

High-Speed Counter's Maximum Counting Speed Reference Table (FP-XH common-type control unit)

The maximum counting speed of the high-speed counter varies depending on the number of channels used and the pulse output function. When using the counter, use the following table as a guideline.

Combination with high-speed counter												Combination with pulse output function															
Single-phase, high-speed channel												No pulse output				Pulse output 1CH				Pulse output 2CH(1-axis interpolation)				Pulse output 3CH			
CH0	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH0	CH2	CH4	CH6	Single-phase, high-speed	Single-phase, medium-speed	Two-phase, high-speed	Two-phase, medium-speed	Single-phase, high-speed	Single-phase, medium-speed	Two-phase, high-speed	Two-phase, medium-speed	Single-phase, high-speed	Single-phase, medium-speed	Two-phase, high-speed	Two-phase, medium-speed	Single-phase, high-speed	Single-phase, medium-speed	Two-phase, high-speed	Two-phase, medium-speed
○												100				100				100				100			
○	○											100				100				100				100			
○	○	○										100				100				100				100			
○	○	○	○									100				100				100				100			
				○									10				10								10		
				○	○								10				10								10		
				○	○	○							10				10								10		
				○	○	○	○						10				10								10		
○				○								100	10			100	10			100	10			100	10		
○				○	○							100	10			100	10			100	10			100	10		
○				○	○	○						100	10			100	10			100	10			100	10		
○				○	○	○	○					100	10			100	10			100	10			90	10		
○	○			○								100	10			100	10			100	10			100	10		
○	○			○	○							100	10			100	10			100	10			100	10		
○	○			○	○	○						100	10			100	10			100	10			90	10		
○	○			○	○	○	○					100	10			100	10			100	10			75	8		
○	○	○		○								100	10			100	10			100	10			100	10		
○	○	○		○	○							100	10			100	10			100	10			90	10		
○	○	○		○	○	○						100	10			100	10			100	10			70	10		
○	○	○	○	○								100	10			100	10			100	10			70	10		
○	○	○	○	○	○							100	10			100	10			80	8			70	10		
○	○	○	○	○	○	○						100	10			90	8			75	8			65	8		
								○						50				35					30				25
								○	○					35				30					25				20
										○					8			8					8				8
										○	○				8			8					7				7
								○						45				35				25					20
								○						40				30				20					15
								○	○					35				25				20					15
								○	○	○	○			35				25				15					10
								○						10		50					10		25			10	20
								○	○					10		30					10		20			10	20
○										○				100				10			100			10	100		9
○	○									○				100				10			100			9	100		8
○	○	○								○				100				10			100			7	80		5
○	○	○	○							○				100				9			95			5	70		5
○										○	○			100				9			100			9	95		6
○	○									○	○			100				9			95			6	70		5
○	○	○								○	○			100				9			80			5	65		5
○	○	○	○							○	○			100				6			70			5	55		5

Note) When HSC target value match ON / OFF instruction and another interrupt program are executed at the same time, the maximum counting speed may be lower than the above value.

Combination with high-speed counter												High-speed counter's maximum counting speed (frequency, kHz)											
Combination with high-speed counter												Combination with pulse output function											
Combination with high-speed counter												Pulse output 4CH(2-axis interpolation)				Pulse output 5CH				Pulse output 6CH(3-axis interpolation)			
Single-phase, high-speed channel				Single-phase, medium-speed channel				Two-phase, high-speed		Two-phase, medium-speed		Single-phase, high-speed		Single-phase, medium-speed		Two-phase, high-speed		Two-phase, medium-speed					
CH0	CH1	CH2	CH3	CH4	CH5	CH6	CH7	CH0	CH2	CH4	CH6	Single-phase, high-speed	Single-phase, medium-speed	Two-phase, high-speed	Two-phase, medium-speed	Single-phase, high-speed	Single-phase, medium-speed	Two-phase, high-speed	Two-phase, medium-speed				
○												100				100				70			
○	○											100				90				45			
○	○	○										95				60				45			
○	○	○	○									65				50				40			
				○									10				10				10		
				○	○								10				10				10		
				○	○	○							10				10				10		
				○	○	○	○						10				10				10		
○				○								100	10			90	10			60	10		
○				○	○							100	10			65	10			50	10		
○				○	○	○						80	10			60	10			50	10		
○				○	○	○	○					70	10			60	10			45	10		
○	○			○								100	10			70	10			50	10		
○	○			○	○							80	10			60	10			50	10		
○	○			○	○	○						70	10			60	10			45	10		
○	○			○	○	○	○					60	10			50	10			40	10		
○	○	○		○								70	10			60	10			50	10		
○	○	○		○	○							70	10			55	10			40	10		
○	○	○		○	○	○						60	10			50	10			40	10		
○	○	○	○	○								60	10			45	10			30	10		
○	○	○	○	○	○							65	10			55	10			40	10		
○	○	○	○	○	○							60	10			40	10			35	10		
○	○	○	○	○	○	○						55	10			40	10			30	10		
○	○	○	○	○	○	○	○					50	8			40	10			25	10		
								○						20									10
								○	○					10									9
										○					6								4
										○	○				5								3
								○		○				15									8
								○		○	○			10				10					8
								○	○	○				10									8
								○	○	○	○			8									6
								○	○	○	○			4									3
				○	○	○	○	○					10	20				10	15			10	10
				○	○	○	○	○	○				10	20				10	15			8	8
○										○		95				60				5			4
○	○									○		65				50				4			3
○	○	○								○		55				45				4			3
○	○	○	○							○		55				45				4			3
○										○	○	60				50				4			3
○	○									○	○	55				45				4			3
○	○	○								○	○	55				45				4			3
○	○	○	○							○	○	50				40				3			2

Note) When HSC target value match ON / OFF instruction and another interrupt program are executed at the same time, the maximum counting speed may be lower than the above value.

Pulse input / output performance

Single axis control

CH0	CH1	CH2	CH3	CH4	CH5	Maximum output frequency (kHz)
○						100
○	○					100
○	○	○				100
○	○	○	○			100
○	○	○	○	○		100
○	○	○	○	○	○	100

Interpolation control

CH0	CH2	CH4	Maximum output frequency (kHz) (Composite speed)
○			100
○	○		100
○	○	○	100

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