

FP7 series analog input unit with high-speed processing of multiple channels now added!



NEW

**Analog input unit
high-speed and multi-channel type
AFP7AD8**

High speed, easy collection and processing of analog signals

Not only equipped for high-speed processing, the FP7 is also easy to operate and to configure.

High-speed conversion	25 μ s/channel
Averaging processing	Number of times, time, moving
Digital processing	Scale conversion setting / offset setting / gain setting
Setting	Software tool for easy operation

High-speed sampling that doesn't depend on CPU unit scanning.

Sampling and data collection in the analog unit!
Use the AFP7AD8 for measurement applications because with the fixed cycle, analog signal can be held in the buffer.

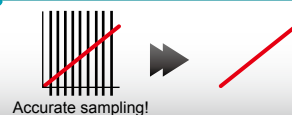
Dependent on scan of CPU

The scan gets delayed when the CPU slows down due to other processes and sampling becomes sporadic.



Sampling in the analog unit

Accurate sampling possible with fixed cycle.



High-speed and high-accuracy type also available.

For details, please see the back cover.



Expansion unit capable of bus expansion and distributed installation

Connect a maximum of 3 blocks and a total of 64 units

Three blocks can be expanded on one CPU unit. Distributed installation achieved while maintaining high-speed bus transmission.



NEW

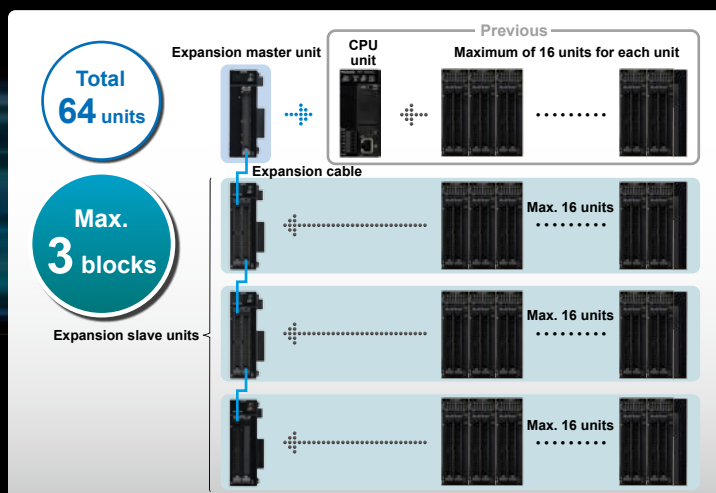
**Expansion master unit
AFP7EXPM**



NEW

**Expansion slave unit
AFP7EXPS**

End unit
(included)



SPECIFICATIONS

Analog input unit (high-speed and multi-channel type)

Part No.		AFP7AD8	
Number of channels		8 channels	
Input range (resolution)	Voltage	-10 to 10 V DC (resolution: 1/62,500) 0 to 10 V DC (resolution: 1/31,250) 0 to 5 V DC (resolution: 1/31,250) 1 to 5 V DC (resolution: 1/25,000) (Note)	
	Current	0 to 20 mA (resolution: 1/31,250) 4 to 20 mA (resolution: 1/25,000) (Note)	
Conversion speed	Voltage / current	25 μs/channel	
Overall accuracy		±0.1 % F.S. or less (at 25 °C 77 °F) ±0.3 % F.S. or less (at 0 to 55 °C 32 to 131 °F)	
Input impedance	Voltage input / Current input	1 MΩ approx. / 250 Ω	
Max. input range		-15 to 15 V DC voltage input -2 to 30 mA current input	
Insulation method	Between input terminals and internal circuit	Photocoupler and isolated DC / DC converter	
	Between analog input and trigger input terminal		
Conversion execution / non-execution channel setting		Selectable per channel unit	
Input range change method		Selectable per channel	
Digital processing	Averaging	Number of times	Setting range: 2 to 60,000 times
		Time duration	Time setting range: 1 to 1,500 ms
		Moving	Setting range: 2 to 2,000 times
	Scale conversion setting		Any value within ±30,000
	Offset setting		Any value within ±3,000
	Gain setting		Any value within 9,000 to 11,000
Max. and min. value holding		Possible to make settings on a channel-by-channel basis	
Comparison of upper and lower limit values		Possible to make settings on a channel-by-channel basis (hysteresis)	
Broken wire detection		When less than 2.8 mA (only when current input range 4 to 20 mA is set.)	

Note: The full scale (F.S.) on the accuracy of an analog voltage input range from +1 to +5 V and that of an analog current input range from +4 to +20 mA are 0 to +5 V and 0 to +20 mA, respectively.

Part No.		AFP7AD8
Buffer function		3 trigger types: Soft trigger, external trigger and input level
Trigger input section	Insulation method	Photocoupler
	Rated input voltage / rated input current	24 V DC / 12 mA approx. (at 24 V DC)
	Input impedance	2 kΩ approx.
	Operating voltage range	21.6 to 26.4 V DC
	Min. ON voltage / Min. ON current	19.2 V / 3.5 mA
	Max. OFF voltage / Max. OFF current	5 V / 1.5 mA
Response time	OFF→ON	0.1 ms or less
	ON→OFF	0.1 ms or less
Input points per common		1 point/common
Current consumption		85 mA or less
Net weight		130 g approx.

Functions for the expansion unit

Part No.		AFP7EXPM	AFP7EXPS
Number of expansion	Block	Max. 3 blocks (total 4 blocks)	
	Unit	Max. 48 units (total 64 units)	
Transmission distance	Distance between blocks	Length of expansion cable (0.5 m 1.640 ft, 1 m 3.281 ft, 3 m 9.843 ft and 10 m 32.808 ft)	
	Total extension	Max. 30 m 98.425 ft (Expansion cable × 3 expansions) (Note 1)	
Current consumption (Note 2)		120 mA or less	100 mA or less
Max. allowable current		—	3.0 A (at 24 V DC power supply terminal)
Expansion bus connector		MIL 40 pins	MIL 40 pins × 2
Net weight		120 g approx.	200 g approx. (including end unit)
Accessories		—	Power supply cable (Part No.: AFP805) End unit (Part No.: AFP7END)

Notes: 1) Can support a maximum of 100 m 328.084 ft length between blocks. Please inquire with us for details.

2) Differs depending on power supply voltage and number of expansion units.

Analog device lineup

Analog input and output units

Product name	Specifications	Number of channels	Part No.
FP7 analog input unit (high-speed and multi-channel type)	Voltage / current, conversion rate: 25 µs/channel, resolution: max. 16 bits, accuracy: ±0.1 % F.S. or less (at 25 °C 77 °F)	8 channels	NEW AFP7AD8
FP7 analog input unit (high-speed and high-accuracy type)	Voltage / current, conversion rate: 25 µs/channel, resolution: max. 16 bits, accuracy: ±0.05 % F.S. or less (at 25 °C 77 °F) / insulation between channels	4 channels	AFP7AD4H
FP7 analog output unit (high-speed and high-accuracy type)	Voltage / current, conversion rate: 25 µs/channel, resolution: max. 16 bits, accuracy: ±0.1 % F.S. or less (at 25 °C 77 °F) / insulation between channels	4 channels	AFP7DA4H

Temperature input units

Product name	Specifications	Number of channels	Part No.
FP7 Thermocouple multiple analog input unit	Thermocouple (K, J, T, N, R, S, B, E, PLII and WRe5-26), Voltage / current, conversion rate: 5 ms/channel, resolution: max. 16 bits, accuracy: ±0.1 % F.S. or less (at 25 °C 77 °F), insulation between channels	8 channels	AFP7TC8
FP7 Resistance temperature detector input unit	Resistance temperature detector (Pt100, JPt100 and Pt1000), conversion rate: 25 ms/channel, accuracy: ±0.1 % F.S. or less (at 25 °C 77 °F), insulation between channels	8 channels	AFP7RTD8

Add-on cassettes

Product name	Specifications	Part No.
FP7 function cassettes	Analog input, 2 channels, voltage / current	AFP7FCAD2
	Analog input and output, input: 2 channels, output: 1 channel	AFP7FCA21
	Thermocouple input, 2 channels, K / J	AFP7FCTC2

Expansion unit lineup

Expansion units

Product name	Specifications	Part No.
FP7 expansion master unit	Expansion of up to 3 slave units possible	NEW AFP7EXPM
FP7 expansion slave unit	Up to 16 units can be connected to 1 slave unit.	NEW AFP7EXPS
Expansion cables	Length: 0.5 m 1.640 ft	NEW AFP7EXPCRS5
	Length: 1 m 3.281 ft	NEW AFP7EXPC01
	Length: 3 m 9.843 ft	NEW AFP7EXPC03
	Length: 10 m 32.808 ft	NEW AFP7EXPC10

New functions

Supports the following functions from Ver. 2.4 of Control FWIN GR7.

• Mnemonic ladder • Simulation • Data editor