

A-2 Auxiliary Area Allocations by Address

The following table lists the data provided in the Auxiliary Area in order of the addresses of the data.

A-2-1 Read-only Words

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A0		10-ms Incrementing Free Running Timer	<p>This word contains the system timer used after the power is turned ON. A value of 0000 hex is set when the power is turned ON and this value is automatically incremented by 1 every 10 ms. The value returns to 0000 hex after reaching FFFF hex (655,350 ms), and then continues to be automatically incremented by 1 every 10 ms.</p> <p>Note The timer will continue to be incremented when the operating mode is switched to RUN mode. Example: The interval can be counted between processing A and processing B without requiring timer instructions. This is achieved by calculating the difference between the value in A0 for processing A and the value in A0 for processing B. The interval is counted in 10 ms units.</p>		Retained	Cleared	Every 10 ms after power is turned ON	
A1		100-ms Incrementing Free Running Timer	<p>This word contains the system timer used after the power is turned ON. A value of 0000 hex is set when the power is turned ON and this value is automatically incremented by 1 every 100 ms. The value returns to 0000 hex after reaching FFFF hex (6,553,500 ms), and then continues to be automatically incremented by 1 every 100 ms.</p> <p>Note The timer will continue to be incremented when the operating mode is switched to RUN mode. Example: The interval can be counted between processing A and processing B without requiring timer instructions. This is achieved by calculating the difference between the value in A0 for processing A and the value in A0 for processing B. The interval is counted in 100 ms units.</p>		Retained	Cleared	Every 100 ms after power is turned ON	
A99	00	UM Read Protection Status	Indicates whether all of the ladder programs in the PLC are read-protected.	OFF: UM not read-protected ON: UM read-protected.	Retained	Retained	When protection is set or cleared	

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A100 to A199		Error Log Area	When an error has occurred, the error code, error contents, and error's time and date are stored in the Error Log Area. Information on the 20 most recent errors can be stored. Each error record occupies 5 words; the function of these 5 words is as follows: First word: Error code (bits 0 to 15) First word + 1: Error contents (bits 0 to 15) First word + 2: Minutes (upper byte), Seconds (lower byte) First word + 3: Day of month (upper byte), Hours (lower byte) First word + 4: Year (upper byte), Month (lower byte) Note 1 The data will be unstable if the capacitor becomes discharged. 2 Errors generated by FAL(006) and FALS(007) will also be stored in this Error Log. 3 The Error Log Area can be reset from the CX-Programmer. 4 If the Error Log Area is full (20 records) and another error occurs, the oldest record in A100 to A104 will be cleared, the other 19 records are shifted down, and the new record is stored in A195 to A199. 5 In an E□□(S)-type CPU Unit, the data will be for 1:01.01 on Sunday January 1, 2001.	Error code Error contents: Address of Aux. Area word with details or 0000 hex if there is no related word. Seconds: 00 to 59, BCD Minutes: 00 to 59, BCD Hours: 00 to 23, BCD Day of month: 01 to 31, BCD Month: 01 to 12, BCD Year: 00 to 99, BCD	Retained	Retained	Refreshed when error occurs.	A500.14 A300 A400
A200	11	First Cycle Flag	ON for one cycle after PLC operation begins (after the mode is switched from PROGRAM to RUN or MONITOR, for example).	ON for the first cycle	ON	Cleared		
	12	Step Flag	ON for one cycle when step execution is started with STEP. This flag can be used for initialization processing at the beginning of a step.	ON for the first cycle after execution of STEP.	Cleared	Cleared		
	14	Task Started Flag	When a task switches from WAIT or INI to RUN status, this flag will be turned ON within the task for one cycle only. Note The only difference between this flag and A200.15 is that this flag also turns ON when the task switches from WAIT to RUN status.	ON: ON for first cycle (including transitions from WAIT and IN) OFF: Other	Cleared	Cleared		
	15	First Task Startup Flag	ON when a task is executed for the first time. This flag can be used to check whether the current task is being executed for the first time so that initialization processing can be performed if necessary.	ON: First execution OFF: Not executable or not being executed for the first time.	Cleared	Cleared		
A262 and A263		Maximum Cycle Time	These words contain the maximum cycle time since the start of PLC operation. The cycle time is recorded in 32-bit binary. The upper digits are in A263 and the lower digits are in A262.	0 to FFFFFFFF: 0 to 429,496,729.5 ms (0.1-ms units)	—	—		
A264 and A265		Present Cycle Time	These words contain the present cycle time. The cycle time is recorded in 32-bit binary. The upper digits are in A265 and the lower digits are in A264.	0 to FFFFFFFF: 0 to 429,496,729.5 ms (0.1-ms units)	—	—		

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A270 and A271		High-speed Counter 0 PV	Contains the PV of high-speed counter 0. A271 contains the upper 4 digits and A270 contains the lower 4 digits. <ul style="list-style-type: none">• Cleared when operation starts.			Cleared	<ul style="list-style-type: none">• Refreshed each cycle during the overseeing processes.• Refreshed when PRV instruction is executed to read the PV.	
A272 and A273		High-speed Counter 1 PV	Contains the PV of high-speed counter 1. A273 contains the upper 4 digits and A272 contains the lower 4 digits. <ul style="list-style-type: none">• Cleared when operation starts.			Cleared	<ul style="list-style-type: none">• Refreshed each cycle during the overseeing processes.• Refreshed when PRV instruction is executed to read the PV.	
A274	00	High-speed Counter 0 Range 1 Comparison Condition Met Flag	These flags indicate whether the PV is within the specified ranges when high-speed counter 0 is being operated in range-comparison mode. <ul style="list-style-type: none">• Cleared when operation starts.• Cleared when range comparison table is registered. OFF: PV not in range ON: PV in range			Cleared	<ul style="list-style-type: none">• Refreshed each cycle during the overseeing processes.• Refreshed when PRV instruction is executed to read the results of range comparison.	
	01	High-speed Counter 0 Range 2 Comparison Condition Met Flag						
	02	High-speed Counter 0 Range 3 Comparison Condition Met Flag						
	03	High-speed Counter 0 Range 4 Comparison Condition Met Flag						
	04	High-speed Counter 0 Range 5 Comparison Condition Met Flag						
	05	High-speed Counter 0 Range 6 Comparison Condition Met Flag						
	08	High-speed Counter 0 Comparison In-progress Flag	This flag indicates whether a comparison operation is being executed for high-speed counter 0. Cleared when operation starts. OFF: Stopped. ON: Being executed.			Cleared	Refreshed when comparison operation starts or stops.	
	09	High-speed Counter 0 Overflow/Underflow Flag	This flag indicates when an overflow or underflow has occurred in the high-speed counter 0 PV. (Used with the linear mode counting range only.) <ul style="list-style-type: none">• Cleared when operation starts.• Cleared when PV is changed. OFF: Normal ON: Overflow or underflow			Cleared	Refreshed when an overflow or underflow occurs.	
	10	High-speed Counter 0 Count Direction	This flag indicates whether the high-speed counter 0 is currently being incremented or decremented. The counter PV for the current cycle is compared with the PV in last cycle to determine the direction. OFF: Decrementing ON: Incrementing			Cleared	Setting used for high-speed counter, valid during counter operation.	

Address		Name		Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits								
A275	00	High-speed Counter 1 Range 1 Comparison Condition Met Flag	<p>These flags indicate whether the PV is within the specified ranges when high-speed counter 1 is being operated in range-comparison mode for upper and lower limits.</p> <ul style="list-style-type: none"> • Cleared when operation starts. • Cleared when range comparison table is registered. <p>OFF: PV not in range ON: PV in range</p>			Cleared	<ul style="list-style-type: none"> • Refreshed each cycle during overseeing process. • Refreshed when PRV instruction is executed to read the comparison results for the corresponding counter. 		
	01	High-speed Counter 1 Range 2 Comparison Condition Met Flag							
	02	High-speed Counter 1 Range 3 Comparison Condition Met Flag							
	03	High-speed Counter 1 Range 4 Comparison Condition Met Flag							
	04	High-speed Counter 1 Range 5 Comparison Condition Met Flag							
	05	High-speed Counter 1 Range 6 Comparison Condition Met Flag							
08	High-speed Counter 1 Comparison In-progress Flag		<p>This flag indicates whether a comparison operation is being executed for high-speed counter 1.</p> <ul style="list-style-type: none"> • Cleared when operation starts. <p>OFF: Stopped. ON: Being executed</p>			Cleared	<p>Refreshed when comparison operation starts or stops.</p>		
	High-speed Counter 1 Overflow/Underflow Flag								
09	High-speed Counter 1 Count Direction		<p>This flag indicates whether the high-speed counter 1 is currently being incremented or decremented. The counter PV for the current cycle is compared with the PV in last cycle to determine the direction.</p> <p>OFF: Decrementing ON: Incrementing</p>			Cleared	<p>Refreshed when an overflow or underflow occurs.</p>		
10									
A276	Pulse Output 0 PV	Lower four digits	<p>Contain the number of pulses output from the corresponding pulse output port.</p> <p>PV range: 8000 0000 to 7FFF FFFF hex (-2,147,483,648 to 2,147,483,647)</p>			Cleared	<ul style="list-style-type: none"> • Refreshed each cycle during the overseeing processes. • Refreshed when the INI instruction is executed (PV change). 		
A277		Upper four digits							
A278	Pulse Output 1 PV	Lower four digits	<p>When pulses are being output in the CW direction, the PV is incremented by 1 for each pulse.</p> <p>When pulses are being output in the CCW direction, the PV is decremented by 1 for each pulse.</p> <p>PV after overflow: 7FFF FFFF hex PV after underflow: 8000 000 hex</p> <ul style="list-style-type: none"> • Cleared when operation starts. <p>Note If the coordinate system is relative coordinates (undefined origin), the PV will be cleared to 0 when a pulse output starts, i.e. when a pulse output instruction (SPED, ACC, or PLS2) is executed.</p>						
A279		Upper four digits							

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A280	00	Pulse Output 0 Accel/Decel Flag	This flag will be ON when pulses are being output from pulse output 0 according to an ORG, ACC or PLS2 instruction and the output frequency is being changed in steps (accelerating or decelerating). <ul style="list-style-type: none"> • Cleared when operation starts or stops. OFF: Constant speed ON: Accelerating or decelerating			Cleared	Refreshed each cycle during the overseeing processes.	
	01	Pulse Output 0 Overflow/Underflow Flag	This flag indicates when an overflow or underflow has occurred in the pulse output 0 PV. <ul style="list-style-type: none"> • Cleared when operation starts. OFF: Normal ON: Overflow or underflow			Cleared	<ul style="list-style-type: none"> • Refreshed when the PV is changed by the INI instruction. • Refreshed when an overflow or underflow occurs. 	
	02	Pulse Output 0 Output Amount Set Flag	ON when the number of output pulses for pulse output 0 has been set with the PULS instruction. <ul style="list-style-type: none"> • Cleared when operation starts or stops. OFF: No setting ON: Setting made			Cleared	<ul style="list-style-type: none"> • Refreshed when the PULS instruction is executed. • Refreshed when pulse output stops. 	
	03	Pulse Output 0 Output Completed Flag	ON when the number of output pulses set with the PULS or PLS2 instruction has been output through pulse output 0. <ul style="list-style-type: none"> • Cleared when operation starts or stops. OFF: Output not completed. ON: Output completed.			Cleared	Refreshed at the start or completion of pulse output.	
	04	Pulse Output 0 Output In-progress Flag	ON when pulses are being output from pulse output 0. <ul style="list-style-type: none"> • Cleared when operation starts or stops. OFF: Stopped ON: Outputting pulses.			Cleared	Refreshed when pulse output starts or stops.	
	05	Pulse Output 0 No-origin Flag	ON when the origin has not been determined for pulse output 0 and goes OFF when the origin has been determined. <ul style="list-style-type: none"> • Turned ON when power is turned ON. • Turned ON when operation starts. OFF: Origin established. ON: Origin not established.			Cleared	Refreshed each cycle during the overseeing processes.	
	06	Pulse Output 0 At-origin Flag	ON when the pulse output 0 PV matches the origin (0). <ul style="list-style-type: none"> OFF: Not stopped at origin. ON: Stopped at origin. 			Cleared	Refreshed each cycle during the overseeing processes.	
	07	Pulse Output 0 Output Stopped Error Flag	ON when an error occurred while outputting pulses in the pulse output 0 origin search function. <p>The Pulse Output 0 Output Stop Error code will be written to A444.</p> OFF: No error ON: Stop error occurred.			Cleared	<ul style="list-style-type: none"> • Refreshed when origin search starts. • Refreshed when a pulse output stop error occurs. 	

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A281	00	Pulse Output 1 Accel/Decel Flag	This flag will be ON when pulses are being output from pulse output 1 according to an ORG, ACC or PLS2 instruction and the output frequency is being changed in steps (accelerating or decelerating). <ul style="list-style-type: none"> Cleared when operation starts or stops. OFF: Constant speed ON: Accelerating or decelerating			Cleared	Refreshed each cycle during the overseeing processes.	
	01	Pulse Output 1 Overflow/Underflow Flag	This flag indicates when an overflow or underflow has occurred in the pulse output 1 PV. <ul style="list-style-type: none"> Cleared when operation starts. OFF: Normal ON: Overflow or underflow			Cleared	<ul style="list-style-type: none"> Refreshed when the PV is changed by the INI instruction. Refreshed when an overflow or underflow occurs. 	
	02	Pulse Output 1 Output Amount Set Flag	ON when the number of output pulses for pulse output 1 has been set with the PULS instruction. <ul style="list-style-type: none"> Cleared when operation starts or stops. OFF: No setting ON: Setting made			Cleared	<ul style="list-style-type: none"> Refreshed when the PULS instruction is executed. Refreshed when pulse output stops. 	
	03	Pulse Output 1 Output Completed Flag	ON when the number of output pulses set with the PULS or PLS2 instruction has been output through pulse output 1. <ul style="list-style-type: none"> Cleared when operation starts or stops. OFF: Output not completed. ON: Output completed.			Cleared	Refreshed at the start or completion of pulse output.	
	04	Pulse Output 1 Output In-progress Flag	ON when pulses are being output from pulse output 1. <ul style="list-style-type: none"> Cleared when operation starts or stops. OFF: Stopped ON: Outputting pulses.			Cleared	Refreshed when pulse output starts or stops.	
	05	Pulse Output 1 No-origin Flag	ON when the origin has not been determined for pulse output 1 and goes OFF when the origin has been determined. <ul style="list-style-type: none"> Turned ON when power is turned ON. Turned ON when operation starts. OFF: Origin established. ON: Origin not established.			Cleared	Refreshed each cycle during overseeing processes.	
	06	Pulse Output 1 At-origin Flag	ON when the pulse output 1 PV matches the origin (0). <ul style="list-style-type: none"> Not stopped at origin. OFF: Not stopped at origin. ON: Stopped at origin.			Cleared	Refreshed each cycle during overseeing processes.	
A282	07	Pulse Output 1 Output Stopped Error Flag	ON when an error occurred while outputting pulses in the pulse output 1 origin search function. <p>The Pulse Output 1 Output Stop Error code will be written to A445.</p> OFF: No error ON: Stop error occurred.			Cleared	<ul style="list-style-type: none"> Refreshed when origin search starts. Refreshed when pulse output stop error occurs. 	

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A283	00	PWM Output 0 Output In-progress Flag	ON when pulses are being output from PWM output 0. • Cleared when operation starts or stops. OFF: Stopped ON: Outputting pulses.		Cleared	Refreshed when pulse output starts or stops.		
A294		Task Number when Program Stopped	This word contains the task number of the task that was being executed when program execution was stopped because of a program error. Note A298 and A299 contain the program address where program execution was stopped.	Cyclic tasks: 0000 Interrupt tasks: 8000 to 800F (task 0 to 15)	Cleared	Cleared	When program error occurs.	A298/ A299
A295	08	Instruction Processing Error Flag	This flag and the Error Flag (ER) will be turned ON when an instruction processing error has occurred and the PLC Setup has been set to stop operation for an instruction error. CPU Unit operation will stop and the ERR/ALM indicator will light when this flag goes ON. Note The task number where the error occurred will be stored in A294 and the program address will be stored in A298 and A299.	ON: Error Flag ON OFF: Error Flag OFF	Cleared	Cleared	When program error occurs.	A294, A298/ A299 PLC Setup (Operation when instruction error has occurred)
	09	Indirect DM BCD Error Flag	This flag and the Access Error Flag (AER) will be turned ON when an indirect DM BCD error has occurred and the PLC Setup has been set to stop operation an indirect DM BCD error. (This error occurs when the content of an indirectly addressed DM word is not BCD although BCD mode has been selected.) CPU Unit operation will stop and the ERR/ALM indicator will light when this flag goes ON. Note The task number where the error occurred will be stored in A294 and the program address will be stored in A298 and A299.	ON: Not BCD OFF: Normal	Cleared	Cleared	When program error occurs.	A294, A298/ A299 PLC Setup (Operation when instruction error has occurred)

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A295	10	Illegal Access Error Flag	This flag and the Access Error Flag (AER) will be turned ON when an illegal access error has occurred and the PLC Setup has been set to stop operation an illegal access error. (This error occurs when a region of memory is accessed illegally.) CPU Unit operation will stop and the ERR/ALM indicator will light when this flag goes ON. The following operations are considered illegal access: <ul style="list-style-type: none"> • Reading/writing the system area • Indirect DM BCD error (in BCD mode) Note The task number where the error occurred will be stored in A294 and the program address will be stored in A298 and A299.	ON: Illegal access occurred OFF: Normal condition	Cleared	Cleared	When program error occurs.	A294, A298/ A299 PLC Setup (Operation when instruction error has occurred)
	11	No END Error Flag	ON when there isn't an END instruction in each program within a task. CPU Unit operation will stop and the ERR/ALM indicator will light when this flag goes ON. Note The task number where the error occurred will be stored in A294 and the program address will be stored in A298 and A299.	ON: No END OFF: Normal condition	Cleared	Cleared		A294, A298/ A299
	12	Task Error Flag	ON when a task error has occurred. A task error will occur when there is no program allocated to the task. Note The task number where the error occurred will be stored in A294 and the program address will be stored in A298 and A299.	ON: Error OFF: Normal	Cleared	Cleared		A294, A298/ A299
	13	Differentiation Overflow Error Flag	The allowed value for Differentiation Flags which correspond to differentiation instructions has been exceeded. CPU Unit operation will stop and the ERR/ALM indicator will light when this flag goes ON. Note The task number where the error occurred will be stored in A294 and the program address will be stored in A298 and A299.	ON: Error OFF: Normal	Cleared	Cleared		A294, A298/ A299
	14	Illegal Instruction Error Flag	ON when a program that cannot be executed has been stored. CPU Unit operation will stop and the ERR/ALM indicator will light when this flag goes ON.	ON: Error OFF: Normal	Cleared	Cleared		A294, A298/ A299
	15	UM Overflow Error Flag	ON when the last address in UM (User Memory) has been exceeded. CPU Unit operation will stop and the ERR/ALM indicator will light when this flag goes ON.	ON: Error OFF: Normal	Cleared	Cleared		A294, A298/ A299
A298		Program Address Where Program Stopped (Lower digits)	These words contain the program address of the instruction where program execution was stopped due to a program error.	Lower digits of the program address	Cleared	Cleared		A294
A299		Program Address Where Program Stopped (Upper digits)	Note A294 contains the task number of the task where program execution was stopped.	Upper digits of the program address	Cleared	Cleared		

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A300		Error Log Pointer	When an error occurs, the Error Log Pointer is incremented by 1 to indicate the location where the next error record will be recorded as an offset from the beginning of the Error Log Area (A100 to A199). Note 1 The data will be unstable if the capacitor becomes discharged. 2 The Error Log Pointer can be cleared to 00 by turning A500.14 (the Error Log Reset Bit) ON. 3 When the Error Log Pointer has reached 14 hex (20 decimal), the next record is stored in A195 to A199 when the next error occurs.	00 to 14 hex	Retained	Retained	Refreshed when error occurs.	A500.14
A310		Manufacturing Lot Number, Lower Digits	The manufacturing lot number is stored in 6 digits hexadecimal. X, Y, and Z in the lot number are converted to 10, 11, and 12, respectively.		Retained	Retained		
A311		Manufacturing Lot Number, Upper Digits	Examples: Lot number 01805 A310 = 0801, A311 = 0005 Lot number 30Y05 A310 = 1130, A311 = 0005					
A315	13	Option Board Error Flag	ON when the Option Board is removed while the power is being supplied. CPU Unit operation will continue and the ERR/ALM indicator will flash. Note OFF when the error has been cleared.		Cleared	Cleared	Refreshed when a non-fatal error occurs.	A402.00, A424
	14	Built-in Analog I/O Error Flag	ON when a built-in analog I/O error occurs and stops the operation of built-in analog I/O. CPU Unit operation will continue and the ERR/ALM indicator will flash. OFF when the error has been cleared.		Cleared	Cleared	Refreshed when a non-fatal error occurs.	A402.00
	15	Backup Memory Error Flag	ON when writing to the built-in EEPROM backup memory fails. CPU Unit operation will continue and the ERR/ALM indicator will flash. Note OFF when the error has been cleared.		Cleared	Cleared	Refreshed when a non-fatal error occurs.	A402.00
A316 to A317		High-speed Counter 2 PV	Contains the PV of high-speed counter 2. <ul style="list-style-type: none">• The PV is cleared when operation starts. A317 contains the upper 4 digits and A316 contains the lower 4 digits.			Cleared	<ul style="list-style-type: none">• Refreshed each cycle during the overseeing processes.• Refreshed when PRV instruction is executed to read PV.	
A318 to A319		High-speed Counter 3 PV	Contains the PV of high-speed counter 3. <ul style="list-style-type: none">• The PV is cleared when operation starts. A319 contains the upper 4 digits and A318 contains the lower 4 digits.			Cleared	<ul style="list-style-type: none">• Refreshed each cycle during the overseeing processes.• Refreshed when PRV instruction is executed to read PV.	

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A320	00	High-speed Counter 2 Range 1 Comparison Condition Met Flag	These flags indicate whether the PV is within the specified ranges when high-speed counter 2 is being operated in range-comparison mode for upper and lower limits. <ul style="list-style-type: none">• Cleared when operation starts.• Cleared when range comparison table is registered. OFF: PV not in range ON: PV in range			Cleared	<ul style="list-style-type: none">• Refreshed each cycle during the overseeing processes.• Refreshed when PRV instruction is executed to read the results of range comparison.	
	01	High-speed Counter 2 Range 2 Comparison Condition Met Flag						
	02	High-speed Counter 2 Range 3 Comparison Condition Met Flag						
	03	High-speed Counter 2 Range 4 Comparison Condition Met Flag						
	04	High-speed Counter 2 Range 5 Comparison Condition Met Flag						
	05	High-speed Counter 2 Range 6 Comparison Condition Met Flag						
	08	High-speed Counter 2 Comparison In-progress Flag	This flag indicates whether a comparison operation is being executed for high-speed counter 2. <ul style="list-style-type: none">• Cleared when operation starts. OFF: Stopped. ON: Being executed.			Cleared	Refreshed when comparison operation starts or stops.	
A321	09	High-speed Counter 2 Overflow/Underflow Flag	This flag indicates when an overflow or underflow has occurred in the high-speed counter 2 PV. (Used with the linear mode counting range only.) <ul style="list-style-type: none">• Cleared when operation starts.• Cleared when PV is changed. OFF: Normal ON: Overflow or underflow			Cleared	Refreshed when an overflow or underflow occurs.	
	10	High-speed Counter 2 Count Direction	This flag indicates whether the high-speed counter 2 is currently being incremented or decremented. The counter PV for the current cycle is compared with the PV in last cycle to determine the direction. OFF: Decrementing ON: Incrementing					
A321	00	High-speed Counter 3 Range 1 Comparison Condition Met Flag	These flags indicate whether the PV is within the specified ranges when high-speed counter 3 is being operated in range-comparison mode for upper and lower limits. <ul style="list-style-type: none">• Cleared when operation starts.• Cleared when range comparison table is registered. OFF: PV not in range ON: PV in range			Cleared	<ul style="list-style-type: none">• Refreshed each cycle during overseeing process.• Refreshed when PRV instruction is executed to read the results of range comparison.	
	01	High-speed Counter 3 Range 2 Comparison Condition Met Flag						
	02	High-speed Counter 3 Range 3 Comparison Condition Met Flag						
	03	High-speed Counter 3 Range 4 Comparison Condition Met Flag						
	04	High-speed Counter 3 Range 5 Comparison Condition Met Flag						
	05	High-speed Counter 3 Range 6 Comparison Condition Met Flag						

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A321	08	High-speed Counter 3 Comparison In-progress Flag	This flag indicates whether a comparison operation is being executed for high-speed counter 3. <ul style="list-style-type: none">Cleared when operation starts. OFF: Stopped. ON: Being executed			Cleared	Refreshed when comparison operation starts or stops.	
	09	High-speed Counter 3 Overflow/Underflow Flag	This flag indicates when an overflow or underflow has occurred in the high-speed counter 3 PV. (Used with the linear mode counting range only.) <ul style="list-style-type: none">Cleared when operation starts.Cleared when the PV is changed. OFF: Normal ON: Overflow or underflow			Cleared	Refreshed when an overflow or underflow occurs.	
	10	High-speed Counter 3 Count Direction	This flag indicates whether the high-speed counter is currently being incremented or decremented. The counter PV for the current cycle is compared with the PV in last cycle to determine the direction. OFF: Decrementing ON: Incrementing			Cleared	Setting used for high-speed counter, valid during counter operation.	
A322 to A323		High-speed Counter 4 PV	Contains the PV of high-speed counter 4. <ul style="list-style-type: none">The PV will be cleared at the start of operation. A323 contains the upper four digits and A322 contains the lower four digits.			Cleared	<ul style="list-style-type: none">Refreshed each cycle during the overseeing processes.Refreshed when PRV instruction is executed to read PV.	
A324 to A325 (Not supported by E10 CPU Unit)		High-speed Counter 5 PV	Contains the PV of high-speed counter 5. <ul style="list-style-type: none">The PV is cleared when operation starts. A325 contains the upper 4 digits and A324 contains the lower 4 digits.			Cleared	<ul style="list-style-type: none">Refreshed each cycle during the overseeing processes.Refreshed when PRV instruction is executed to read PV.	
A326	00	High-speed Counter 4 Range 1 Comparison Condition Met Flag	These flags indicate whether the PV is within the specified ranges when high-speed counter 4 is being operated in range-comparison mode for upper and lower limits.			Cleared	<ul style="list-style-type: none">Refreshed each cycle during the overseeing processes.Refreshed when PRV instruction is executed to read the results of range comparison.	
	01	High-speed Counter 4 Range 2 Comparison Condition Met Flag	<ul style="list-style-type: none">Cleared when operation starts.Cleared when range comparison table is registered. OFF: PV not in range ON: PV in range					
	02	High-speed Counter 4 Range 3 Comparison Condition Met Flag						
	03	High-speed Counter 4 Range 4 Comparison Condition Met Flag						
	04	High-speed Counter 4 Range 5 Comparison Condition Met Flag						
	05	High-speed Counter 4 Range 6 Comparison Condition Met Flag						

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A326	08	High-speed Counter 4 Comparison In-progress Flag	This flag indicates whether a comparison operation is being executed for high-speed counter 4. <ul style="list-style-type: none">Cleared when operation starts.OFF: Stopped.ON: Being executed.			Cleared	Refreshed when comparison operation starts or stops.	
	09	High-speed Counter 4 Overflow/Underflow Flag	This flag indicates when an overflow or underflow has occurred in the high-speed counter 4 PV. (Used with the linear mode counting range only.) <ul style="list-style-type: none">Cleared when operation starts.Cleared when PV is changed.OFF: NormalON: Overflow or underflow			Cleared	Refreshed when an overflow or underflow occurs.	
	10	High-speed Counter 4 Count Direction	This flag indicates whether the high-speed counter is currently being incremented or decremented. The counter PV for the current cycle is compared with the PV in last cycle to determine the direction. OFF: Decrementing ON: Incrementing			Cleared	Setting used for high-speed counter, valid during counter operation.	
A327 (Not supported by E10 CPU Unit)	00	High-speed Counter 5 Range 1 Comparison Condition Met Flag	These flags indicate whether the PV is within the specified ranges when high-speed counter 5 is being operated in range-comparison mode.			Cleared	<ul style="list-style-type: none">Refreshed each cycle during overseeing process.Refreshed when PRV instruction is executed to read the results of range comparison.	
	01	High-speed Counter 5 Range 2 Comparison Condition Met Flag	<ul style="list-style-type: none">Cleared when operation starts.Cleared when range comparison table is registered.					
	02	High-speed Counter 5 Range 3 Comparison Condition Met Flag	OFF: PV not in range ON: PV in range					
	03	High-speed Counter 5 Range 4 Comparison Condition Met Flag						
	04	High-speed Counter 5 Range 5 Comparison Condition Met Flag						
	05	High-speed Counter 5 Range 6 Comparison Condition Met Flag						
	08	High-speed Counter 5 Comparison In-progress Flag	This flag indicates whether a comparison operation is being executed for high-speed counter 5. <ul style="list-style-type: none">Cleared when operation starts.OFF: Stopped.ON: Being executed			Cleared	Refreshed when comparison operation starts or stops.	
	09	High-speed Counter 5 Overflow/Underflow Flag	This flag indicates when an overflow or underflow has occurred in the high-speed counter 5 PV. (Used with the linear mode counting range only.) <ul style="list-style-type: none">Cleared when operation starts.Cleared when the PV is changed.OFF: NormalON: Overflow or underflow			Cleared	Refreshed when an overflow or underflow occurs.	

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A327	10	High-speed Counter 5 Count Direction	This flag indicates whether the high-speed counter is currently being incremented or decremented. The counter PV for the current cycle is compared with the PV in last cycle to determine the direction. OFF: Decrementing ON: Incrementing		Cleared	Setting used for high-speed counter, valid during counter operation.		
A339 to A340		Maximum Differentiation Flag Number	These words contain the maximum value of the differentiation flag numbers being used by differentiation instructions.		See Function column.	Cleared	Written at the start of operation	A295.13
A351 to A354 (N/NA-type CPU Unit only)		Calendar/Clock Area	These words contain the CPU Unit's internal clock data in BCD. The clock can be set from the CX-Programmer, with the DATE instruction, or with a FINS command (CLOCK WRITE, 0702). A351.00 to A351.07: Seconds (00 to 59)(BCD) A351.08 to A351.15: Minutes (00 to 59)(BCD) A352.00 to A352.07: Hours (00 to 23)(BCD) A352.08 to A352.15: Day of the month (01 to 31)(BCD) A353.00 to A353.07: Month (01 to 12)(BCD) A353.08 to A353.15: Year (00 to 99)(BCD) A354.00 to A354.07: Day of the week (00 to 06)(BCD) 00: Sunday 01: Monday 02: Tuesday 03: Wednesday 04: Thursday 05: Friday 06: Saturday Note 1 The data will be unstable if the capacitor becomes discharged. Write the ladder program and design the overall system to handle any problems that might occur if this data becomes unstable. 2 In an E□□(S)-type CPU Unit, or if the clock data is not set for an N/NA□□(S)-type CPU Unit, the data will be for 1:01.01 on Sunday January 1, 2001.		Retained	Retained	Written every cycle	
A360 to A391	01 to 15	Executed FAL Number Flags	The flag corresponding to the specified FAL number will be turned ON when FAL is executed. Bits A360.01 to A391.15 correspond to FAL numbers 001 to 511. Note The flag will be turned OFF when the error is cleared.	ON: That FAL was executed OFF: That FAL wasn't executed	Retained	Cleared	Refreshed when error occurs.	A402.15

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A392	04	Built-in RS-232C Port Error Flag (CP1E N/NA□□(S)-type CPU Unit only)	ON when an error has occurred at the built-in RS-232C port. (Not valid in NT Link mode.)	ON: Error OFF: No error	Retained	Cleared	Refreshed when error occurs.	
	05	Built-in RS-232C Port Send Ready Flag (No-protocol mode) (CP1E N/NA□□(S)-type CPU Unit only)	ON when the built-in RS-232C port is able to send data in no-protocol mode.	ON: Able-to-send OFF: Unable-to-send	Retained	Cleared	Written after transmission	
	06	Built-in RS-232C Port Reception Completed Flag (No-protocol mode) (CP1E N/NA□□(S)-type CPU Unit only)	ON when the built-in RS-232C port has completed the reception in no-protocol mode. <ul style="list-style-type: none">• When the number of bytes was specified: ON when the specified number of bytes is received.• When the end code was specified: ON when the end code is received or 256 bytes are received.	ON: Reception completed OFF: Reception not completed	Retained	Cleared	Written after reception	
07	Built-in RS-232C Port Reception Overflow Flag (No-protocol mode) (CP1E N/NA□□(S)-type CPU Unit only)	ON when a data overflow occurred during reception through the built-in RS-232C port in no-protocol mode. <ul style="list-style-type: none">• When the number of bytes was specified: ON when more data is received after the reception was completed but before RXD was executed.• When the end code was specified: ON when more data is received after the end code was received but before RXD was executed. ON when 257 bytes are received before the end code.	ON: Overflow OFF: No overflow	Retained	Cleared			
12	Serial Option Port/ Built-in RS-485 Port Communications Error Flag (CP1E N30/40/60(S□) or NA20 CPU Unit only)	ON when a communications error has occurred at the serial option port or built-in RS-485 port. (Not valid in NT Link mode.)	ON: Error OFF: No error	Retained	Cleared			
13	Serial Option Port/ Built-in RS-485 Port Send Ready Flag (No-protocol Mode) (CP1E N30/40/60(S□) or NA20 CPU Unit only)	ON when the serial option port or built-in RS-485 port is able to send data in no-protocol mode.	ON: Able-to-send OFF: Unable-to-send	Retained	Cleared	Written after transmission		
14	Serial Option Port/ Built-in RS-485 Port Reception Completed Flag (No-protocol mode) (CP1E N30/40/60(S□) or NA20 CPU Unit only)	ON when the serial option port or built-in RS-485 port has completed the reception in no-protocol mode. <ul style="list-style-type: none">• When the number of bytes was specified: ON when the specified number of bytes is received.• When the end code was specified: ON when the end code is received or 256 bytes are received.	ON: Reception completed OFF: Reception not completed	Retained	Cleared	Written after reception		
15	Serial Option Port/ Built-in RS-485 Port Reception Overflow Flag (No-protocol mode) (CP1E N30/40/60(S□) or NA20 CPU Unit only)	ON when a data overflow occurred during reception through serial option port or built-in RS-485 port in no-protocol mode. <ul style="list-style-type: none">• When the number of bytes was specified: ON when more data is received after the reception was completed but before RXD was executed.• When the end code was specified: ON when more data is received after the end code was received but before RXD was executed. ON when 257 bytes are received before the end code.	ON: Reception completed OFF: Reception not completed	Retained	Cleared			

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A393	00 to 07	Built-in RS-232C Port Polled Unit Communications Flags (CP1E N/NA□□(S)-type CPU Unit only)	The corresponding bit will be ON when the built-in RS-232C port is communicating with NT Link mode or Serial PLC Link mode. Bits 0 to 7 correspond to Units 0 to 7.	ON: Communicating OFF: Not communicating	Retained	Cleared	Refreshed when there is a normal response to the token.	
	00 to 15	Built-in RS-232C Port Reception Counter (No-protocol Mode) (CP1E N/NA□□(S)-type CPU Unit only)	Indicates (in binary) the number of bytes of data received when the built-in RS-232C port is in no-protocol mode.		Retained	Cleared	Refreshed when data is received.	
A394	00 to 07	Serial Option Port/ Built-in RS-485 Port Polled Unit Communications Flags (CP1E N30/40/60(S□) or NA20 CPU Unit only)	The corresponding bit will be ON when the serial option port or built-in RS-485 port is communicating with NT link mode. Bits 0 to 7 correspond to Units 0 to 7.	ON: Communicating OFF: Not communicating	Retained	Cleared	Refreshed when there is a normal response to the token.	
	00 to 15	Serial Option Port/ Built-in RS-485 Port Reception Counter (No-protocol Mode) (CP1E N30/40/60(S□) or NA20 CPU Unit only)	Indicates (in binary) the number of bytes of data received when the serial option port or built-in RS-485 port is in no-protocol mode.		Retained	Cleared	Refreshed when data is received.	
A400		Error code	When a non-fatal error (user-defined FALS or system error) or a fatal error (user-defined FALS or system error) occurs, the 4-digit hexadecimal error code is written to this word. Note When two or more errors occur simultaneously, the highest error code will be recorded.		Cleared	Cleared	Refreshed when error occurs.	
A401	00	Other Fatal Error Flag	ON when a fatal error that is not defined for A401.01 to A401.15 occurs. Detailed information is output to the bits of A314. Note There are no errors that affect this flag at this time. This flag is reserved by the system.	OFF: No other fatal error ON: Other fatal error	Cleared	Cleared	Refreshed when error occurs.	A314
	06	FALS Error Flag (fatal error)	ON when a fatal error is generated by the FALS instruction. The CPU Unit will stop operating and the ERR/ALM indicator will light. The corresponding error code will be written to A400. Error codes C101 to C2FF correspond to FALS numbers 001 to 511. Note This flag will be turned OFF when the FALS errors are cleared.	ON: FALS executed OFF: FALS not executed	Cleared	Cleared	Refreshed when error occurs.	A400
	08	Cycle Time Too Long Flag (fatal error)	ON if the cycle time exceeds the maximum cycle time set in the PLC Setup (the cycle time monitoring time). CPU Unit operation will stop and the ERR/ALM indicator on the front of the CPU Unit will light. Note This flag will be turned OFF when the error is cleared.	OFF: Cycle time under max. ON: Cycle time over max.	Cleared	Cleared	Refreshed when the cycle time exceeds maximum.	PLC Setup (Cycle time monitoring time)

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A401	09	Program Error Flag (fatal error)	ON when program contents are incorrect. CPU Unit operation will stop and the ERR/ALM indicator on the front of the CPU Unit will light. The task number where the error occurred will be stored in A294 and the program address will be stored in A298 and A299. The type of program error that occurred will be stored in A295.08 to A295.15. Refer to the description of A295 for more details on program errors.	ON: Error OFF: No error	Cleared	Cleared	Refreshed when error occurs.	A294, A295, A298 and A299
	11	Too Many I/O Points Flag (fatal error)	ON when the number of Expansion Units and Expansion I/O Units exceeds the limit, when the number of words allocated to these Units exceeds the limit, are mounted. CPU Unit operation will stop and the ERR/ALM indicator on the front of the CPU Unit will light.	ON: Error OFF: No error	Cleared	Cleared	Refreshed when error occurs.	A407
	14	I/O Bus Error Flag (fatal error)	ON in the following cases: <ul style="list-style-type: none">• When an error occurs in a data transfer between the CPU Unit and a Expansion Unit or Expansion I/O Unit. If this happens, 0A0A hex will be output to A404. CPU Unit operation will stop and the ERR/ALM indicator on the front of the CPU Unit will light. This flag will be turned OFF when the error is cleared.	ON: Error OFF: No error	Cleared	Cleared	Refreshed when error occurs.	A404
	15	Memory Error Flag (fatal error)	ON when an error occurred in memory. CPU Unit operation will stop and the ERR/ALM indicator on the front of the CPU Unit will light. The location where the error occurred is indicated in A403.00 to A403.08, and A403.09 will be turned ON if there was an error during automatic transfer at startup. This flag will be turned OFF when the error is cleared. The automatic transfer at startup error cannot be cleared without turning OFF the PLC.	ON: Error OFF: No error	Cleared	Cleared	Refreshed when error occurs.	A403.00 to A403.08, A403.09
A402	00	Other Non-Fatal Error Flag	ON when a non-fatal error that is not defined for A402.01 to A402.15 occurs. Detailed information is output to the bits of A315.	OFF: No other non-fatal error ON: Other non-fatal error	Cleared	Cleared	Refreshed when error occurs.	A315
	04	Battery Error Flag (non-fatal error)	ON if the CPU Unit's battery is disconnected or its voltage is low and the Detect Battery Error setting has been set in the PLC Setup. The CPU Unit will continue operating and the ERR/ALM indicator on the front of the CPU Unit will flash. <ul style="list-style-type: none">• This flag can be used to control an external warning light or other indicator to indicate that the battery needs to be replaced.• This flag will be turned OFF when the error is cleared.	ON: Error OFF: No error	Cleared	Cleared	Refreshed when error occurs.	PLC Setup (Detect Battery Error)

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A402	10	PLC Setup Error Flag (non-fatal error)	ON when there is a setting error in the PLC Setup. The CPU Unit will continue operating and the ERR/ALM indicator on the front of the CPU Unit will flash. Note This flag will be turned OFF when the error is cleared.	ON: Error OFF: No error	Cleared	Cleared	Refreshed when error occurs.	
	15	FAL Error Flag (non-fatal error)	ON when a non-fatal error is generated by executing FAL. The CPU Unit will continue operating and the ERR/ALM indicator on the front of the CPU Unit will flash. The bit in A360 to A391 that corresponds to the FAL number specified in FALS will be turned ON and the corresponding error code will be written to A400. Error codes 4101 to 42FF correspond to FAL numbers 001 to 2FF (0 to 511). Note This flag will be turned OFF when the error is cleared.	ON: FAL error occurred OFF: FAL not executed	Cleared	Cleared	Refreshed when error occurs.	A360 to A391, A400
A403	00 to 08	Memory Error Location	When a memory error occurs, the Memory Error Flag (A401.15) is turned ON and one of the following flags is turned ON to indicate the memory area where the error occurred A403.00: Ladder program A403.04: PLC Setup When a memory error occurs, the CPU Unit will continue operating and the ERR/ALM indicator on the front of the CPU Unit will flash. Note The corresponding flag will be turned OFF when the error is cleared.	ON: Error OFF: No error	Cleared	Cleared	Refreshed when error occurs.	A401.15
	10	Backup Memory Error Flag	ON when the built-in EEPROM backup memory is physically destroyed.	ON: Error OFF: No error	Cleared	Cleared	Refreshed when error is detected.	
A404		I/O Bus Error Details	Contains information on I/O bus errors. The CPU Unit will stop operating and the ERR/ALM indicator on the front of the CPU Unit will light. Note A401.14 (I/O Bus Error Flag) will turn ON.	0A0A hex: Expansion Unit error	Cleared	Cleared	Refreshed when error is detected.	A401.14
A407	13 to 15	Too Many I/O Points, Cause	The 3-digit binary value of these bits indicates the cause of the Too Many I/O Points Error.	010: Too many Expansion Unit and Expansion I/O Unit words	Cleared	Cleared	Refreshed when error occurs.	A401.11
A424	00 to 15	Error Option Board Flags	The bit corresponding to the option slot turns ON when an error occurs in an Option Board (A315.13 will be ON). Bit 01: Option slot 2	ON: Error OFF: No error	Cleared	Cleared		A353.13
A434	0	Open-circuit Detection for Built-in Analog Input 0	On when AD0 open-circuit is detected		Retained	Cleared	Refreshed when AD0 open-circuit is detected.	
	1	Open-circuit Detection for Built-in Analog Input 1	On when AD1 open-circuit is detected		Retained	Cleared	Refreshed when AD1 open-circuit is detected.	
	4	Built-in Analog Initial Flag	ON when the built-in analog initialization is normally finished.		Retained	Cleared	Refreshed when built-in analog initialization is normally finished.	

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A435	15	I/O Option Board Run State Flag	Turn ON when the I/O Option Board works normally.Turn OFF when the I/O Option Board is in initial state or abnormality state.	ON: I/O option board works normally OFF: In initial state or abnormality state		Cleared	When I/O option board state changes.	
A436	00 to 02	Expansion Unit and Expansion I/O Unit Error Flags	ON when an error occurs in a CP-series Expansion Unit or Expansion I/O Unit. A436.00: 1st Unit A436.01: 2nd Unit A436.02: 3rd Unit A436.03: 4th Unit A436.04: 5th Unit A436.05: 6th Unit Note CP1W-TS002/TS003/TS102/AD041/AD042/DA041/DA042/32ER/32ET/32ET1 are each counted as two Units.	OFF: No error ON: Error	Retained	Cleared		
A437		Number of Connected Units	Stores the number of Expansion Units and Expansion I/O Units connected as a hexadecimal number. Note This information is invalid only when a Too Many I/O Points error has occurred. CP1W-TS002/TS003/TS102/AD041/AD042/DA041/DA042/32ER/32ET/32ET1 are each counted as two Units.	0000 to 0006 hex	Retained	Cleared		
A440		Max. Interrupt Task Processing Time	Contains the Maximum Interrupt Task Processing Time in units of 0.1 ms. Note This value is cleared when PLC operation begins.	0000 to FFFF hex	Cleared	Cleared	Written after the interrupt task with the max. processing time is executed.	
A441		Interrupt Task with Max. Processing Time	Contains the task number of the interrupt task with the maximum processing time. Hexadecimal values 8000 to 800F correspond to task numbers 00 to 0F. Bit 15 is turned ON when an interrupt has occurred. Note This value is cleared when PLC operation begins.	8000 to 800F hex	Cleared	Cleared	Written after the interrupt task with the max. processing time is executed.	
A442		Total Interrupt Task Processing Time One Cycle	Contains the Total Interrupt Task Processing Time in one cycle in units of 0.1ms.Sets when the value is bigger than the last one once a cycle by common processing. Note This value is cleared when PLC operation begins. The value is unstable for CPU Unit version 1.0 or earlier.	0000 to FFFF hex	Cleared	Cleared	Each cycle	A440
A444		Pulse Output 0 Stop Error Code	If a Pulse Output Stop Error occurs for pulse output 0, the error code is written to this word.		Retained	Cleared	<ul style="list-style-type: none"> • Refreshed when origin search starts. • Refreshed when a pulse output stop error occurs. 	
A445		Pulse Output 1 Stop Error Code	If a Pulse Output Stop Error occurs for pulse output 1, the error code is written to this word.		Retained	Cleared	<ul style="list-style-type: none"> • Refreshed when origin search starts. • Refreshed when a pulse output stop error occurs. 	

A-2-2 Read/Write Words

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A500	12	IOM Hold Bit	Turn ON this bit to preserve the status of the I/O Memory when shifting from PROGRAM to RUN or MONITOR mode or vice versa.	ON: Retained OFF: Not retained	Retained	Not retained	Refreshed when power is turned ON.	
	13	Forced Status Hold Bit	Turn ON this bit to preserve the status of bits that have been force-set or force-reset when shifting from PROGRAM to MONITOR mode or vice versa. Always use this bit together with the IOM Hold Bit (A500.12), i.e., turn them ON at the same time.	ON: Retained OFF: Not retained	Retained	Not retained	Refreshed when power is turned ON.	
	14	Error Log Reset Bit	Turn this bit ON to reset the Error Log Pointer (A300) to 00. Note 1 The contents of the Error Log Area itself (A100 to A199) are not cleared. 2 This bit is automatically reset to 0 after the Error Log Pointer is reset.	OFF to ON: Clear	Retained	Cleared		A100 to A199, A300
	15	Output OFF Bit	Turn this bit ON to turn OFF all outputs from the CPU Unit, CP-series Expansion Units, and CP-series Expansion I/O Units. The INH indicator on the front of the CPU Unit will light while this bit is ON. Note This bit is cleared when the power supply is turned OFF.		Retained	Cleared		
A508	09	Differentiate Monitor Completed Flag	ON when the differentiate monitor condition has been established during execution of differentiation monitoring. Note This flag will be cleared to 0 when differentiation monitoring starts.	ON: Monitor condition established OFF: Not yet established	Retained	Cleared		
A510 to A511 (CP1E N/NA □□(S)-type CPU Unit only)	–	Startup Time	These words contain the time at which the power was turned ON. The contents are updated every time that the power is turned ON. The data is stored in BCD. A510.00 to A510.07: Second (00 to 59) A510.08 to A510.15: Minute (00 to 59) A511.00 to A511.07: Hour (00 to 23) A511.08 to A511.15: Day of month (01 to 31) Note 1 The data will be unstable if the capacitor becomes discharged. 2 In an E□□(S)-type CPU Unit, or if the clock data is not set for an N/NA□□(S)-type CPU Unit, the data will be for 1:01.01 on Sunday January 1, 2001.	See Function column.	Retained	See Function column.	Refreshed when power is turned ON.	

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A512 to A513 (CP1E N/NA □□(S)-type CPU Unit only)	—	Power Interruption Time	These words contain the time at which the power was interrupted. The contents are updated every time that the power is interrupted. The data is stored in BCD. A512.00 to A512.07: Second (00 to 59) A512.08 to A512.15: Minute (00 to 59) A513.00 to A513.07: Hour (00 to 23) A513.08 to A513.15: Day of month (01 to 31) Note 1 These words are not cleared at startup. 2 The data will be unstable if the capacitor becomes discharged. 3 In an E□□(S)-type CPU Unit, or if the clock data is not set for an N/NA□□(S)-type CPU Unit, the data will be for 1:01.01 on Sunday January 1, 2001.	See Function column.	Retained	Retained	Written at power interruption.	
A514	—	Number of Power Interruptions	Contains the number of times that power has been interrupted since the power was first turned ON. The data is stored in binary. To reset this value, overwrite the current value with 0000. Note The data will be unstable if the capacitor becomes discharged.	0000 to FFFF hex	Retained	Retained	Refreshed when power is turned ON.	
A515 to A517 (CP1E N/NA □□(S)-type CPU Unit only)	—	Operation Start Time	The time that operation started as a result of changing the operating mode to RUN or MONITOR mode is stored here in BCD. A515.00 to A515.07: Seconds (00 to 59) A515.08 to A515.15: Minutes (00 to 59) A516.00 to A516.07: Hour (00 to 23) A516.08 to A516.15: Day of month (01 to 31) A517.00 to A517.07: Month (01 to 12) A517.08 to A517.15: Year (00 to 99) Note 1 The previous start time is stored after turning ON the power supply until operation is started. 2 The data will be unstable if the capacitor becomes discharged. 3 In an E□□(S)-type CPU Unit, or if the clock data is not set for an N/NA□□(S)-type CPU Unit, the data will be for 1:01.01 on Sunday January 1, 2001.	See at left.	Retained	Retained	See at left.	

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A518 to A520 (CP1E N/NA □□(S) -type CPU Unit only)	-	Operation End Time	The time that operation stopped as a result of changing the operating mode to PROGRAM mode is stored here in BCD. A518.00 to A518.07: Seconds (00 to 59) A518.08 to A518.15: Minutes (00 to 59) A519.00 to A519.07: Hour (00 to 23) A519.08 to A519.15: Day of month (01 to 31) A520.00 to A520.07: Month (01 to 12) A520.08 to A520.15: Year (00 to 99) Note 1 If an error occurs in operation, the time of the error will be stored. If the operating mode is then changed to PROGRAM mode, the time that PROGRAM mode was entered will be stored. 2 The data will be unstable if the capacitor becomes discharged. 3 In an E□□(S)-type CPU Unit, or if the clock data is not set for an N/NA□□(S)-type CPU Unit, the data will be for 1:01.01 on Sunday January 1, 2001.	See at left.	Retained	Retained	See at left.	
A525	01	Ethernet Option Board Reset Flag (Serial Option Port)	Turn ON this bit to reset the Ethernet Option Board mounted on the serial Option port.	OFF to ON: Reset	Retained	Cleared		
	09	Ethernet Option Board Restart Flag (Serial Option Port)	Turn ON this bit to restart Ethernet Option Board mounted on the serial Option port.	OFF to ON: Restart	Retained	Cleared		
A526	00	Built-in RS-232C Port Restart Bit (CP1E N/NA□□(S)-type CPU Unit only)	Turn ON this bit to restart the built-in RS-232C port. Note This bit is turned OFF automatically when the restart processing is completed.	OFF to ON: Restart	Retained	Cleared		
	01	Serial Option Port/ Built-in RS-485 Port Restart Bit (CP1E N30/40/60(S□) or NA20 CPU Unit only)	Turn ON this bit to restart the serial option port or built-in RS-485 port. Note This bit is turned OFF automatically when the restart processing is completed.	OFF to ON: Restart port	Retained	Cleared		

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A528	00 to 07	Built-in RS-232C Port/ Built-in RS-485 Port Error Flags (CP1E N/NA□□(S)-type CPU Unit only)	<p>These flags indicate what kind of error has occurred at the built-in RS-232C port.</p> <ul style="list-style-type: none"> They are automatically turned OFF when the built-in RS-232C port is restarted. Only bit 5 (timeout error) is valid in NT Link mode. Serial PLC Link Polling Unit: Bit 05: ON for timeout error. Serial PLC Link Polled Unit: Bit 03: ON for framing error. Bit 04: ON for overrun error. Bit 05: ON for timeout error. <p>These bits can be cleared by the CX-Programmer.</p>	<p>Bits 00 and 01: Not used. Bit 02: ON for parity error. Bit 03: ON for framing error. Bit 04: ON for overrun error. Bit 05: ON for timeout error. Bits 06 and 07: Not used.</p>	Retained	Cleared		
	08 to 15	Serial Option Port/ Built-in RS-485 Port Error Flags (CP1E N30/40/60(SD) or NA20 CPU Unit only)	<p>These flags indicate what kind of error has occurred at the serial option port or built-in RS-485 port.</p> <ul style="list-style-type: none"> They are automatically turned OFF when the serial option port or built-in RS-485 port is restarted. Only bit 5 (timeout error) is valid in NT Link mode. Serial PLC Link Polling Unit: Bit 13: ON for timeout error. Serial PLC Link Polled Unit: Bit 11: ON for framing error. Bit 12: ON for overrun error. Bit 13: ON for timeout error. <p>These bits can be cleared by the CX-Programmer.</p>	<p>Bits 08 and 09: Not used. Bit 10: ON for parity error. Bit 11: ON for framing error. Bit 12: ON for overrun error. Bit 13: ON for timeout error. Bits 14 and 15: Not used.</p>	Retained	Cleared		
A529		FAL/FALS Number for System Error Simulation	<p>Set a dummy FAL/FALS number to use to simulate the system error using FAL or FALS.</p> <p>Note When FAL or FALS is executed and the number in A529 is the same as the one specified in the operand of the instruction, the system error given in the operand of the instruction will be generated instead of a user-defined error.</p>	<p>0001 to 01FF hex: FAL/FALS numbers 1 to 511</p> <p>0000 or 0200 to FFFF hex: No FAL/FALS number for system error simulation. (No error will be generated.)</p>	Retained	Cleared		
A531	00	High-speed Counter 0 Reset Bit	<p>When the reset method is set to Phase-Z signal + Software reset, the corresponding high-speed counter's PV will be reset if the phase-Z signal is received while this bit is ON.</p> <p>When the reset method is set to Software reset, the corresponding high-speed counter's PV will be reset in the cycle when this bit turns ON.</p>					
	01	High-speed Counter 1 Reset Bit						
	02	High-speed Counter 2 Reset Bit						
	03	High-speed Counter 3 Reset Bit						
	04	High-speed Counter 4 Reset Bit						
	05	High-speed Counter 5 Reset Bit (Not supported by E10 CPU Unit)						

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A540	00	Pulse Output 0 Reset Bit	The pulse output 0 PV (contained in A276 and A277) will be cleared when this bit is turned ON.		Retained	Cleared		A276 and A277
	08	Pulse Output 0 CW Limit Input Signal Flag	This is the CW limit input signal for pulse output 0, which is used in the origin search. To use this signal, write the input from the actual sensor as an input condition in the ladder program and output the result to this flag.		Retained	Cleared		
	09	Pulse Output 0 CCW Limit Input Signal Flag	This is the CCW limit input signal for pulse output 0, which is used in the origin search. To use this signal, write the input from the actual sensor as an input condition in the ladder program and output the result to this flag.		Retained	Cleared		
	10	Pulse Output 0 Positioning Completed Signal	This is the positioning completed input signal used in the origin search for pulse output 0. The input signal from the servo driver is output to this bit from the ladder program to enable using the signal.		Retained	Cleared		
A541	00	Pulse Output 1 Reset Bit	The pulse output 1 PV (contained in A278 and A279) will be cleared when this bit is turned ON.		Retained	Cleared		A278 and A279
	08	Pulse Output 1 CW Limit Input Signal Flag	This is the CW limit input signal for pulse output 1, which is used in the origin search. To use this signal, write the input from the actual sensor as an input condition in the ladder program and output the result to this flag.		Retained	Cleared		
	09	Pulse Output 1 CCW Limit Input Signal Flag	This is the CCW limit input signal for pulse output 1, which is used in the origin search. To use this signal, write the input from the actual sensor as an input condition in the ladder program and output the result to this flag.		Retained	Cleared		
	10	Pulse Output 1 Positioning Completed Signal	This is the positioning completed input signal used in the origin search for pulse output 1. The input signal from the servo driver is output to this bit from the ladder program to enable using the signal.		Retained	Cleared		

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A617	00	Built-in RS232C Port Communication Settings	Display the present communication settings of the built-in RS232C port. Reflect the PLC Setup when power is turned ON.	Parity 0: Even 1: Odd	Retained	See Function column.	Refreshed when power is turned ON.	
	01			Parity 0: Yes 1: No	Retained	See Function column.	Refreshed when power is turned ON.	
	02			Stop bit 0: 2 bits 1: 1 bit	Retained	See Function column.	Refreshed when power is turned ON.	
	03			Data length 0: 7 bits 1: 8 bits	Retained	See Function column.	Refreshed when power is turned ON.	
	04			Start bit 0: 1 bit (fixed)	Retained	See Function column.	Refreshed when power is turned ON.	
	08 to 11			Communication speed 0 hex: Default (9600) 3 hex: 1200 4 hex: 2400 5 hex: 4800 6 hex: 9600 7 hex: 19200 8 hex: 38400 9 hex: 57600 A hex: 115200	Retained	See Function column.	Refreshed when power is turned ON.	
	12 to 15			Communication mode 0 hex: Default (Host Link) 2 hex: NT link (1: N) 3 hex: Non-protocol 5 hex: Host Link 7 hex: Serial PLC Link (Slave) 8 hex: Serial PLC Link (Master) 9 hex: Modbus-RTU Easy Master	Retained	See Function column.	Refreshed when power is turned ON.	
	00			Parity 0: Even 1: Odd	Retained	See Function column.	Refreshed when power is turned ON.	
	01			Parity 0: Yes 1: No	Retained	See Function column.	Refreshed when power is turned ON.	
	02			Stop bit 0: 2 bits 1: 1 bit	Retained	See Function column.	Refreshed when power is turned ON.	
	03			Data length 0: 7 bits 1: 8 bits	Retained	See Function column.	Refreshed when power is turned ON.	
	04			Start bit 0: 1 bit (fixed)	Retained	See Function column.	Refreshed when power is turned ON.	
	00			Parity 0: Even 1: Odd	Retained	See Function column.	Refreshed when power is turned ON.	
	01			Parity 0: Yes 1: No	Retained	See Function column.	Refreshed when power is turned ON.	
	02			Stop bit 0: 2 bits 1: 1 bit	Retained	See Function column.	Refreshed when power is turned ON.	
	03			Data length 0: 7 bits 1: 8 bits	Retained	See Function column.	Refreshed when power is turned ON.	
	04			Start bit 0: 1 bit (fixed)	Retained	See Function column.	Refreshed when power is turned ON.	

A-2 Auxiliary Area Allocations by Address

App

A-2-2 Read/Write Words

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A618	08 to 11	Serial Option Port Communication Settings	Display the present communication settings of the serial option port. Reflect the PLC Setup when power is turned ON.	Communication speed 0 hex: Default (9600) 3 hex: 1200 4 hex: 2400 5 hex: 4800 6 hex: 9600 7 hex: 19200 8 hex: 38400 9 hex: 57600 A hex: 115200	Retained	See Function column.	Refreshed when power is turned ON.	
	12 to 15			Communication mode 0 hex: Default (Host Link) 2 hex: NT link(1: N) 3 hex: Non-protocol 5 hex: Host Link 7 hex: Serial PLC Link (Slave) 8 hex: Serial PLC Link (Master) 9 hex: Modbus-RTU Easy Master	Retained	See Function column.	Refreshed when power is turned ON.	
A640	00	Built-in RS-232C Port Modbus-RTU Easy Master Execution Bit (CP1E N/NA□□(S)-type CPU Unit only)	Turn ON this bit to send a command and receive a response for the built-in RS-232C port using the Modbus-RTU easy master function. Note This bit will be turned OFF automatically by the system when communications have been completed.	Turned ON: Execution started ON: Execution in progress. OFF: Not executed or execution completed.	Retained	Cleared		DM Area words for built-in RS-232C port Modbus-RTU Easy Master: D01200 to D01299
	01	Built-in RS-232C Port Modbus-RTU Easy Master Normal End Flag (CP1E N/NA□□(S) type CPU Unit only)	ON when one command has been sent and the response received for the built-in RS-232C port using the Modbus-RTU easy master function.	ON: Execution normal. OFF: Execution error or still in progress.	Retained	Cleared		
	02	Built-in RS-232C Port Modbus-RTU Easy Master Error End Flag (CP1E N/NA□□(S)-type CPU Unit only)	ON when an error has occurred in communications for the built-in RS-232C port using the Modbus-RTU easy master function. The error code is output to D01252 in the DM fixed allocation words for Modbus-RTU Easy Master.	ON: Execution error. OFF: Execution normal or still in progress.	Retained	Cleared		
A641	00	Serial Option Port/ Built-in RS-485 Port Modbus-RTU Master Execution Bit (CP1E N30/40/60(S□) or NA20 CPU Unit only)	Turn ON this bit to send a command and receive a response for the serial option port or built-in RS-485 port using the Modbus-RTU easy master function. Note This bit will be turned OFF automatically by the system when communications have been completed.	Turned ON: Execution started ON: Execution in progress. OFF: Not executed or execution completed.	Retained	Cleared		DM Area words for built-in RS-232C port Modbus-RTU Easy Master: D01300 to D01399
	01	Serial Option Port/ Built-in RS-485 Port Modbus-RTU Master Execution Normal Flag (CP1E N30/40/60(S□)) or NA20 CPU Unit only)	ON when one command has been sent and the response received for the serial option port or built-in RS-485 port using the Modbus-RTU easy master function.	ON: Execution normal. OFF: Execution error or still in progress.	Retained	Cleared		
	02	Serial Option Port/ Built-in RS-485 Port Modbus-RTU Master Execution Error Flag (CP1E N30/40/60(S□)) or NA20 CPU Unit only)	ON when an error has occurred in communications for the serial option port or built-in RS-485 port using the Modbus-RTU easy master function. The error code is output to D01352 in the DM fixed allocation words for Modbus-RTU Easy Master.	ON: Execution error. OFF: Execution normal or still in progress.	Retained	Cleared		

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A642		Analog Adjustment 1 PV	Stores the value set on analog adjuster 1 as a hexadecimal value.	0000 to 00FF hex	Retained	Cleared		
A643		Analog Adjustment 2 PV	Stores the value set on analog adjuster 2 as a hexadecimal value.	0000 to 00FF hex	Retained	Cleared		
A720 to A722 (CP1E N/NA □□(S)-type CPU Unit only)	1	Power ON Clock Data	<p>These words contain the time at which the power was turned ON one time before the startup time stored in words A510 to A511.</p> <p>A720.00 to A720.07: Seconds (00 to 59) A720.08 to A720.15: Minutes (00 to 59) A721.00 to A721.07: Hour (00 to 23) A721.08 to A721.15: Day of month (01 to 31) A722.00 to A722.07: Month (01 to 12) A722.08 to A722.15: Year (00 to 99)</p> <p>Note 1 All of the clock data from A720 to A749 is cleared if the capacitor becomes discharged.</p> <p>2 In an E□□(S)-type CPU Unit, or if the clock data is not set for an N/NA□□(S)-type CPU Unit, the data will be for 1:01.01 on Sunday January 1, 2001.</p>	See at left.	Retained	Retained	Written when power is turned ON.	
A723 to A725 (CP1E N/NA □□(S)-type CPU Unit only)	2	Power ON Clock Data	<p>These words contain the time at which the power was turned ON two times before the startup time stored in words A510 to A511.</p> <p>A723.00 to A723.07: Seconds (00 to 59) A723.08 to A723.15: Minutes (00 to 59) A724.00 to A724.07: Hour (00 to 23) A724.08 to A724.15: Day of month (01 to 31) A725.00 to A725.07: Month (01 to 12) A725.08 to A725.15: Year (00 to 99)</p>	See at left.	Retained	Retained	Written when power is turned ON.	
A726 to A728 (CP1E N/NA □□(S)-type CPU Unit only)	3	Power ON Clock Data	<p>These words contain the time at which the power was turned ON three times before the startup time stored in words A510 to A511.</p> <p>A726.00 to A726.07: Seconds (00 to 59) A726.08 to A726.15: Minutes (00 to 59) A727.00 to A727.07: Hour (00 to 23) A727.08 to A727.15: Day of month (01 to 31) A728.00 to A728.07: Month (01 to 12) A728.08 to A728.15: Year (00 to 99)</p>	See at left.	Retained	Retained	Written when power is turned ON.	
A729 to A731 (CP1E N/NA □□(S)-type CPU Unit only)	4	Power ON Clock Data	<p>These words contain the time at which the power was turned ON four times before the startup time stored in words A510 to A511.</p> <p>A729.00 to A729.07: Seconds (00 to 59) A729.08 to A729.15: Minutes (00 to 59) A730.00 to A730.07: Hour (00 to 23) A730.08 to A730.15: Day of month (01 to 31) A731.00 to A731.07: Month (01 to 12) A731.08 to A731.15: Year (00 to 99)</p>	See at left.	Retained	Retained	Written when power is turned ON.	

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A732 to A734 (CP1E N/NA □□(S)-type CPU Unit only)		Power ON Clock Data 5	These words contain the time at which the power was turned ON five times before the startup time stored in words A510 to A511. A732.00 to A732.07: Seconds (00 to 59) A732.08 to A732.15: Minutes (00 to 59) A733.00 to A733.07: Hour (00 to 23) A733.08 to A733.15: Day of month (01 to 31) A734.00 to A734.07: Month (01 to 12) A734.08 to A734.15: Year (00 to 99)	See at left.	Retained	Retained	Written when power is turned ON.	
A735 to A737 (CP1E N/NA □□(S)-type CPU Unit only)		Power ON Clock Data 6	These words contain the time at which the power was turned ON six times before the startup time stored in words A510 to A511. A735.00 to A735.07: Seconds (00 to 59) A735.08 to A735.15: Minutes (00 to 59) A736.00 to A736.07: Hour (00 to 23) A736.08 to A736.15: Day of month (01 to 31) A737.00 to A737.07: Month (01 to 12) A737.08 to A737.15: Year (00 to 99)	See at left.	Retained	Retained	Written when power is turned ON.	
A738 to A740 (CP1E N/NA □□(S)-type CPU Unit only)		Power ON Clock Data 7	These words contain the time at which the power was turned ON seven times before the startup time stored in words A510 to A511. A738.00 to A738.07: Seconds (00 to 59) A738.08 to A738.15: Minutes (00 to 59) A739.00 to A739.07: Hour (00 to 23) A739.08 to A739.15: Day of month (01 to 31) A740.00 to A740.07: Month (01 to 12) A740.08 to A740.15: Year (00 to 99)	See at left.	Retained	Retained	Written when power is turned ON.	
A741 to A743 (CP1E N/NA □□(S)-type CPU Unit only)		Power ON Clock Data 8	These words contain the time at which the power was turned ON eight times before the startup time stored in words A510 to A511. A741.00 to A741.07: Seconds (00 to 59) A741.08 to A741.15: Minutes (00 to 59) A742.00 to A742.07: Hour (00 to 23) A742.08 to A742.15: Day of month (01 to 31) A743.00 to A743.07: Month (01 to 12) A743.08 to A743.15: Year (00 to 99)	See at left.	Retained	Retained	Written when power is turned ON.	
A744 to A746 (CP1E N/NA □□(S)-type CPU Unit only)		Power ON Clock Data 9	These words contain the time at which the power was turned ON nine times before the startup time stored in words A510 to A511. A744.00 to A744.07: Seconds (00 to 59) A744.08 to A744.15: Minutes (00 to 59) A745.00 to A745.07: Hour (00 to 23) A745.08 to A745.15: Day of month (01 to 31) A746.00 to A746.07: Month (01 to 12) A746.08 to A746.15: Year (00 to 99)	See at left.	Retained	Retained	Written when power is turned ON.	

Address		Name	Function	Settings	Status after mode change	Status at startup	Write timing	Related flags, settings
Words	Bits							
A747 to A749 (CP1E N/NA-type CPU Unit only)		Power ON Clock Data 10	These words contain the time at which the power was turned ON ten times before the startup time stored in words A510 to A511. A747.00 to A747.07: Seconds (00 to 59) A747.08 to A747.15: Minutes (00 to 59) A748.00 to A748.07: Hour (00 to 23) A748.08 to A748.15: Day of month (01 to 31) A749.00 to A749.07: Month (01 to 12) A749.08 to A749.15: Year (00 to 99)	See at left.	Retained	Retained	Written when power is turned ON.	
A751.11		DM Backup Restore Failed Flag	ON when DM backup data could not be restored normally. If this flag turns ON, data will not be restored from the built-in EEPROM backup memory to RAM.		Retained	Cleared		
A751.14		DM Backup Save Flag	ON when A751.15 is turned ON to start the saving operation. This flag stays ON while data is being saved and turns OFF when finished.		Retained	Cleared		
A751.15		DM Backup Save Start Bit	Saving the specified words from the DM Area in RAM to the built-in EEPROM backup memory is started when this bit is turned ON. This bit will not turn OFF automatically even when saving the data has been completed. If this bit is turned ON and OFF while the DM Backup Save Flag (A751.14) is ON, it will be ignored and the data will not be backed up again. Note Select the <i>Restore D0- from backup memory</i> Check Box and set the number of DM Area words to back up in the <i>Number of CH of DM for backup</i> Box in the PLC Setup before using this bit.	ON: Start saving. OFF: Execution normal or still in progress.	Retained	Cleared		