. (2 sockets per pack)	AFP0802
Molex socket	Attaches to relay output and Molex connector types. Maintenance part. (2 sockets per pack)	AFP0801
Wire-press socket (10 leads)	Attaches to transistor output type. Maintenance part. (2 sockets per pack)	AFP0807

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 FPΣ positioning unit /	AFP8503
Motor driver I/F terminal II 2-axis type	FP2 multi function type positioning unit.	AFP8504
Exclusive cable for MINAS A4 / A5 series, 1 m 3.281 ft	Cable for connecting the MINAS A4 / A5 series and motor driver I/F terminal II.	AFP85151
Exclusive cable for MINAS A4 / A5 series, 2 m 6.562 ft		AFP85152
Connection cable for positioning unit, 0.5 m 1.640 ft	Cable for connecting the FPΣ positioning unit / FP2 multi function type positioning unit and	AFP85100
Connection cable for positioning unit, 1 m 3.281 ft	motor driver I/F terminal II.	AFP85101

FP-X

Control units

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

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

Expansion units

	Product name	Power supply	Specifications	Part No.
Input	FP-X E16X Expansion Input Unit	(Power is supplied from the left-side unit.)	16-point input of 24 V DC	AFPX-E16X
	FP-X E14YR Expansion Output Unit	(Power is supplied from the left-side unit.)	14-point output of 24 V DC	AFPX-E14YR
Relay output	FP-X E16R 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 3.15 in extension cable	AFPX-E16R
	FP-X E30R Expansion I/O Unit	100 to 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 E16 and AFPX-EFP0. With an 8 cm 3.15 in extension cable	AFPX-E30R
	FP-X E30RD 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 E16 and AFPX-EFP0. With an 8 cm 3.15 in extension cable	AFPX-E30RD
Input and output	FP-X E16T 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 3.15 in extension cable	AFPX-E16T
	FP-X E16P 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 3.15 in extension cable	AFPX-E16P
	FP-X E30TD 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 E16 and AFPX-EFP0. With an 8 cm 3.15 in extension cable	AFPX-E30TD
	FP-X E30T Expansion I/O Unit	100 to 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 E16 and AFPX-EFP0. With an 8 cm 3.15 in extension cable	AFPX-E30T
	FP-X E30PD 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 E16 and AFPX-EFP0. With an 8 cm 3.15 in extension cable	AFPX-E30PD
	FP-X E30P Expansion I/O Unit	100 to 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 E16 and AFPX-EFP0. With an 8 cm 3.15 in extension cable	AFPX-E30P
	Expansion FP0 Adapter	24 V DC	Up to three FP0 expansion units can be connected via an adapter. With an 8 cm 3.15 in extension cable and power cable	AFPX-EFP0

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

## FP-X

### Add-on cassettes

Product name	Specifications	Part No.
FP-X 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>
FP-X Input cassette	8-point input of 24 V DC, bi-directional (sink/source)	<b>AFPX-IN8</b>
FP-X 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>
FP-X Pulse I/O cassette	High-speed counter input: single-phase 2 channels, each 80 k Hz or two-phase 1 channel, 30 k Hz 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>
FP-X 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>
FP-X 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>
FP-X 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>
FP-X Thermocouple input cassette	2-point thermocouple input, K / J type, Resolution: 0.2 °C <b>32.36 °F</b> , 200 ms / 2 channels (between channels: insulated)	<b>AFPX-TC2</b>
FP-X R.T.D. input cassette	2-points R.T.D. input, Pt100, Resolution: 0.1 °C <b>32.18 °F</b> , 200 ms (between channels: insulated)	<b>AFPX-RTD2</b>
FP-X Master memory cassette with a real-time clock	Master memory: Capable of storing all program steps and comments simultaneously. Storage of FPWIN Pro source files Real time clock: Year, month, day, hour, minute, second, day of week (optional battery required)	<b>AFPX-MRTC</b>
FP-X COM1 Communication cassette	RS232C 1 channel, RS and CS control signal equipped (non-insulated)	<b>AFPX-COM1</b>
FP-X COM2 Communication cassette	RS232C 2 channels (non-insulated)	<b>AFPX-COM2</b>
FP-X COM3 Communication cassette	RS485 / RS422 selectable 1 channel (insulated)	<b>AFPX-COM3</b>
FP-X COM4 Communication cassette	RS485 1 channel (insulated) and RS232C 1 channel (non-insulated)	<b>AFPX-COM4</b>
FP-X COM5 Communication cassette	Ethernet 1 channel (10BASE-T, 100BASE-TX) and RS232C 1 channel (non-insulated)	<b>AFPX-COM5</b>
FP-X COM6 Communication cassette	RS485 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.
FP-X Backup battery	Battery for backing up the operation memory and real-time clock	<b>AFPX-BATT</b>
FP-X 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>
FP-X Terminal block	Terminal block for C30, C60 and E30, 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	From 0.03 μs	32 k steps	Not available	Available (separately sales)	Not available	Available (built-in)	Available (built-in)	<b>FP2-C2L</b>	<b>AFP2221</b>
		60 k steps	Not available	Available (separately sales)	Not available	Available (built-in)	Available (built-in)	<b>FP2-C2</b>	<b>AFP2231</b>
		60 k type with IC memory card interface	Not available	Available (built-in)	Available (separately sales)	Available (built-in)	Available (built-in)	<b>FP2-C2P</b>	<b>AFP2235</b>
		120 k type with IC memory card interface	Not available	Available (built-in)	Available (separately sales)	Available (built-in)	Available (built-in)	<b>FP2-C3P</b>	<b>AFP2255</b>

**FP2SH**

**Optional memories for FP2SH**

Product name		Specifications	Product No.	Part No.
Expansion memory unit		Memory board in which the nonvolatile memory was mounted beforehand	<b>AFP2208</b>	<b>AFP2208</b>
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.	<b>AFP2209</b>	<b>AFP2209</b>

**Backplanes**

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

**Power supply units**

Product name		Specifications	Product No.	Part No.
FP2 Power Supply Unit		Input: 100 to 120 V AC, Output: 2.5 A	<b>FP2-PSA1</b>	<b>AFP2631</b>
		Input: 200 to 240 V AC, Output: 2.5 A	<b>FP2-PSA2</b>	<b>AFP2632</b>
		Input: 100 to 240 V AC, Output: 5 A	<b>FP2-PSA3</b>	<b>AFP2633</b>
		Input: 24 V DC, Output: 5 A	<b>FP2-PSD2</b>	<b>AFP2634</b>

**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	<b>FP2-X16D2</b>	<b>AFP23023</b>
		32 points	Connector	24 V DC	<b>FP2-X32D2</b>	<b>AFP23064</b>
		64 points	Connector	24 V DC	<b>FP2-X64D2</b>	<b>AFP23067</b>
FP2 Output Unit	Relay output	6 points	Terminal block	5 A, 2 points per one common	<b>FP2-Y6R</b>	<b>AFP23101</b>
		16 points	Terminal block	2 A, 8 points per one common	<b>FP2-Y16R</b>	<b>AFP23103</b>
	Transistor output NPN	16 points	Terminal block	0.5 A (12 to 24 V DC), 0.1 A (5 V DC)	<b>FP2-Y16T</b>	<b>AFP23403</b>
		32 points	Connector	0.1 A (12 to 24 V DC), 50 mA (5 V DC)	<b>FP2-Y32T</b>	<b>AFP23404</b>
		64 points	Connector	0.1 A (12 to 24 V DC), 50 mA (5 V DC)	<b>FP2-Y64T</b>	<b>AFP23407</b>
	Transistor output PNP	16 points	Terminal block	0.5 A (12 to 24 V DC), 0.1 A (5 V DC)	<b>FP2-Y16P</b>	<b>AFP23503</b>
		32 points	Connector	0.1 A (12 to 24 V DC), 50 mA (5 V DC)	<b>FP2-Y32P</b>	<b>AFP23504</b>
		64 points	Connector	0.1 A (12 to 24 V DC), 50 mA (5 V DC)	<b>FP2-Y64P</b>	<b>AFP23507</b>
	FP2 I/O Mixed Unit	DC input, Transistor output NPN	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)	<b>FP2-XY64D2T</b>
Input: 24 V DC Output: 0.1 A (12 to 24 V DC), 50 mA (5 V DC) with ON pulse catch input					<b>FP2-XY64D7T</b>	<b>AFP23477</b>
DC input, Transistor output PNP		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)	<b>FP2-XY64D2P</b>	<b>AFP23567</b>
				Input: 24 V DC Output: 0.1 A (12 to 24 V DC), 50 mA (5 V DC) with ON pulse catch input	<b>FP2-XY64D7P</b>	<b>AFP23577</b>

\* 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.

**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	<b>FP2-AD8VI</b>	<b>AFP2400L</b>
	FP2-AD8X	Between channels: insulated, Voltages, Currents, Thermocouples, R.T.D. (Resistance Thermometer Devices)	Analog input: 8 channels	<b>FP2-AD8X</b>	<b>AFP2401</b>
	FP2-RTD	R.T.D. type: Pt100, JPt100, JPt1000 type	R.T.D. input: 8 channels	<b>FP2-RTD</b>	<b>AFP2402</b>
FP2 Analog Output Unit		Voltage: -10 to +10 V, Current: 0 to 20 mA, Resolution: 1/4,096	Analog output: 4 channels	<b>FP2-DA4</b>	<b>AFP2410</b>

## FP2SH

### 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	<b>FP2-PN2AN</b>	<b>AFP243610</b>
		4 axes type		<b>FP2-PN4AN</b>	<b>AFP243620</b>
		8 axes type		<b>FP2-PN8AN</b>	<b>AFP243630</b>
Control Configurator PM	Dedicated tool software for positioning unit RTEX, Japanese version			<b>AFPS66110</b>	<b>AFPS66110</b>
	Dedicated tool software for positioning unit RTEX, English version			<b>AFPS66510</b>	<b>AFPS66510</b>
FP2 Positioning Unit Multi function type (Note 3)	Transistor	2 axes, independent	1 pps to 500 kpps	<b>FP2-PP21</b>	<b>AFP2432</b>
		4 axes, independent		<b>FP2-PP41</b>	<b>AFP2433</b>
	Line driver	2 axes, independent	1 pps to 4 Mpps	<b>FP2-PP22</b>	<b>AFP2434</b>
		4 axes, independent		<b>FP2-PP42</b>	<b>AFP2435</b>
FP2 Positioning Unit Interpolation type	Transistor	2 axes (Linear, circular interpolation and synchronization)	1 pps to 500 kpps	<b>FP2-PP2T</b>	<b>AFP243710</b>
		4 axes (2-axis linear, 2-axis circular, 3-axis linear, 3-axis helical interpolation and 2-axis synchronization)		<b>FP2-PP4T</b>	<b>AFP243720</b>
	Line driver	2 axes (Linear, circular interpolation and synchronization)	1 pps to 4 Mpps	<b>FP2-PP2L</b>	<b>AFP243711</b>
		4 axes (2-axis linear, 2-axis circular, 3-axis linear, 3-axis helical interpolation and 2-axis synchronization)		<b>FP2-PP4L</b>	<b>AFP243721</b>
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	<b>FP2-HSCT</b>	<b>AFP2441</b>
			PNP output	<b>FP2-HSCP</b>	<b>AFP2451</b>
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	<b>FP2-PXYT</b>	<b>AFP2442</b>
			PNP output	<b>FP2-PXYP</b>	<b>AFP2452</b>

#### 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	<b>FP2-VE2</b>	<b>AFP279601</b>
FP2 ET-LAN2 Unit	Ethernet-compatible unit To be mounted on the CPU backplane	1 channel	<b>FP2-ET2</b>	<b>AFP27901</b>
Control Configurator ET	ET-LAN unit setting software, Japanese version	-	<b>AFPS32110</b>	<b>AFPS32110</b>
	ET-LAN unit setting software, English version	-	<b>AFPS32510</b>	<b>AFPS32510</b>
FP2 Multi-wire Link Unit	For PLC links Compatible with MEWNET-W / MEWNET-W2	1 channel	<b>FP2-MW</b>	<b>AFP2720</b>
FP2 Multi-Communication Unit	Up to two blocks to be attached can be selected among RS232C, RS422, and RS485 blocks. General-purpose serial communications, computer links, PLC links (MEWNET-W0)	2 channels	<b>FP2-MCU</b>	<b>AFP2465</b>
	RS232C block (For the multi-communication unit) 230 kbps, 15 m <b>49.0 ft</b> max.	1 channel	<b>FP2-CB232</b>	<b>AFP2803</b>
	RS422 block (For the multi-communication unit) 230 kbps, 1,200 m <b>3,937.0 ft</b> max.	1 channel	<b>FP2-CB422</b>	<b>AFP2804</b>
	RS485 block (For the multi-communication unit) For PLC links (MEWNET-W0): 115 kbps, 16 stations, 1,200 m <b>3,937.0 ft</b>	1 channel	<b>FP2-CB485</b>	<b>AFP2805</b>

### 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 MEWNET-F master station. Perfect for remote I/O systems using many points	Max. 2,048 points per one unit	<b>FP2-SMW</b>	<b>AFP2720</b>
FP2 Remote I/O Slave Unit	Can connect as the remote I/O system MEWNET-F slave station. Digital I/O unit and positioning unit can be attached.	Max. 2,048 points per one unit	<b>FP2-RMS</b>	<b>AFP2745</b>
FP I/O Terminal Board [MIL connector type]	12 V DC input / 0.2 A Transistor output	Input: 16 points, Output: 16 points	<b>AFP87445</b>	<b>AFP87445</b>
	24 V DC input / 0.2 A Transistor output	Input: 16 points, Output: 16 points	<b>AFP87446</b>	<b>AFP87446</b>
FP I/O Terminal Board [Terminal type]	24 V DC input / 0.2 A Transistor output	Input: 16 points, Output: 16 points	<b>AFP87444</b>	<b>AFP87444</b>
	24 V DC input / 2 A Relay output	Input: 16 points, Output: 8 points	<b>AFP87432</b>	<b>AFP87432</b>