

13.1 Table of Performance Specifications

I/O specifications

Common specifications

Item	FP2 High-speed Counter Unit		FP2 Pulse I/O Unit	
	NPN output	PNP output	NPN output	PNP output
Part No.	FP2-HSCT	FP2-HSCP	FP2-PXYT	FP2-PXYP
No. of dedicated inputs/outputs	32 inputs, 32 outputs (32SX, 32SY)			
Internal current consumption	450 mA or less (at 5 VDC)		500 mA or less (at 5 VDC)	
Operation display	32-point LED display (lighted when on)			
External connections	Connector connections (One 40P long lever type conforming to MIL standards used)			
Weight	Approx. 110 g/3.9 oz		Approx. 130 g/4.6 oz	

Input specifications

Item	FP2 High-speed Counter Unit		FP2 Pulse I/O Unit		
	NPN output	PNP output	NPN output	PNP output	
Part No.	FP2-HSCT	FP2-HSCP	FP2-PXYT	FP2-PXYP	
Input	Insulation method		Photocoupler insulation		
	Rated input voltage		24 VDC		
	Rated input current		Approx. 7.5 mA (when using 24 VDC)		
	Input impedance		Approx. 3.2 k Ω		
	Usage voltage range		20.4 to 26.4 VDC		
	Min. on voltage/ min. on current		19.2 VDC / 6 mA		
	Max. off voltage/ max. off current		5.0 VDC / 1.5 mA		
	Response time *1	off \rightarrow on	1 μ s or less		
		on \rightarrow off	2 μ s or less		
	Input time constant setting		None, 4 μ s, 8 μ s, 16 μ s, 32 μ s (set in 2-input units)		
Common method		16 points/common			
		+ common	- common	+ common	- common
Counter	No. of counter channels		4 channels		
	Calculation range		32-bit with sign (-2,147,483,648 to +2,147,483,647)		
	Max. calculation speed *1 *2		200 kHz		
	Input modes		3 modes (direction control, individual input, phase input)		
	Min. input pulse width *1		2.5 μ s		
	Other		8 comparison outputs, multiplier function (1, 2, 4)		
Interrupt	No. of interrupt points *3		None, 1/unit, 8/unit (set with mode setting switches)		
	Interrupt processing delays		160 μ s or less (when using FP2 CPU unit) 50 μ s or less (when using FP2SH CPU unit)		

*1: This value is effective when the input time constant (filter) setting is set to "No setting".

*2: If the quadrupling function is used for counting with phase input, the maximum calculation speed will be 800 kHz.

*3: The number of interrupt points is set using the mode setting switches on the side of the unit. If interrupts are used at a setting of one per unit, the program for interrupts from the external input terminal B1 (X8) or the program for interrupts from comparison 0 (one from among INT16 to INT23) is booted.

13.1 Table of Performance Specifications

Output specifications

Item		FP2 High-speed Counter Unit		FP2 Pulse I/O Unit		
		NPN output	PNP output	NPN output	PNP output	
Part No.		FP2-HSCT	FP2-HSCP	FP2-PXYT	FP2-PXYP	
Output unit specifications	Insulation method		Photocoupler insulation			
	Rated load voltage		5 to 24 VDC			
	Rated load voltage range		4.75 to 26.4 VDC			
	Max. load current		0.1 A (A11 to A18, B11 to B14 pins), 0.8 A (B15 to B18 pins)			
	Leakage current when off		1 μ A or less			
	Max. voltage drop when on		0.5 V or less			
	Response time	off \rightarrow on	1 μ s or less			
		on \rightarrow off	1 μ s or less	5 μ s or less	1 μ s or less	5 μ s or less
	Surge killer		Zener diode			
	Common method		16 points/common			
External power supply	Voltage		20.4 to 26.4 VDC			
	Current (at 24 V DC)		90 mA or less	200 mA or less	90 mA or less	200 mA or less
Counter	Comparison output		8 points (A11 to A18 pins)			
Pulse output	Channels		4 channels (B11 to B18 pins)			
	Max. output frequency *1		100 kHz			
	Output modes		2 modes (direction control, individual output)			
PWM output	No. of output points		4 channels (B15 to B18 pins)			
	Max. load current		0.8 A			
	Cycle *1		1 Hz to 30 kHz			
	Duty *1		0 to 100% (unit: 1%)			

*1: At maximum load current and resistance load. There may be distortion in the output waveform, depending on the load current and type of load.

13.1 Table of Performance Specifications

Function specifications

Function	Item	FP2 High-speed Counter Unit		FP2 Pulse I/O Unit	
		NPN output (FP2-HSCT)	PNP output (FP2-HSCP)	NPN output (FP2-PXYT)	PNP output (FP2-PXYP)
Input/output	Occupied I/O	32I, 32O			
	No. of external points	16I, 16O			
Interrupts	No. of interrupts	None, 1/unit, 8/unit			
	Modes	No interrupt mode, intelligent unit that produces interrupts, interrupt unit (settings of switches on side of unit)			
Counter	Channels	4 channels			
	Calculation range	32-bit, with sign (-2,147,483,648 to +2,147,483,647)			
	Calculation speed	200 kHz max. *1			
	Input modes	Direction control, individual, phase differential			
	Special functions	Multiplier function (1, 2, 4)			
Comparison output	No. of outputs	8 max.			
Input time constant	No. of points	16 (Unit: 2 points)			
	Constants	4, 8, 16, 32 μs			
Pulse output	Channels	—		4 channels *2	
	Frequency			1 Hz to 100 kHz (setting unit: 1 Hz)	
	Output modes			Direction control, individual output	
PWM	Channels	—		4 channels *2	
	Output current			0.8 A/channel max.	
	Duty			0 to 100% (setting unit: 1%)	
	Cycle			1 Hz to 30 kHz (setting unit: 1 Hz)	

*1: This value is effective when the input time constant (filter) setting is set to "None".

*2: The same channels are used for pulse output and PWM output. If both functions are being used, the channels to be used for each function are selected as shown in the table below.

Combination	Channel used			
	CH0	CH1	CH2	CH3
1	PWM	PWM	PWM	PWM
2	PLS	PWM	PWM	PWM
3	PLS	PLS	PWM	PWM
4	PLS	PLS	PLS	PWM
5	PLS	PLS	PLS	PLS