



CONTROLS PRODUCT GUIDE

Panasonic Electric Works of America

<http://pewa.panasonic.com/automation-controls/>

PLCs : HMI TOUCHSCREENS : SERVOS

Panasonic ideas for life

Panasonic Electric Works of America

Panasonic is a Leader in High-Technology and Cost-Effective Automation Control Solutions. Our Products are Proven Throughout the World in Various Industrial Settings, Including Automotive, Semiconductor, Packaging & OEM Environments.

TOTAL AUTOMATION SOLUTIONS

PLCs

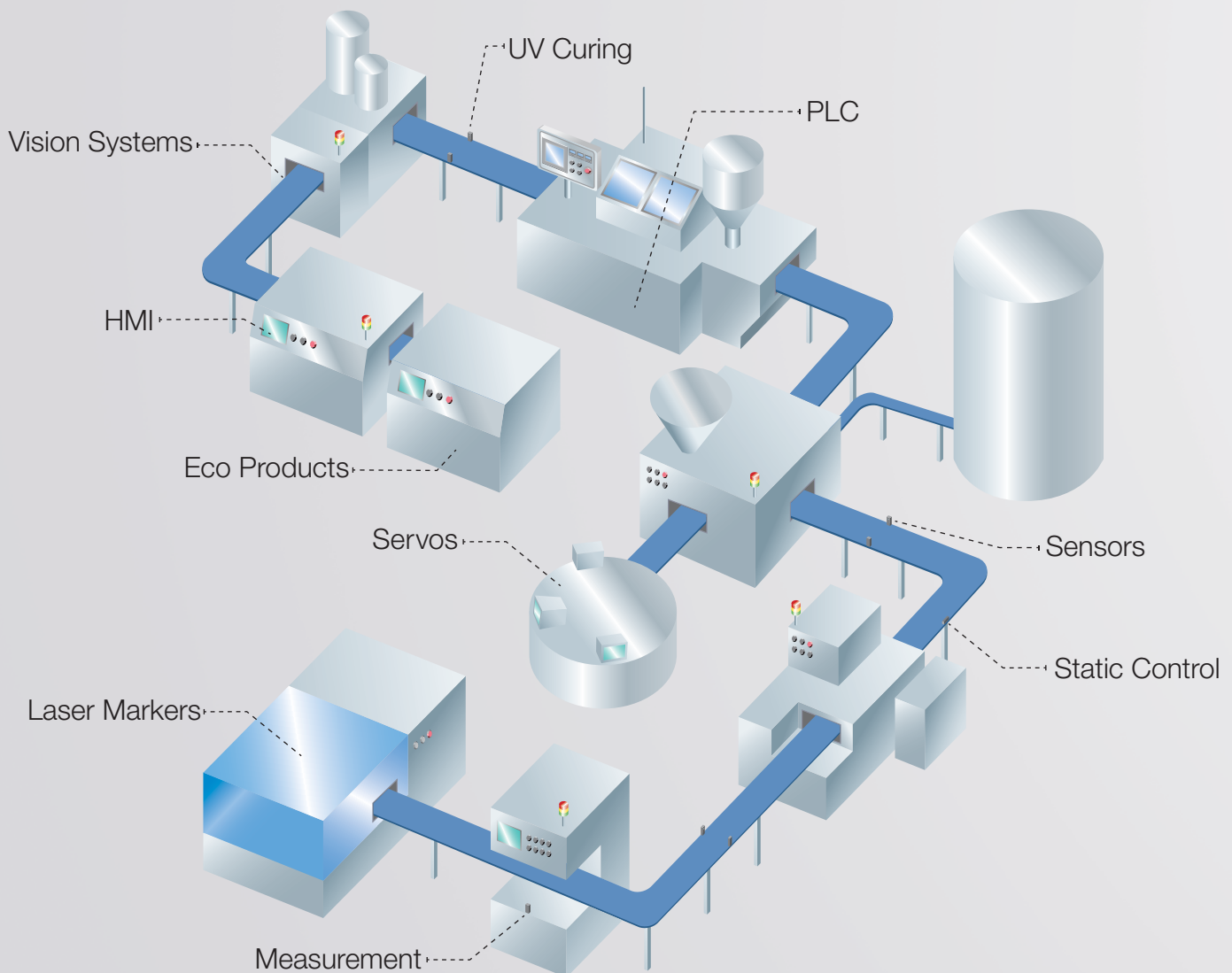
Our FP0R and FPΣ series are some of the smallest programmable logic controllers on the market. The power of our compact FPX is complemented by a new low price! All series are capable of real-world motion and temperature control.

HMIs

Building custom interfaces has never been so easy or rewarding. Utilizing built-in tools like our time saving 3D parts libraries in the GT05 or GT32 will allow you to setup your operator panels quickly and painlessly. From simple LED displays to 15", 16 million color touch screens, Panasonic has your HMI needs covered.

SERVOS

The A4/A5 series provide fast velocity response times and improved adaptive filters for maximum vibration suppression. The E series servos are our ultra compact, low cost solution for applications with limited space.



PROGRAMMABLE LOGIC CONTROLLERS

PLC Series Lineup

FPX Series

- 4 Axis Motion Control (100kHz x 2, 20kHz x 2)
- 32k Program Memory
- Linear Interpolation Motion
- High-Speed 32-Bit RISC Processor
- Ethernet Option



FP0R Series

- 4 Axis Motion Control (60kHz x 4)
- 32k Program Memory
- Labeling Function Block
- High-Speed (0.08 µsec / instruction)



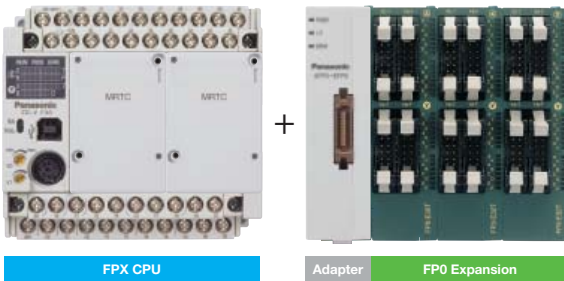
FPΣ Series

- 2 Axis Motion Control (60kHz x 2)
- 32k Program Memory
- High-Speed 32-Bit RISC Processor
- Network Motion Expansion 32 Axis



Cross Series Expansion

CPU and expansion units from different series can be used together for optimal application coverage (see chart below).



Series Compatibility

GPU Main Unit	FPX	FP0R	FPΣ
Expansion Units	●	○	○
FP0	●*	●	●
FPΣ	○	○	●

* Needs AFPX-EFP0 Adapter
● Compatible ○ Not Compatible

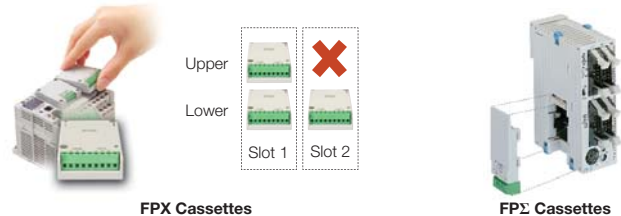
FPWIN Pro 6 Software

- One software for all Panasonic PLCs
- 5 programming languages: IL (Instruction List), LD (Ladder Diagram), FBD (Function Block Diagram), SFC (Sequential Function Chart), ST (Structured Text)
- 6 languages are fully supported: English, Spanish, French, Italian, German and Japanese
- Remote programming, service and diagnostics via modem or Ethernet
- Minimum program size through optimized compiler
- Powerful debugging and monitoring tools provide information on the current status of the PLC
- Supports user created functions and function blocks to save time. Numerous libraries available on our website
- Archive project file inside the PLC with comments, variables, etc.
- Extensive and comprehensive help with numerous sample codes

- Tool bar contains icons for frequently used menus
- Structured Text (ST) programming editor
- Declaration of variables
- Navigators provide an overview for very complex projects
- Ladder Diagram (LD) programming editor
- Selection of functions / function blocks
- Sequential Function Chart (SFC)

Application Cassettes

The FPX and FPΣ series can be extended by using an array of available application and communication cassettes that provide enhanced functionality while saving space.



Supported Communication Protocols

Series	Communication Protocol								
	General Purpose	MEWTOCOL	PLC Link	MODBUS	PROFIBUS	DeviceNet	CANopen	Ethernet	MODBUS TCP
FPX	●	●	●	●	○	○	○	●	●
FP0R	●	●	●	●	○	○	○	●	●
FPΣ	●	●	●	●	●	●	●	●	●

● Built-In ● Expansion ○ Not Supported

PROGRAMMABLE LOGIC CONTROLLERS

CPU Listing

FP-X CPU [AC120-240V]		
Relay 2A Load		Motion Function:
AFPX-C14R	8 IN / 6 OUT	1 Axis 1x AFPX-PLS
AFPX-C30R	16 IN / 14 OUT	2 Axis 2x AFPX-PLS
AFPX-C60R	32 IN / 28 OUT	2 Axis 2x AFPX-PLS
NPN 0.5A Load		Motion Function:
AFPX-C14T	8 IN / 6 OUT	2x 100kHz + 1x 20kHz
AFPX-C30T	16 IN / 14 OUT	2x 100kHz + 2x 20kHz
AFPX-C60T	32 IN / 28 OUT	2x 100kHz + 2x 20kHz
PNP 0.5A Load		Motion Function:
AFPX-C14P	8 IN / 6 OUT	2x 100kHz + 1x 20kHz
AFPX-C30P	16 IN / 14 OUT	2x 100kHz + 2x 20kHz
AFPX-C60P	32 IN / 28 OUT	2x 100kHz + 2x 20kHz
FPOR CPU [DC24V]		
Relay 2A Load		Motion Function:
AFP0RC10RS	6 IN / 4 OUT	-
AFP0RC10CRS	6 IN / 4 OUT + RS232C	-
AFP0RC14RS	6 IN / 4 OUT	-
AFP0RC14CRS	6 IN / 4 OUT + RS232C	-
NPN 0.2A Load		Motion Function:
AFP0RC16T	8 IN / 8 OUT	3 Axis 50kHz
AFP0RC16CT	8 IN / 8 OUT + RS232C	3 Axis 50kHz
AFP0RC32T	16 IN / 16 OUT	4 Axis 50kHz
AFP0RC32CT	16 IN / 16 OUT + RS232C	4 Axis 50kHz
AFP0RT32CT	16 IN / 16 OUT + RS232C, Clock	4 Axis 50kHz
AFP0RF32CT	16 IN / 16 OUT + RS232C, FRAM	4 Axis 50kHz
PNP 0.2A Load		Motion Function:
AFP0RC16P	8 IN / 8 OUT	3 Axis 50kHz
AFP0RC16CP	8 IN / 8 OUT + RS232C	3 Axis 50kHz
AFP0RC32P	16 IN / 16 OUT	4 Axis 50kHz
AFP0RC32CP	16 IN / 16 OUT + RS232C	4 Axis 50kHz
AFP0RT32CP	16 IN / 16 OUT + RS232C, Clock	4 Axis 50kHz
AFP0RF32CP	16 IN / 16 OUT + RS232C, FRAM	4 Axis 50kHz
FPΣ CPU [DC24V]		
Relay 2A Load		Motion Function:
FPG-C24R2H	16 IN / 8 OUT	-
NPN 0.1A Load		Motion Function:
FPG-C32T2H	16 IN / 16 OUT	2 Axis 60kHz
PNP 0.1A Load		Motion Function:
FPG-C28P2H	16 IN / 12 OUT	2 Axis 60kHz

Expansion Unit Listing

FP-X Expansion [AC120-240V]	
Relay 2A Load	
AFPX-E16R	8 IN / 8 OUT
AFPX-E14YR	14 OUT
AFPX-E30R	16 IN / 14 OUT
NPN 0.5A Load	
AFPX-E16T	8 IN / 8 OUT
AFPX-E30T	16 IN / 14 OUT
PNP 0.5A Load	
AFPX-E16P	8 IN / 8 OUT
AFPX-E30P	16 IN / 14 OUT
Note: 2 Pcs of FPX-E16 can not be installed side by side. Use AFPX-E30 instead.	
FP0 Expansion [DC24V]	
Analog	
FP0-A21	2 IN (T/C J+K, 0-5V, 0-10V, 4-20mA) 1 OUT (0-10V, 4-20mA)
FP0-A80	8 IN : 0-5V, -10V to 10V, 4-20mA
FP0-RTD6	6 IN RTD
FP0-TC4	4 IN : T/C J+K (932°F max)
FP0-TC8	8 IN : T/C J+K (932°F max)
FP0-A04V	4 OUT : 0-10V
FP0-A04I	4 OUT : 4-20mA
Inputs Only	
FP0-E8X	8 IN
FP0-E16X	16 IN
Relay 2A Load	
FP0-E8RS	4 IN / 4 OUT
FP0-E8YRS	8 OUT
FP0-E16RS	8 IN / 8 OUT
NPN 0.2A Load	
FP0-E8YT	8 OUT
FP0-E16T	8 IN / 8 OUT
FP0-E16YT	16 OUT
FP0-E32T	16 IN / 16 OUT
PNP 0.2A Load	
FP0-E8YP	8 OUT
FP0-E16P	8 IN / 8 OUT
FP0-E16YP	16 OUT
FP0-E32YP	16 IN / 16 OUT
FPG-XY64D2T	32 IN / 32 OUT NPN
FPG-XY64D2P	32 IN / 32 OUT PNP
FPG-PP11	1 Axis Motion 500kHz
FPG-PP12	1 Axis Motion Line Driver 4MHz
FPG-PP21	2 Axis Motion 500kHz
FPG-PP22	2 Axis Motion, Line Driver 4 MHz
FPG-PN2AN	2 Axis RTEX Motion Network (Ethernet)
FPG-PN4AN	4 Axis RTEX Motion Network (Ethernet)
FPG-PN8AN	8 Axis RTEX Motion Network (Ethernet)
FPG-CAN-M	CAN Open Master
FPG-CAN-S	CAN Open Slave
FPG-DEV-M	DeviceNet Master
FPG-DEV-S	DeviceNet Slave
FPG-DPV1-M	Profibus DP Master
FPG-DPV1-S	Profibus DP Slave

Cassette Listing

FP-X Cassettes	
Application Cassettes (Mountable Only Lower Level Slot 1 /Slot 2)	
Analog Signals	
AFPX-AD2	2 IN : 0-10V, 4-20mA
AFPX-A21	2 IN : 0-5V, 0-10V, 4-20mA 1 OUT : 0-10V, 4-20mA
AFPX-DA2	2 OUT : 0-10V, 4-20mA
AFPX-TC2	2 IN : T/C J+K (932°F Max)
AFPX-RTD2	2 IN : PT100
Digital Signals	
AFPX-IN4T3	4 IN 3 OUT : NPN
AFPX-IN8	8 IN
AFPX-TR8	8 OUT : NPN
AFPX-TR6P	6 OUT : PNP
Advanced	
AFPX-PLS	1 Axis Motion OUT : 1x 100kHz or 2x 80kHz HSC: 2ch 80kHz, 1 Quad 30kHz, Relay PLC ONLY
AFPX-MRTC	Master Memory: Program Backup + Realtime Clock (Requires Battery, AFPX-BATT)
Communication Cassettes (Mountable on Lower or Upper Level Slot 1)	
AFPX-COM1	1x RS232C
AFPX-COM2	2x RS232C
AFPX-COM3	1x RS485/422
AFPX-COM4	RS485 + RS232
AFPX-COM5	Ethernet + RS232
AFPX-COM6	2x RS485
Note 1 : RS232C Tool Port and USB Port can not be used simultaneously on AFPX-C30R and AFPX-C60R	
Note 2 : Max of 1 Communication cassette can be used	
FPΣ Cassettes	
Communication Cassettes	
FPG-COM1	RS232C
FPG-COM2	2x RS232C
FPG-COM3	RS485/422
FPG-COM4	RS485 + RS232C
Accessories	
External Relay Modules	
CT2-C-20	20 Points (16 I/O) Screw Terminal Block for FPOR, FPΣ Transistor Types Only
AYT1510-US	I/O Cable Between FPOR, FPΣ & CT2-C-20
Cables & Software	
AFC1500GTV2-US	GT HMI (24V) Tool Port Cable for FP Series PLC
AFC1500-US	GT HMI (5V) Tool Port Cable for FP Series PLC
FPWINPRO6-SMALL	PLC Software, Small Version (FP0, FPOR, FPX, FPe, FP)
AFC1520M-US9	RS232C Cable for all PLC

HMI TOUCHSCREENS



GT02



GT12



GT05



GT32

All GT Models

- **Pass Through Communication** : Program PLC through HMI
- **Multi-Language Support**: 16 Different Languages
- **Alarm List Feature**: Easy to use alarm log
- **Trend Graph**: Display data in a trend graph form
- **Real Time Clock and Calendar**: Selected Units Only

GT02/GT05/GT12/GT32 Models ONLY

- **SD Card Slot (32Gb)**: Data Logging + HMI/PLC Storage
- **Multiple Controllers**: Connect 31 Controllers to a Single HMI (via RS485)
- **GT Link**: Connect 32 HMIs to a Single PLC (vis RS485)
- **Password Protection**: Protect Data, Buttons & Screens
- **USB Programming Port**: Fast and Easy Transfer of Programs

RS232 Models

Model	Screen Size	Source Power	Screen Color Options	Part Number
GT02	3.8"	5 VDC		AIG02GQ02D
				AIG02MQ03D
				AIG02GQ12D
		24 VDC		AIG02MQ13D
				AIG02GQ22D
				AIG02MQ23D
GT05	3.5"	24 VDC		AIG05GQ02D
GT12	4.6"		Color (4096)	AIG05SQ02D
				AIG12GQ12D
GT32	5.7"	Monochrome	AIG32MQ02D	
		Color (4096)	AIG32TQ02D	

Accessories		
GT Screen Protectors (10pc)	GT02	AIG02810
	GT05	AIG05800
	GT12	AIG12800
	GT32	AIG32800
GT Screen Battery	GT02	AFPX-BATT
	GT05	
	GT12	
GT32	GT32	
	GT32	
GTWIN Software	All GT Models	AIGT8001V2

= Model Available w/ SD Card Slot

RS422/485 Models Are Also Available

SERVO MOTION CONTROL

AC Servo Motors

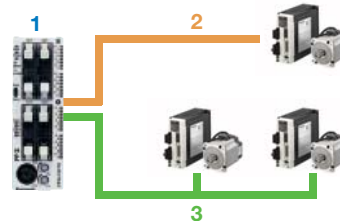
- Power Range: 50W to 7.5kW
- 4 Mpps high-speed input (2 Mpps for A4)
- New advanced real-time auto gain tuning
- Smaller Driver and Motor Dimensions
- High Functionality Damping Control
- 2 kHz Velocity Response Freq. (1 kHz for A4)
- Full Closed Control as a Standard
- A5: 20-bit inc., 17-Bit abs. encoder
- A4: 2500 ppr inc. or 17-Bit abs./inc. encoder



A5



A4



1 PLC

FPG-C32T2H-A CPU 16 IN/OUT

2 1 Axis Cable (1M)

DV0P0980W-1

3 2 Axis Cable (1M)

DV0P0981W-1

Application Example:

Motion Control, 1 or 2 Axis with Linear or Circular Interpolation, 50Hz

	Power	Voltage	Rated Torque Nm (lb-ft)	Peak Torque Nm (lb-ft)	Incremental Motor	Driver	Power Cable (3m)	Encoder Cable (3m)		
A5 Servo	200 W	100 VAC	0.64 (0.47)	1.91 (1.40)	MSME021G1U	MBDHT2110	MFMCA0030NJD	MFECA0030MJD		
		200 VAC			MSME022G1U	MADHT1507				
	400 W	100 VAC	1.3 (0.95)	3.8 (2.80)	MSME041G1U	MCDHT3120				
		200 VAC			MSME042G1U	MBDHT2510				
	750 W	200 VAC	2.4 (1.77)	7.1 (5.24)	MSME082G1U	MCDHT3520				
1 kW	200 VAC	3.18 (2.34)	9.55 (7.04)	MSME102G1G	MDDHT5540	MFMCD0032ECD	MFECA0030ETD			
A4 Servo	200 W	100 VAC	0.64 (0.47)	1.91 (1.40)	MSMD021P1S	MBDDT2110003	MFMCA0030EED	MFECA0030EAM		
		200 VAC			MSMD022P1S	MADDT1207003				
	400 W	100 VAC	1.3 (0.95)	3.8 (2.80)	MSMD041P1S	MCDDT3120003				
		200 VAC			MSMD042P1S	MBDDT2210003				
	750 W	200 VAC	2.4 (1.77)	7.1 (5.24)	MSMD082P1S	MCDDT3520003				
	1 kW	200 VAC	3.18 (2.34)	9.55 (7.04)	MSMA102P1G	MDDDT5540003			MFMCD0032ECD	MFECA0030ESD

A4 Driver P/N suffix: (Simple Pulse/Dir: 003, Network: N, Standard w/ Analog: blank)

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Design and specifications are subject to change without notice.

Please review technical specifications before purchase.

For any safety concerns regarding these products, please contact your Panasonic sales representative.



<http://www.twitter.com/panasonicelec>



<http://www.youtube.com/panasonicelec>

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