

Matsushita

FP1-Series Programmable

Logic Controllers



# Compact yet Powerful FP1 series Programmable Logic Controllers.

The FP1 Compact Controller from Matsushita is one of the most powerful programmable logic controllers in its class. The continuous development of our proven PLC technology has allowed us to offer the performance of much larger systems in a small compact PLC. Practical application and innovation has produced a fast and reliable PLC system which can solve a wide range of control tasks. Flexible expansion modules in addition to powerful local and wide area networking capabilities open up application field not previously considered possible with this size of PLC.

FPWIN Pro is an advanced programming software package designed to complement the advanced features of the FP1 system.

Five IEC61131-3 standardized programming languages and a standard addressing structure allow the user to develop detailed application programs. The WINDOWS based user interface allows flexibility never before found with previous packages and lets software developers operate with maximum efficiency and cost effectiveness.

## Quality Management and Product Safety

### ISO90001

Matsushita, known for decades for producing high-quality industrial products, has always made every effort to ensure quality at all stages, from design through production to customer service. In order to demonstrate these strict internal quality guidelines to its customers, Matsushita Electric Works Ltd., Japan along with its European subsidiaries, has been certified according to ISO9000 for many years.

### CE label

As from 01.01.96 the components in our FP1 as well as in all other FP series bear the CE mark.

## UL/CSA

The UL/CSA symbol shows that Matsushita PLC modules have been tested and certified as complying with the demanding safety requirements of North America.

## Service as well as Quality

By selecting the FP1 series you have chosen a flexible and future-proof investment. As well as strict control of product quality, Matsushita offers exemplary customer service. Product training courses, structured in accordance with target groups, are a keystone of the overall product concept. And where there are a number of different ways of implementing your application we will be glad to advise you.



## Small size – High Intelligence. The Basic Controller.



Type description	FP1 C14	FP1 C16
Inputs / Outputs (I / O)	8 / 6	8 / 8
Max. number of I / O	54 (14 / 40)	56 (16 / 40)
Programme capacity	900 commands	
Memory type	EEPROM	
Number of commands		
Basic commands	41	
Additional commands	85	
Dimensions (mm)	120x81x45 / 74 (DC / AC)	

The FP1, available for applications with as few as 14 I/O, offers many opportunities to quickly and reliably automate manufacturing, control or monitoring processes. Due to its very small size, the FP1 can be installed almost everywhere – even in mobile applications using the 24 VDC powered version. The FP1 is not just an intelligent alternative to simple hard-wired relay or contactor circuits. Instead it is a complete control system which, because of its powerful yet simple operation, offers significant overall cost reductions.



Type description	FP1 C24 (C)	FP1 C40 (C)
Inputs / Outputs (I / O)	16 / 8	24 / 16
Max. number of I / O	104 (24 / 40 / 40)	120 (40 / 40 / 40)
Programme capacity	2720 commands	
Memory type	RAM Standard, EPROM/ EEPROM plug-in	
Number of commands		
Basic commands	80	
Additional commands	111	
Dimensions (mm)	190x96x45 / 74 (DC / AC)	260x96x45 / 74 (DC / AC)

Some general data:

- High processing speed, 1,6 µs per logical instruction
- 32 bit word processing
- Up to 16 programmable subprogrammes
- RS422 interface
- RS232C interface (from C24)
- Plug-in screw terminals (from C24)
- Pulse catch inputs from 500 µs
- Pulse outputs
- Network capability
- DIN rail mounting
- Universal power supply
- Universal software for all Matsushita PLCs
- Programming languages: Ladder logic programming, Instruction list, Function block diagram, Sequential function chart, Structured text
- Programmable using IBM compatible AT PC



Type description	FP1 C56 (C)	FP1 C72 (C)
Inputs / Outputs (I / O)	32 / 24	40 / 32
Max. number of I / O	136 (56 / 40 / 40)	152 (72 / 40 / 40)
Programme capacity	5000 commands	
Memory type	RAM Standard, EPROM/ EEPROM plug-in	
Number of commands		
Basic commands	81	
Additional commands	111	
Dimensions (mm)	260x120x45 / 74 (DC / AC)	300x120x45 / 74 (DC / AC)



# All Data. At a glance.

## 1. PLC Data.

Type description	C14/ 16	C24 (C)	C40 (C)	C56(C)/ 72(C)
Inputs / Outputs	8/6 8/8	16/8	24/16	32/24 40/ 32
Max. no. of I/O	54 56 14/40 16/40	104 24/40/40	120 40/40/40	136 152 56/40/40 72/40/40
Processing speed	1,6µs per logical instruction			
Programme capacity	900 Commands	2720 Commands	5000 Commands	
Memory Type	EEPROM	RAM Standard, EPROM and EEPROM plug-in		
Number of Commands				
Basic Commands	41	80	81	
Additional Commands	85	111	111	
Flags	256	1008		
Special Flags	64			
Timers / Counters	128	144		
Data Registers	256	1660	6144	
System Registers	70			
Index Registers	2 words			
Master Control Relays	16	32		
Label (JMP, LOOP)	32	64		
Step ladders	64	128		
Subroutines	8	16		
Interrupts	-	9		
Input time filtering (Selectable)	1 ms to 128 ms			
Pulse Catch Inputs (Selectable)	4	8		
Pulse outputs	1 (45 Hz-4,9 kHz)			2 (Multiplex) (45 Hz-4,9 kHz)
Analogue Timers	1	2	4	
Communications Interface	-	optional 1 RS232C (300 - 19200 Bit/s)		
Real Time Clock	-	available		
Self Diagnosis Functions	Watch-dog-Timer, Back-up Battery Supervision, Syntax Control			
Battery life (at 25 °C)		appr. 27 000 h appr. 53 000 h	(C24C, C40C, C56C, C72C) (C24, C40, C56, C72)	

## 2. High Speed Counter.

	Description
Counting method	1Channel (On-/Off mode, 2-phase mode)
Counting range	from -8.388.608 to 8.388.607
Max. Counting speed	On-/Off mode: 10kHz 2-phase mode: 5kHz

## 3. General Data.

	AC-Version	DC-Version
Supply Voltage	100 to 240V	24V
Input Voltage Range	85 to 264 V	20,4 to 26,4V
Max. Current consumption		
C14/ 16	≤ 0,2A at 200V	≤ 0,3A at 24 V
C24	≤ 0,3A at 200V	≤ 0,4A at 24 V
C40	≤ 0,3A at 200V	≤ 0,5A at 24 V
C56	≤ 0,4A at 200V	≤ 0,6A at 24 V
C72	≤ 0,4A at 200V	≤ 0,6A at 24 V
Working temperature range	0°C to +55 °C	
Storage temperature	-20 °C to + 70 °C	
Max. relative humidity	30% to 85% non condensing	
Insulation Resistance	≥ 100 MΩ (measured with a 500VDC megger testing) between external terminal and frame ground	
Vibration Resistance	10Hz to 55 Hz, 1 cycle/min. with Double amplitude 0,75mm 10min. per axis (x, y, z)	
Shock Resistance	min. 98 m/s <sup>2</sup> , 4x each axis (x, y, z)	
Noise sensitivity	1000 Vpp with impulse width 50 ns and 1 µs from noise generator	
Sensor/actuator power supply (24 VDC)	C14, C16: 110 mA C24 (C), C40 (C): 230 mA C56 (C), C72 (C): 400 mA	

## 4. Input Data.

Input Voltage	10.2 to 26.4 VDC
Type of isolation	Optocoupler
On/Off Current	ON: > 10 V OFF: < 2.5 V
Input Resistance:	approx. 3 kΩ

## 5. Output Data.

	Relay Output
Output type	1 Normally Open contact
Rated control capacity	2 A 250 VAC, 2 A 30 VDC (resistive load), max. 5 A / Common
Operational life (mech.)	Min. 5 million ops
Operational life (electr.)	Min. 100.000 ops at max. load
	Transistor Output
Output type	Open Collector
Isolation	Optocoupler
Switched voltage	5 to 24 VDC
Rated control capacity	0.5 A

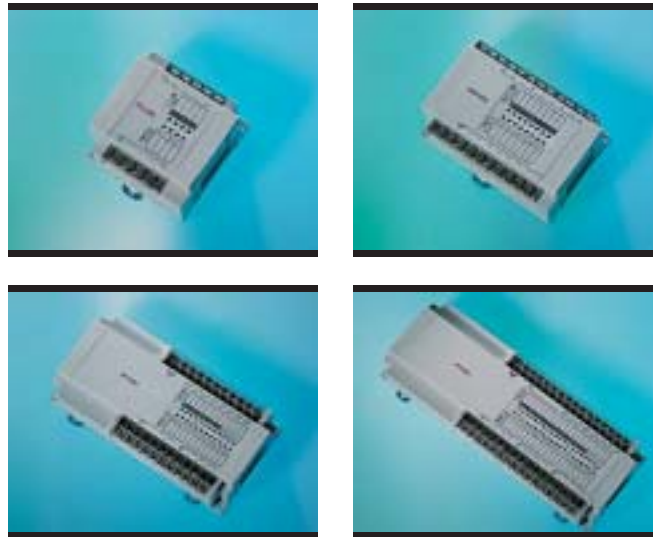
# Intelligent Expansion. FP1 Expansion Modules.

The FP1 allows you to control up to 152 individually-configured digital inputs and outputs. It is a simple matter of expanding the FP1 basic unit by connecting input and output modules using ribbon cables in either one or two expansion stages.

Relay and transistor outputs, PNP and NPN, 24 V DC and 230 V AC supply voltages – all expansions can be combined on a project-oriented basis.

## E8. The smallest expansion module:

- 4 Inputs / 4 Outputs, 8 Inputs or 8 Outputs
- Relays, transistor or triac
- Dimensions (mm): 80 x 81 x 45 (DC)



## E16 – expansion module:

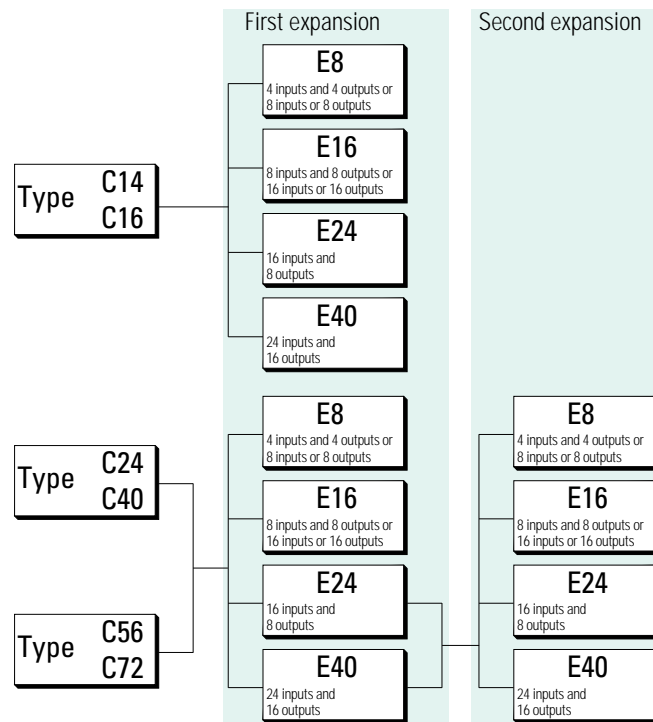
- 8 Inputs / 8 Outputs, 16 Inputs or 16 outputs
- Relays or transistor
- Dimensions (mm): 120 x 81 x 45 (DC)

## E24 – expansion module:

- 16 Inputs / 8 Outputs
- Relays or transistor
- Dimensions (mm): 190 x 96 x 45/74 (DC/AC)

## E40 – expansion module:

- 24 inputs / 16 outputs
- Relays or transistor
- Dimensions (mm): 260 x 96 x 45/74 (DC/AC)



## FP1 additional modules.



No. of Inputs	4
Voltage range	0-5 V DC / 0-10V DC
Current range	0-20 mA DC
(Selectable with link)	
Resolution	1 / 1000 of full range (10bit)
Conversion time	2.5 ms per channel
Dimensions (mm)	120 x 81 x 45 / 74 (DC / AC)

### Analogue Input Module.

A maximum of one analogue input module can be used for each CPU base unit.



No. of Outputs	2
Voltage range	0-5 V DC / 0-10V DC
Current range	0-20 mA DC
(Selectable with link)	
Resolution	1 / 1000 of full range (10bit)
Conversion time	2,5 ms per channel
Dimensions (mm)	120 x 81 x 45 / 74 (DC / AC)

### Analogue Output Module.

A maximum of two analogue output modules can be used for each CPU base unit.





# Two-way Communication or Conference.

# MEWNET – the well-planned network family

## Serial Point-to-Point Communication

Even with the small FP1-C14, the standard RS422 programming interface is available to you for point-to-point communication. This enables you to use secure, serial data paths of up to 1200 m in length in your application. The comprehensively-documented, easy-to-understand ASCII protocol, MEWTOCOL.COM, gives you freedom of access to the slaves entire memory area of the FP1 controllers.

The optional RS232C interface, in addition to providing the slave mode described above, offers a freely-programmable operating mode. This opens up a convenient means of communication with a wide variety of other devices – control panels, bar code readers, other PLCs etc.

## FP1 in Data Communications

With the RS422 programming interface (with modem capabilities from model C24 upwards) and optional RS232 interface, as well as convenient modem function,

data communication becomes a matter of routine in wide area networks. Remote diagnosis and remote programming can thus reduce cost-intensive checking or service journeys to a minimum. Autonomous dedicated modem operation is also possible using corporate communication networks (simple two-wire lines), between pumping stations, traffic systems or such like for example.

In addition the FP1 provides the option of automatically sending alarms or information over the RS232 interface on an event-driven basis. Connected to the control center via a dialup modem, the FP1 sets up a data connection and transfers its information. This can provide a way of optimizing the availability of remote or out-of-the-way substations.



## MEWNET-TR.

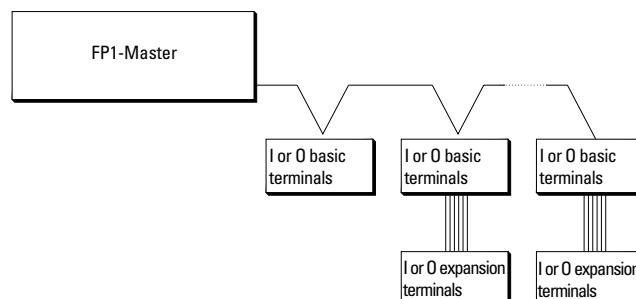
With the MEWNET-TR sensor/actor bus, decentralization becomes even easier. I/O terminals which can be used in many different combinations exchange digital I/O information on a twisted pair cable over distances of up to 700 m in a master-slave configuration. Data transmission at 500 kbit/s guarantees an I/O reaction time in the lower millisecond range.

If one MEWNET-TR bus is not sufficient, you can use a second master connection module to expand the locally-installed sensor/actor signals

- for the FP1-C24 (C) through FP1-C72 (C) to up to 80 inputs and 64 outputs and
- with FP1-C14/16 to up to 56 inputs and 48 outputs.

The strict „plug and control“ concept saves you from having to use expensive communication modules. Easy address selection and DIP switches allow you to set the FP1's I/O area, which will be mapped to the local components. In addition MEWNET-TR allows an FP1 controller to be linked to any other Matsushita FP controller.

Like the „plug and control“ connection described above, the selected CPU I/O areas are alternately assigned to each other here.





### C-NET.

C-NET – the multifunctional field bus. Up to 32 FP1 slave stations can be linked as required via RS422 or via RS232C to the RS485 C-NET MultiDrop bus. The twisted pair connection ensures error-free exchange of information at speed of between 9600 and 19200 bit/s over distances of up to 1200 m. Control of the data flow in C-NET can be handled by an FP series controller or by a third-party device (e.g. a PC). The easy-to-understand MEWTOCOL.COM ASCII protocol opens up the entire user data area of every slave station. In addition the MEWNET DDE server gives any WINDOWS application with DDE capabilities (InTouch, Microsoft Excel...) the option of exchanging process data with networked FP controllers.

### MEWNET-F.

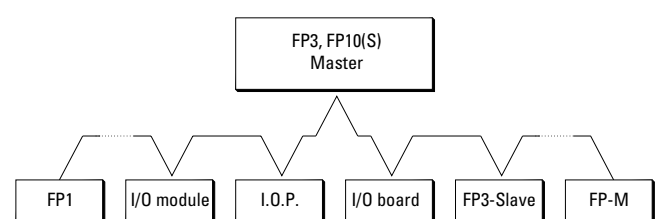
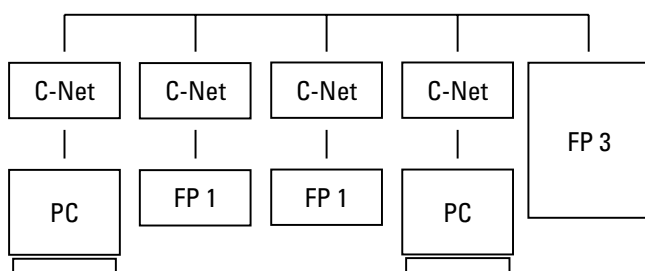
The MEWNET-F network is used for efficient linkage of decentralized I/O and local intelligent automation units using FP controllers in the mid performance bracket (FP3 and FP10SH). In addition to IOP terminals and various I/O modules FP1 slaves can also be decentralized using the powerful MEWNET-F network. You can connect up to 32 slave stations to a bus master of the central FP3/10SH CPU via a twisted-pair cable of up to 700m in length. Conveniently addressable I/O areas (32/32 bits) serve as the communications interface between the users. Even the extremely short conversion times of the FP1 analogue modules safely reach the superordinate master PLC thanks to a transmission speed of 500 kbit/s.

### FP1 and Man-Machine Communication

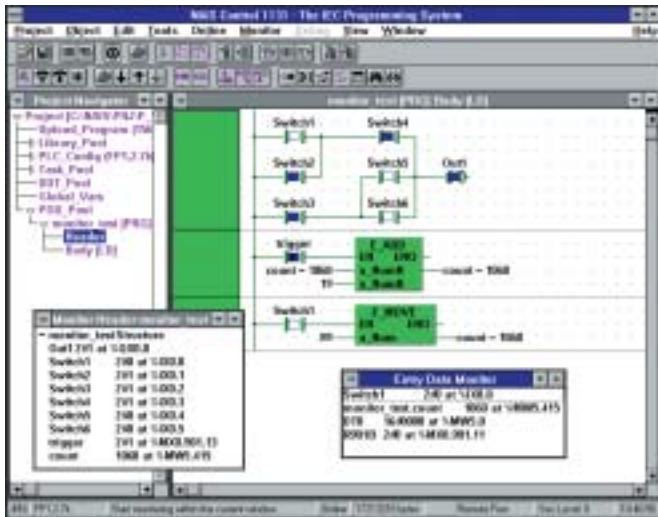
A family of operation and control devices (DATA ACCESS UNIT and HMI) allow simple, fast and clearly-structured man-machine communication. Regardless of whether they are using point-to-point connections or are networked via MEWNET, users exchange their process data in a master-slave procedure via powerful serial data lines. The settings on the communication paths themselves are reduced to just selecting the interface parameters and assigning the memory areas to be used. The serial MEWNET-DDE server is provided for exchange of information with DDE-capable WINDOWS applications. It gives DDE clients easy-to-understand and rapid access to data of the assigned FP1 memory areas.

### NAIS PROFIBUS

NAIS Profibus implies manufacturer – independent communication at field level. The European Profibus standard EN50170 guarantees compatibility of all certified devices. The FP1 DP-Slave Unit (AFP 17910) allows Matsushita's FP1 miniature control to be connected to the Profibus as a slave unit. The FP1 has its own powerful set of commands, operates independently and can continue to exercise control even if communication is interrupted. The configurable address area is 0..125. The baudrates 9,6 kBD up to 1500 kBD can be detected automatically.



# The programming software that automatically saves time.



FPWIN Pro, the universal software for all Matsushita PLC makes professional programming faster, more effective, and more economic. Here are just some of the highlights:

**Structured programming.** The Sequential Function Chart language, task and project management functions, and IEC-compliant program blocks combine to raise the quality of the software and reduce the number of programming errors.

**Program blocks.** You can store program sequences and subroutines that you plan to use again and again in your user library as a compressed Function block. Once stored, they will save you considerable time, effort and expense in programming routine operations.

**Online diagnosis.** Monitor Mode, Data Monitor, Dynamic Time Chart and plain-text messages ensure rapid fault clearance – with no need to consult manuals.

- Five program editors.**
- Instruction list (IL)
  - Function block diagram (FBD)
  - Ladder diagram (LD)
  - Sequential function chart (SFC)
  - Structured text (ST)

**Modem function.**

You reduce costs through remote maintenance and diagnosis. FPWIN Pro allows you to program alarm messages or status messages for decentralised installations which need to communicate independently with the central monitoring system.

**User-friendly by design.**

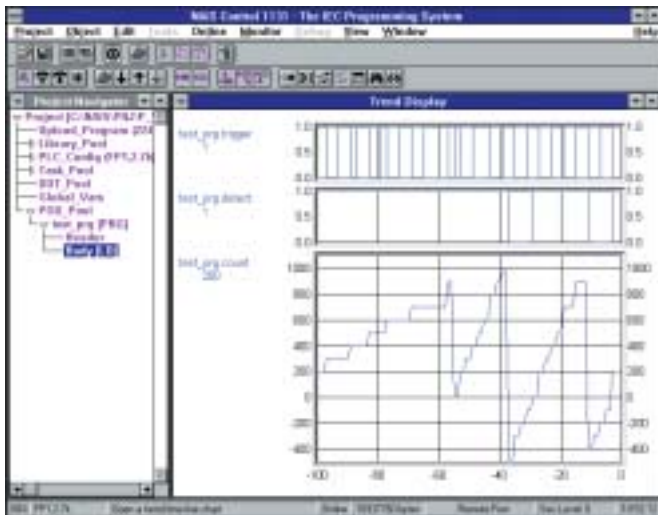
FPWIN Pro offers a tried-and-tested Windows user interface with all the tasks and work blocks clearly structured.

**Commands from a library.**

You can take complete function blocks that you need time and again for your programs from various command libraries – including standard IEC library and the Matsushita library.

**Troubleshooting made easy.**

For example: FPWIN Pro offers sophisticated debugging tools such as Break Points. You can also freeze the program cycle at any point in time or at any particular event. Or you can run a program in single-step mode with I/O simulation.





**SIMN** Matsushita  
Automation  
Controls

# NAiSControl 1131

Version 2.1

● RUN  
● PROG  
● E/WL  
● ALARM

● RUN  
● RUN  
● RUN  
● RUN

INPUTS  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

OUTPUTS  
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100



# Product Summary.

## FP1 Programmable Logic Controllers.

### PNP-(output) types

#### 1. Central Processing Units (Dual input „+“ and „-“ common mode, transistor output PNP):

	Order Number	Output	Supply Voltage	RS232C interface and real time clock	
C14 series 8 Inputs 6 Outputs	AFP12313	Relay	24 VDC	-	
	AFP12353	Transistor			
	AFP12317	Relay	100 to 240 VAC		
	AFP12357	Transistor			
C16 series 8 Inputs 8 Outputs	AFP12113	Relay	24 VDC	-	
	AFP12153	Transistor	100 to 240 VAC		
	AFP12117	Relay			
	AFP12157	Transistor			
C24 series 16 Inputs 8 Outputs	AFP12213	Relay	24 V DC	-	
	AFP12253	Transistor	100 to 240 VAC		
	AFP12217	Relay			
	AFP12257	Transistor			
	-	AFP12213C	Relay	24 V DC	Integrated
		AFP12253C	Transistor	100 to 240 VAC	
		AFP12217C	Relay		
		AFP12257C	Transistor		
C40 series 24 Inputs 16 Outputs	AFP12413	Relay	24 V DC	-	
	AFP12453	Transistor	100 to 240 VAC		
	AFP12417	Relay			
	AFP12457	Transistor			
	Integrated	AFP12413C	Relay	24 V DC	Integrated
		AFP12453C	Transistor	100 to 240 VAC	
		AFP12417C	Relay		
		AFP12457C	Transistor		
C56 series 32 Inputs 24 Outputs	AFP12513	Relay	24 V DC	-	
	AFP12553	Transistor	100 to 240 VAC		
	AFP12517	Relay			
	AFP12557	Transistor			
	Integrated	AFP12513C	Relay	24 V DC	Integrated
		AFP12553C	Transistor	100 to 240 VAC	
		AFP12517C	Relay		
		AFP12557C	Transistor		
C72 series 40 Inputs 32 Outputs	AFP12713	Relay	24 V DC	-	
	AFP12753	Transistor	100 to 240 VAC		
	AFP12717	Relay			
	AFP12757	Transistor			
	Integrated	AFP12713C	Relay	24 V DC	Integrated
		AFP12753C	Transistor	100 to 240 VAC	
		AFP12717C	Relay		
		AFP12757C	Transistor		

# Product Summary.

## FP1 Programmable Logic Controllers.

### 2. Expansion modules (Dual input „+“ and „-“ common mode) PNP output:

	Order Number	Number of Inputs	Number of Outputs	Output type	Supply Voltage
E8 series (8 Inputs/Outputs)	AFP13803	8	–	–	–
	AFP13813	4	4	Relay	
	AFP13853	4	4	Transistor	
	AFP13810	–	8	Relay	
	AFP13850	–	8	Transistor	
	AFP13870	–	8	Triac	
E16 series (16 Inputs/Outputs)	AFP13113	8	8	Relay	–
	AFP13153	8	8	Transistor	
	AFP13103	16	–	–	
	AFP13110	–	16	Relay	
E24 series (16 Inputs/8 Outputs)	AFP13213	16	8	Relay	24VDC
	AFP13253	16	8	Transistor	
	AFP13217	16	8	Relay	100 to 240 VAC
	AFP13257	16	8	Transistor	
E40 series (24 Inputs/16 Outputs)	AFP13413	24	16	Relay	24VDC
	AFP13453	24	16	Transistor	
	AFP13417	24	16	Relay	100 to 240 VAC
	AFP13457	24	16	Transistor	

## NPN-(output) types

### 1. Central Processing Units (Dual input „+“ and „-“ common mode, transistor output NPN):

	Order Number	Output	Supply Voltage	RS232C interface and real time clock
C14 series 8 Inputs/6 Outputs	AFP12347	Transistor	100 to 240 VAC	–
	AFP12343	Transistor	24 VDC	
C16 series 8 Inputs/8 Output	AFP12147	Transistor	100 to 240 VAC	–
	AFP12143	Transistor	24 VDC	
C24 series 16 Inputs/8 Outputs	AFP12247	Transistor	100 to 240 VAC	–
	AFP12243	Transistor	24 VDC	
	AFP12247C	Transistor	100 to 240 VAC	Integrated
	AFP12243C	Transistor	24 VDC	
C40 series 24 Inputs/16 Outputs	AFP12447	Transistor	100 to 240 VAC	–
	AFP12443	Transistor	24 VDC	
	AFP12447C	Transistor	100 to 240 VAC	Integrated
	AFP12443C	Transistor	24 VDC	



# Product Summary.

## FP1 Programmable Logic Controllers.

### 3. Central Processing Units (continued):

	Order Number	Output	Supply Voltage	RS232C interface and real time clock
C56 series 32 Inputs/24 Outputs	AFP12547	Transistor	100 to 240 VAC	-
	AFP12543	Transistor	24 VDC	
	AFP12547C	Transistor	100 to 240 VAC	Intregrated
	AFP12543C	Transistor	24 VDC	
C72 series 40 Inputs/32 Outputs	AFP12747	Transistor	100 to 240 VAC	-
	AFP12743	Transistor	24 VDC	
	AFP12747C	Transistor	100 to 240 VAC	Integrated
	AFP12743C	Transistor	24 VDC	

### 4. Expansion modules (Dual input „+“ and „-“ common mode) NPN output:

	Order Number	Number of Inputs	Number of Outputs	Output type	Supply Voltage
E8 series (8 Inputs/Outputs)	AFP13843	4	4	Transistor	-
	AFP13840	-	8	Transistor	
E16 series (16 Inputs/Outputs)	AFP13143	8	8	Transistor	-
	AFP13140	-	16	Transistor	
E24 series (24 Inputs/Outputs)	AFP13247	16	8	Transistor	100 to 240 VAC
	AFP13243	16	8	Transistor	24 VDC
E40 series (40 Inputs/Outputs)	AFP13447	24	16	Transistor	100 to 240 VAC
	AFP13443	24	16	Transistor	24 VDC

### 5. Special Expansion Modules

	Order Number	Supply voltage	Description
Analogue Input Module	AFP1402	24 VDC	4 analogue inputs 10 Bit (0-5 VDC, 0-10 VDC, 0-20 mA DC)
	AFP1406	100 to 240 VAC	
Analogue Output Module	AFP1412	24 VDC	2 analogue outputs 10 Bit (0-5 VDC, 0-10 VDC, 0-20 mA DC)
	AFP1416	100 to 240 VAC	
MEWNET-F Decentralised I/O Connection Module	AFP1732	24 VDC	MEWNET-F connection FP1 Slave
	AFP1736	100 to 240 VAC	
MEWNET-TR Decentralised I/O Module	AFP1753	24 VDC	MEWNET-TR connection FP1 Master
	AFP1756	100 to 240 VAC	
C-NET Module (RS232/RS422)	AFP8532	24 VDC	To connect the FP1 to a computer network with max. 32 users
	AFP8536	100 to 240 VAC	
C-NET Module (RS422)	AFP15401	-	
NAIS PROFIBUS FP1 DP-Slave Unit	AFP17910	24 VDC	To connect FP1 to a PROFIBUS network as a slave unit.

# Special Modules and Accessories.

## 6. Programming Tools and Accessories

	Order Number		Description
FPWIN Pro programming software	FPWINPROSEN5 FPWINPROSDE5 FPWINPROSFR5		Small version, English manual Small version, German manual Small version, French manual
FPWIN GR Programming software	FPWINGRF2		Programming tool for the FP series of Matsushita
Hand Held Programmer FP-Programmer II	AFP1114V2		Hand Held Programmer for the FP series of Matsushita
Computer Programmer cable	AFP8550FP1	2,5 m	Connection cable with integrated converter between FP1 (RS422) und PC (COM)
Hand Held Programmer cable	AFP15205 AFP1523	0,5 m 3 m	To connect between FP1 (RS422) and RS422/RS232C converter or Hand Held Programmer
RS422/RS232C converter	AFP8550		not necessary for cable AFP8550FP1
PC cable (COM) → AFP8550	AFP855009 AFP855025	9 PIN COM-Port 25 PIN COM-Port	To connect between PC-COM-Port and RS422/ RS232C-Converter or as an extender for cable AFP8550FP1
EPROM Module (FP1-C24/40/56/72)	AFP1201		Can be programmed in commercially available (E)EPROM programming device using an (E)EPROM program adapter
EEPROM Module (FP1-C24/40)	AFP1202		
EEPROM Module (FP1-C56/72)	AFP1203		
(E)EPROM programming adapter	AFP1810		To program (E)EPROM using commercially available programming device





North America	Europe	Asia Pacific	China	Japan
<b>Aromat Corporation</b>	<b>Matsushita Electric Works</b>	<b>Matsushita Electric Works</b>	<b>Matsushita Electric Works</b>	<b>Matsushita Electric Works, Ltd. Automation Controls Group</b>

## Matsushita Electric Works

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Europe		
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▶ Austria	<b>Matsushita Electric Works Austria GmbH</b>	Josef Madersperger Straße 2, A-2362 Biedermannsdorf, Tel. (022 36) 2 68 46, Fax (022 36) 4 61 33, <a href="http://www.matsushita.at">www.matsushita.at</a>
▶ Benelux	<b>Matsushita Electric Works Benelux B.V.</b>	De Rijn 4, (Postbus 211), 5684 PJ Best, (5680 AE Best), Netherlands, Tel. (0499) 372727, Fax (0499) 372185, <a href="http://www.matsushita.nl">www.matsushita.nl</a> or <a href="http://www.matsushita.be">www.matsushita.be</a>
▶ France	<b>Matsushita Electric Works France S.A.R.L.</b>	B.P. 44, F-91371 Verrières le Buisson CEDEX, Tél. 01 60135757, Fax 01 60135758, <a href="http://www.matsushita-france.fr">www.matsushita-france.fr</a>
▶ Germany	<b>Matsushita Electric Works Deutschland GmbH</b>	Rudolf-Diesel-Ring 2, D-83607 Holzkirchen, Tel. (08024) 648-0, Fax (08024) 648-555, <a href="http://www.matsushita.de">www.matsushita.de</a>
▶ Ireland	<b>Matsushita Electric Works UK Ltd.</b>	Irish Branch Office, Waverley, Old Naas Road, Bluebell, Dublin 12, Republic of Ireland, Tel: (01) 4600969, Fax: (01) 4601131, <a href="http://www.matsushita.ie">www.matsushita.ie</a>
▶ Italy	<b>Matsushita Electric Works Italia s.r.l.</b>	Via del Commercio 3-5 (Z.I. Ferlina), I-37012 Bussolengo (VR), Tel. (045) 6752711, Fax (045) 6700444, <a href="http://www.matsushita.it">www.matsushita.it</a>
▶ Portugal	<b>Matsushita Electric Works España S.A.</b>	Portuguese Branch Office, Avda 25 de Abril, Edificio Alvorada 5ºE, 2750-512 Cascais, Portugal, Tel. (21) 4828266, Fax (21) 4827421
▶ Scandinavia	<b>Matsushita Electric Works Scandinavia AB</b>	Sjöängsvägen 10, 19272 Sollentuna, Sweden, Tel. (08) 59476680, Fax (08) 59476690, <a href="http://www.matsushita.se">www.matsushita.se</a>
▶ Spain	<b>Matsushita Electric Works España S.A.</b>	Parque Empresarial Barajas, San Severo 20, 28042 Madrid, Tel. (91) 3293875, Fax (91) 3292976, <a href="http://www.matsushita.es">www.matsushita.es</a>
▶ Switzerland	<b>Matsushita Electric Works Schweiz AG</b>	Grundstrasse 8, CH-6343 Rotkreuz, Tel. (041) 7997050, Fax (041) 7997055, <a href="http://www.matsushita.ch">www.matsushita.ch</a>
▶ United Kingdom	<b>Matsushita Electric Works UK Ltd.</b>	Sunrise Parkway, Linford Wood East, Milton Keynes, MK14 6LF, England, Tel. (01908) 231555, Fax (01908) 231599, <a href="http://www.matsushita.co.uk">www.matsushita.co.uk</a>
North & South America		
▶ USA	<b>Aromat Corporation Head Office USA</b>	629 Central Avenue, New Providence, N.J. 07974, Tel. 1-908-464-3550, Fax 1-908-464-8513, <a href="http://www.aromat.com">www.aromat.com</a>
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▶ China	<b>Matsushita Electric Works Ltd. China Office</b>	2013, Beijing Fortune, Building No. 5, Dong San Huan Bei Lu, Chaoyang District, Beijing, Tel. 86-10-6590-8646, Fax 86-10-6590-8647
▶ Hong Kong	<b>Matsushita Electric Works Ltd. Hong Kong</b>	Rm1601, 16/F, Tower 2, The Gateway, 25 Canton Road, Tsimshatsui, Kowloon, Hong Kong, Tel. (852) 2956-3118, Fax (852) 2956-0398
▶ Japan	<b>Matsushita Electric Works Ltd.</b>	1048 Kadoma, Kadoma-shi, Osaka 571-8686, Japan, Tel. 06-6908-1050, Fax 06-6908-5781, <a href="http://www.mew.co.jp/e-acg/">www.mew.co.jp/e-acg/</a>
▶ Singapore	<b>Matsushita Electric Works (Asia Pacific) Pte. Ltd.</b>	101 Thomson Road, #25-03/05, United Square, Singapore 307591, Tel. (65) 6255-5473, Fax (65) 6253-5689