

⊙ High Speed Counter (C235~ C255) (High speed counter operated by interrupt and independent cycle time)

◆◆◆ 32 bits up/down latched counter ◆◆◆

ITEM	1 phase 1 direction	1 phase bi-direction	2 phase bi-direction
Counter number	C235 ~ C245	C246 ~ C250	C251 ~ C255
Counter direction	According to ON/OFF by M8235 ~M8245 to decided direction	According different input point to decided up count or down count	When A-phase ON, B-phase: 0→1: Up, 1→0:Down
Direction monitor	- - -	Monitor M8246 ~ M8255 status, then can know counter direction	

◆◆◆ Difference of the 16 bit / 32 bit counters ◆◆◆

ITEM	16 bit counter	32 bit counter
Direction	Up counter	Up / down counter direction can be change
Value range	0 ~ 32,767	-2,147,483,648 ~ +2,147,483,647
Setting method	Constant (16 bit) or data register	Constant (32 bit) or a pair of register
Current value	No change to maximum value	Change to maximum value (ring counter)
Output contact	To maximum value set and keep status	Up counter: keep status, down counter: reset
reset	When RST instruction be driven, the value of counter reset to zero and output contact OFF	

⊙ NOTE

- ◆ The input signal of high speed counter cannot be higher than counting speed.
- ◆ If an input is already being used by a high speed counter, it cannot be used for any other high speed counters or for any other purpose, like as an interrupt input.

◆◆◆ Device Table of High Speed Counter ◆◆◆

Input		X0	X1	X2	X3	X4	X5	X6	X7	Note
1 Phase without start/reset	C235	U/D								
	C236		U/D							
	C237			U/D						
	C238				U/D					
	C239					U/D				
	C240						U/D			
1 Phase with start/reset	C241	U/D	R							
	C241(M8025=1)	C	d							
	C242			U/D	R					
	C242(M8025=1)			C	d					
	C243					U/D	R			
	C243(M8025=1)					C	d			
	C244	U/D	R					S		
	C244(M8025=1)							U/D		Note*2
C245			U/D	R				S		
C245(M8025=1)								U/D	Note*2	
1 Phase bi-direction	C246	U	D							
	C247	U	D	R						
	C248				U	D	R			
	C248(M8025=1)				U	D				
	C249	U	D	R				S		
C250				U	D	R		S		
A-B Phase counter	C251	A	B							
	C252	A	B	R						
	C253				A	B	R			
	C253(M8025=1)				A	B				
	C254	A	B	R				S		
	C254(M8025=1)			A			B			Note*1
	C255				A	B	R		S	
C255(M8025=1)							A	B	Note*2	

U: up counter input, D: Down counter input, A: A-phase input, B: B-phase input, R: Reset input, S: Start input, d: DIR, C: Counter input

Note\*1 : J1n no this function. Note\*1 : J2n MR-Type only. M8025 has to be set first, and then execute HSC function.

◆ Inputs X0 ~X7 cannot be used for more than one counter. For example:

If C235 is used the following counters (C241, C244, C246, C247, C249, C251, C252, C254, I0xx & SPD X0 [S2] [D]) cannot be used.

◆◆ Following is 2 Phase Encoder Forward & Reverse Pulse Conduction, have to use AB Phase Counter ◆◆

◆ one-fold pulse count mode



◆ four-fold pulse count mode

