

2.1 ES2/EX2 Memory Map

Specifications					
Control Method		Stored program, cyclic scan system			
I/O Processing Method		Batch processing method (when END instruction is executed)			
Execution Speed		LD instructions – 0.54μs, MOV instructions – 3.4μs			
Program language		Instruction List + Ladder + SFC			
Program Capacity		15872 steps			
Bit Contacts	X	External inputs		X0~X377, octal number system, 256 points max, (*4)	Total 256+16 I/O
		External outputs		Y0~Y377, octal number system, 256 points max, (*4)	
	M	Auxiliary relay	General	M0~M511, 512 points, (*1) M768~M999, 232 points, (*1) M2000~M2047, 48 points, (*1)	Total 4096 points
			Latched	M512~M767, 256 points, (*2) M2048~M4095, 2048 points, (*2)	
			Special	M1000~M1999, 1000 points, some are latched	
	T	Timer	100ms (M1028=ON, T64~T126: 10ms)	T0~T126, 127 points, (*1) T128~T183, 56 points, (*1)	Total 256 points
				T184~T199 for Subroutines, 16 points, (*1)	
				T250~T255(accumulative), 6 points (*1)	
			10ms (M1038=ON, T200~T245: 1ms)	T200~T239, 40 points, (*1)	
				T240~T245(accumulative), 6 points, (*1)	
			1ms	T127, 1 points, (*1) T246~T249(accumulative), 4 points, (*1)	
	C	Counter	16-bit count up	C0~C111, 112 points, (*1) C128~C199, 72 points, (*1)	Total 232 points
C112~C127, 16 points, (*2)					
32-bit count up/down			C200~C223, 24 points, (*1)		
			C224~C231, 8 points, (*2)		

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			32bit high-speed count up/down	Soft-ware	C235~C242, 1 phase 1 input, 8 points, (*2)	Total 23 points
				Hard-ware	C232~C234, 2 phase 2 input, 3 points, (*2)	
					C243~C244, 1 phase 1 input, 2 points, (*2)	
					C245~C250, 1 phase 2 input, 6 points, (*2)	
					C251~C254 2 phase 2 input, 4 points, (*2)	
S	Step point	Initial step point	S0~S9, 10 points, (*2)	Total 1024 points		
		Zero point return	S10~S19, 10 points (use with IST instruction), (*2)			
		Latched	S20~S127, 108 points, (*2)			
		General	S128~S911, 784 points, (*1)			
		Alarm	S912~S1023, 112 points, (*2)			
Word Register	T	Current value	T0~T255, 256 words		Total 10000 points	
	C	Current value	C0~C199, 16-bit counter, 200 words			
			C200~C254, 32-bit counter, 55 words			
	D	Data register	General	D0~D407, 408 words, (*1) D600~D999, 400 words, (*1) D3920~D9999, 6080 words, (*1)		
			Latched	D408~D599, 192 words, (*2) D2000~D3919, 1920 words, (*2)		
			Special	D1000~D1999, 1000 words, some are latched		
For Special mudules			D9900~D9999 , 100 words , (*1), (*5)			
Index			E0~E7, F0~F7, 16 words, (*1)			
Pointer	N	Master control loop	N0~N7, 8 points			
	P	Pointer	P0~P255, 256 points			
	I	Interrupt Service	External interrupt	I000/I001(X0), I100/I101(X1), I200/I201(X2), I300/I301(X3), I400/I401(X4), I500/I501(X5), I600/I601(X6), I700/I701(X7), 8 points (01: rising-edge trigger \lrcorner , 00: falling-edge trigger \llcorner)		

			Timer interrupt	I602~I699, I702~I799, 2 points (Timer resolution = 1ms)
			High-speed counter interrupt	I010, I020, I030, I040, I050, I060, I070, I080, 8 points
			Communication interrupt	I140(COM1), I150(COM2), I160(COM3), 3 points, (*3)
Constant	K	Decimal		K-32,768 ~ K32,767 (16-bit operation), K-2,147,483,648 ~ K2,147,483,647 (32-bit operation)
	H	Hexadecimal		H0000 ~ HFFFF (16-bit operation), H00000000 ~ HFFFFFFFF (32-bit operation)
Serial ports				COM1: built-in RS-232 ((Master/Slave) COM2: built-in RS-485 (Master/Slave) COM3: built-in RS-485 (Master/Slave) COM1 is typically the programming port.
Real Time Clock				Year, Month, Day, Week, Hours, Minutes, Seconds
Special I/O Modules				Up to 8 special I/O modules can be connected

Notes:

1. Non-latched area cannot be modified
2. Latched area cannot be modified
3. COM1: built-in RS232 port. COM2: built-in RS485 port. COM3: built-in RS485 port.
4. When input points(X) are expanded to 256 points, only 16 output points(Y) are applicable. Also, when output points(Y) are expanded to 256 points, only 16 input points(X) are applicable.
5. This area is applicable only when the ES2/EX2 MPU is connected with special I/O modules. Every special I/O module occupies 10 points.



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2.2 SS2 Memory Map

Specifications					
Control Method		Stored program, cyclic scan system			
I/O Processing Method		Batch processing method (when END instruction is executed)			
Execution Speed		LD instructions – 0.54μs, MOV instructions – 3.4μs			
Program language		Instruction List + Ladder + SFC			
Program Capacity		7920 steps			
Bit Contacts	X	External inputs		X0~X377, octal number system, 256 points max.	Total 480+14 I/O(*4)
		Y	External outputs		
	M		Auxiliary relay	General	M0~M511, 512 points, (*1) M768~M999, 232 points, (*1) M2000~M2047, 48 points, (*1)
		Latched		M512~M767, 256 points, (*2) M2048~M4095, 2048 points, (*2)	
		Special		M1000~M1999, 1000 points, some are latched	
	T	Timer	100ms (M1028=ON, T64~T126: 10ms)	T0~T126, 127 points, (*1) T128~T183, 56 points, (*1)	Total 256 points
				T184~T199 for Subroutines, 16 points, (*1)	
				T250~T255(accumulative), 6 points (*1)	
			10ms (M1038=ON, T200~T245: 1ms)	T200~T239, 40 points, (*1)	
				T240~T245(accumulative), 6 points, (*1)	
1ms			T127, 1 points, (*1) T246~T249(accumulative), 4 points, (*1)		
C	Counter	16-bit count up	C0~C111, 112 points, (*1) C128~C199, 72 points, (*1)	Total 233 points	
			C112~C127, 16 points, (*2)		
		32-bit count up/down	C200~C223, 24 points, (*1)		
			C224~C232, 9 points, (*2)		

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		32bit high-speed count up/down	Soft-ware	C235~C242, 1 phase 1 input, 8 points, (*2)	Total 22 points
			Hard-ware	C233~C234, 2 phase 2 input, 2 points, (*2)	
				C243~C244, 1 phase 1 input, 2 points, (*2)	
				C245~C250, 1 phase 2 input, 6 points, (*2)	
				C251~C254 2 phase 2 input, 4 points, (*2)	
S	Step point	Initial step point	S0~S9, 10 points, (*2)	Total 1024 points	
		Zero point return	S10~S19, 10 points (use with IST instruction), (*2)		
		Latched	S20~S127, 108 points, (*2)		
		General	S128~S911, 784 points, (*1)		
		Alarm	S912~S1023, 112 points, (*2)		
Word Register	T	Current value	T0~T255, 256 words		
	C	Current value	C0~C199, 16-bit counter, 200 words		
			C200~C254, 32-bit counter, 55 words		
	D	Data register	General	D0~D407, 408 words, (*1) D600~D999, 400 words, (*1) D3920~D4999, 1080 words, (*1)	Total 5016 points
Latched			D408~D599, 192 words, (*2) D2000~D3919, 1920 words, (*2)		
Special			D1000~D1999, 1000 words, some are latched		
Index			E0~E7, F0~F7, 16 words, (*1)		
Pointer	N	Master control loop	N0~N7, 8 points		
	P	Pointer	P0~P255, 256 points		
	I	Interrupt Service	External interrupt	I000/I001(X0), I100/I101(X1), I200/I201(X2), I300/I301(X3), I400/I401(X4), I500/I501(X5), I600/I601(X6), I700/I701(X7), 8 points (01: rising-edge trigger  , 00: falling-edge trigger )	
			Timer interrupt	I602~I699, I702~I799, 2 points (Timer resolution = 1ms)	

			High-speed counter interrupt	I010, I020, I030, I040, I050, I060, I070, I080, 8 points
			Communication interrupt	I140(COM1), I150(COM2), 2 points, (*3)
Constant	K	Decimal		K-32,768 ~ K32,767 (16-bit operation), K-2,147,483,648 ~ K2,147,483,647 (32-bit operation)
	H	Hexadecimal		H0000 ~ HFFFF (16-bit operation), H00000000 ~HFFFFFFF (32-bit operation)
Serial ports				COM1: built-in RS-232 ((Master/Slave) COM2: built-in RS-485 (Master/Slave) COM1 is typically the programming port.
Real Time Clock				Year, Month, Day, Week, Hours, Minutes, Seconds
Special I/O Modules				Up to 8 special I/O modules can be connected

Notes:

1. Non-latched area cannot be modified
2. Latched area cannot be modified
3. COM1: built-in RS232 port. COM2: built-in RS485 port.
4. SS2 MPU occupies 16 input points (X0~X17) and 16 output points (Y0~Y17).

2.3 SA2 Memory Map

Specifications					
Control Method		Stored program, cyclic scan system			
I/O Processing Method		Batch processing method (when END instruction is executed)			
Execution Speed		LD instructions – 0.54μs, MOV instructions – 3.4μs			
Program language		Instruction List + Ladder + SFC			
Program Capacity		15872 steps			
Bit Contacts	X	External inputs		X0~X377, octal number system, 256 points max.	Total 480+14 I/O(*4)
		Y	External outputs		
	M		Auxiliary relay	General	M0~M511, 512 points, (*1) M768~M999, 232 points, (*1) M2000~M2047, 48 points, (*1)
		Latched		M512~M767, 256 points, (*2) M2048~M4095, 2048 points, (*2)	
		Special		M1000~M1999, 1000 points, some are latched	
	T	Timer	100ms (M1028=ON, T64~T126: 10ms)	T0~T126, 127 points, (*1) T128~T183, 56 points, (*1)	Total 256 points
				T184~T199 for Subroutines, 16 points, (*1)	
				T250~T255(accumulative), 6 points (*1)	
			10ms (M1038=ON, T200~T245: 1ms)	T200~T239, 40 points, (*1)	
				T240~T245(accumulative), 6 points, (*1)	
			1ms	T127, 1 points, (*1) T246~T249(accumulative), 4 points, (*1)	
	C	Counter	16-bit count up	C0~C111, 112 points, (*1) C128~C199, 72 points, (*1)	Total 233 points
C112~C127, 16 points, (*2)					
32-bit count up/down				C200~C223, 24 points, (*1)	
			C224~C232, 9 points, (*2)		
32bit high- ware			C235~C242, 1 phase 1 input, 8 points, (*2)	Total 22 points	

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			speed count up/down	Hard- ware	C233~C234, 2 phase 2 input, 2 points, (*2)	Total 1024 points
					C243~C244, 1 phase 1 input, 2 points, (*2)	
					C245~C250, 1 phase 2 input, 6 points, (*2)	
					C251~C254 2 phase 2 input, 4 points, (*2)	
	S	Step point	Initial step point	S0~S9, 10 points, (*2)		
Zero point return			S10~S19, 10 points (use with IST instruction), (*2)			
Latched			S20~S127, 108 points, (*2)			
General			S128~S911, 784 points, (*1)			
Alarm			S912~S1023, 112 points, (*2)			
Word Register	T	Current value		T0~T255, 256 words		
	C	Current value		C0~C199, 16-bit counter, 200 words		
				C200~C254, 32-bit counter, 55 words		
	D	Data register	General	D0~D407, 408 words, (*1) D600~D999, 400 words, (*1) D3920~D9999, 6080 words, (*1)		
			Latched	D408~D599, 192 words, (*2) D2000~D3919, 1920 words, (*2)		
			Special	D1000~D1999, 1000 words, some are latched		
			Index	E0~E7, F0~F7, 16 words, (*1)		
	Pointer	N	Master control loop		N0~N7, 8 points	
P		Pointer		P0~P255, 256 points		
I		Interrupt Service	External interrupt	I000/I001(X0), I100/I101(X1), I200/I201(X2), I300/I301(X3), I400/I401(X4), I500/I501(X5), I600/I601(X6), I700/I701(X7), 8 points (01: rising-edge trigger \lrcorner , 00: falling-edge trigger \llcorner)		
	Timer interrupt		I602~I699, I702~I799, 2 points (Timer resolution = 1ms)			

			High-speed counter interrupt	I010, I020, I030, I040, I050, I060, I070, I080, 8 points
			Communication interrupt	I140(COM1), I150(COM2), I160(COM3), 3 points, (*3)
Constant	K	Decimal		K-32,768 ~ K32,767 (16-bit operation), K-2,147,483,648 ~ K2,147,483,647 (32-bit operation)
	H	Hexadecimal		H0000 ~ HFFFF (16-bit operation), H00000000 ~HFFFFFFF (32-bit operation)
Serial ports				COM1: built-in RS-232 ((Master/Slave) COM2: built-in RS-485 (Master/Slave) COM3: built-in RS-485 (Master/Slave) COM1 is typically the programming port.
Real Time Clock				Year, Month, Day, Week, Hours, Minutes, Seconds
Special I/O Modules				Up to 8 special I/O modules can be connected

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Notes:

1. Non-latched area cannot be modified
2. Latched area cannot be modified
3. COM1: built-in RS232 port. COM2: built-in RS485 port. COM3: built-in RS-485 port
4. SA2 MPU occupies 16 input points (X0~X17) and 16 output points (Y0~Y17).

2.4 SX2 Memory Map

Specifications					
Control Method		Stored program, cyclic scan system			
I/O Processing Method		Batch processing method (when END instruction is executed)			
Execution Speed		LD instructions – 0.54μs, MOV instructions – 3.4μs			
Program language		Instruction List + Ladder + SFC			
Program Capacity		15872 steps			
Bit Contacts	X	External inputs		X0~X377, octal number system, 256 points max.	Total 480+14 I/O(*4)
		Y	External outputs		
	M		Auxiliary relay	General	M0~M511, 512 points, (*1) M768~M999, 232 points, (*1) M2000~M2047, 48 points, (*1)
		Latched		M512~M767, 256 points, (*2) M2048~M4095, 2048 points, (*2)	
		Special		M1000~M1999, 1000 points, some are latched	
	T	Timer	100ms (M1028=ON, T64~T126: 10ms)	T0~T126, 127 points, (*1) T128~T183, 56 points, (*1)	Total 256 points
				T184~T199 for Subroutines, 16 points, (*1)	
				T250~T255(accumulative), 6 points (*1)	
			10ms (M1038=ON, T200~T245: 1ms)	T200~T239, 40 points, (*1)	
				T240~T245(accumulative), 6 points, (*1)	
			1ms	T127, 1 points, (*1) T246~T249(accumulative), 4 points, (*1)	
	C	Counter	16-bit count up	C0~C111, 112 points, (*1) C128~C199, 72 points, (*1)	Total 232 points
C112~C127, 16 points, (*2)					
C200~C223, 24 points, (*1)					
32-bit count up/down			C224~C231, 8 points, (*2)		
			32bit high-ware	C235~C242, 1 phase 1 input, 8 points, (*2)	Total 23 points

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			speed count up/down	Hard- ware	C232~C234, 2 phase 2 input, 2 points, (*2)	Total 1024 points
					C243~C244, 1 phase 1 input, 2 points, (*2)	
					C245~C250, 1 phase 2 input, 6 points, (*2)	
					C251~C254 2 phase 2 input, 4 points, (*2)	
	S	Step point	Initial step point	S0~S9, 10 points, (*2)		
Zero point return			S10~S19, 10 points (use with IST instruction), (*2)			
Latched			S20~S127, 108 points, (*2)			
General			S128~S911, 784 points, (*1)			
Alarm			S912~S1023, 112 points, (*2)			
Word Register	T	Current value		T0~T255, 256 words		
		C	Current value		C0~C199, 16-bit counter, 200 words	
			C200~C254, 32-bit counter, 55 words			
	D	Data register	General	D0~D407, 408 words, (*1) D600~D999, 400 words, (*1) D3920~D9999, 6080 words, (*1)	Total 10000 points	
			Latched	D408~D599, 192 words, (*2) D2000~D3919, 1920 words, (*2)		
			Special	D1000~D1999, 1000 words, some are latched		
			Index	E0~E7, F0~F7, 16 words, (*1)		
	Pointer	N	Master control loop		N0~N7, 8 points	
			Pointer		P0~P255, 256 points	
		I	Interrupt Service	External interrupt		I000/I001(X0), I100/I101(X1), I200/I201(X2), I300/I301(X3), I400/I401(X4), I500/I501(X5), I600/I601(X6), I700/I701(X7), 8 points (01: rising- edge trigger \lrcorner , 00: falling-edge trigger \llcorner)
Timer interrupt				I602~I699, I702~I799, 2 points (Timer resolution = 1ms)		

			High-speed counter interrupt	I010, I020, I030, I040, I050, I060, I070, I080, 8 points
			Communication interrupt	I140(COM1), I150(COM2), 2 points, (*3)
Constant	K	Decimal		K-32,768 ~ K32,767 (16-bit operation), K-2,147,483,648 ~ K2,147,483,647 (32-bit operation)
	H	Hexadecimal		H0000 ~ HFFFF (16-bit operation), H00000000 ~HFFFFFFF (32-bit operation)
Serial ports				COM1: built-in RS-232 ((Master/Slave) COM2: built-in RS-485 (Master/Slave) COM3: built-in USB port (Slave) COM1 is typically the programming port.
Real Time Clock				Year, Month, Day, Week, Hours, Minutes, Seconds
Special I/O Modules				Right side: Up to 8 special I/O modules can be connected Left side: Up to 8 high-speed I/O modules can be connected

Notes:

1. Non-latched area cannot be modified
2. Latched area cannot be modified
3. COM1: built-in RS232 port. COM2: built-in RS485 port.
4. SX2 MPU occupies 16 input points (X0~X17) and 16 output points (Y0~Y17).