

If the IOM Hold Bit hasn't been turned ON to protect I/O memory, all non-retained areas of I/O memory will be cleared when a fatal error other than FALS(007) occurs. When the IOM Hold Bit is ON, the contents of I/O memory will be retained but all outputs will be turned OFF.

Error	Program- ming Console display	Error code (in A400)	Flag and word data	Probable cause	Possible remedy
Memory error	MEMORY ERR	80F1	A40115: Memory Error Flag A403: Memory Error Loca- tion	An error has occurred in memory. A bit in A403 will turn ON to show the location of the error as listed below.	See below.
				A40300 ON: A checksum error has occurred in the user program memory. An illegal instruction was detected.	Check the program and correct the error.
				A40304 ON: A checksum error has occurred in the PLC Setup.	Clear the entire PLC Setup to 0000 and reenter the settings.
				A40305 ON: A checksum error has occurred in the registered I/O table.	Initialize the registered I/O table and generate a new I/O table.
				A40307 ON: A checksum error has occurred in the routing tables.	Initialize the routing tables and reenter the tables.
				A40308 ON: A checksum error has occurred in the CPU Bus Unit setup.	Initialize the CPU Bus Unit setup and reenter the settings.
				A40309 ON: An error occurred during automatic transfer from the Memory Card at startup.	Make sure that the Memory Card is installed properly and that the correct file is on the Card.
				A40310 ON: An error occurred in flash memory (backup memory).	CPU Unit hardware is faulty. Replace the CPU Unit.
I/O Bus error	I/O BUS ERR	80C0 to 80CE or 80CF	A40114: I/O Bus Error Flag A404: I/O Bus Error Slot and Rack Num- bers	<p>Error has occurred in the bus line between the CPU and I/O Units or the End Cover is not connected to the CPU Rack or an Expansion Rack.</p> <p>A40400 to A40407 contain the error slot number (00 to 09) in binary. 0F hex indicates that the slot cannot be determined. 0E hex indicates the End Cover is not connected to the CPU Rack or an Expansion Rack.</p> <p>A40408 to A40415 contain the error rack number (00 to 03) in binary. 0F hex indicates that the rack cannot be determined. 0E hex indicates the End Cover is not connected to the CPU Rack or an Expansion Rack.</p>	<p>Try turning the power OFF and ON again.</p> <p>If the error isn't corrected, turn the power OFF and check cable connections between the I/O Units and Racks and the End Covers.</p> <p>Check for damage to the cable or Units.</p> <p>Turn the Rack's power supply OFF and then ON again.</p>

Error	Program- ming Console display	Error code (in A400)	Flag and word data	Probable cause	Possible remedy
Unit/Rack Number Dupli- cation error	UNIT No. DPL ERR	80E9	A40113: Duplication Error Flag A410: CPU Bus Unit Duplicate Number Flags	The same number has been allocated to more than one CPU Bus Unit. Bits A41000 to A41015 correspond to unit numbers 0 to F.	Check the unit numbers, eliminate the duplications, and turn the Rack's power supply OFF and then ON again.
			A40113: Duplication Error Flag A411 to A416: Spe- cial I/O Unit Duplicate Number Flags	The same number has been allocated to more than one Special I/O Unit. Bits A41100 to A41615 correspond to unit numbers 0 to 95.	Check the unit numbers, eliminate the duplications, and turn the Rack's power supply OFF and then ON again.
	RACK No. DPL ERR	80EA	A409: Expansion Rack Dupli- cate Rack Number	The same I/O word has been allocated to more than one Basic I/O Unit.	Check allocations to Units on the rack number whose bit in ON in A40900 to A40903. Correct the allocations so that no words are allocated more than once, including to Units on other Racks, and turn the Rack's power supply OFF and then ON again.
				An Expansion Rack's start- ing word address exceeds CIO 0901. The corresponding bit in A40900 to A40903 (Racks 0 to 3) will be turned ON.	Check the first word setting for the Rack indicated in A40900 to A40903 and change the setting to a valid word address below CIO 0900 with a Pro- gramming Device.
Program error	PRO- GRAM ERR	80F0	A40109: Program Error Flag A294 to A299: Pro- gram error information	The program is incorrect. See the following rows of this table for details. The address at which the program stopped will be out- put to A298 and A299.	Check A295 to determine the type of error that occurred and check A298/ A299 to find the program address where the error occurred. Correct the program and then clear the error.
				A29511: No END error	Be sure that there is an END(001) instruction at the end of the task speci- fied in A294 (program stop task number). The address where the END(001)
				A29515: UM overflow error The last address in UM (user program memory) has been exceeded.	Use a Programming Device to transfer the program again.

Error	Program- ming Console display	Error code (in A400)	Flag and word data	Probable cause	Possible remedy
Program error (cont.)	PRO-GRAM ERR	80F0	A40109: Program Error Flag A294 to A299: Program error information	A29513: Differentiation overflow error Too many differentiated instructions have been inserted or deleted during online editing.	After writing any changes to the program, switch to PROGRAM mode and then return to MONITOR mode to continue editing the program.
				A29512: Task error A task error has occurred. The following conditions will generate a task error. 1) There isn't an executable cyclic task. 2) There isn't a program allocated to the task. Check A294 for the number of the task missing a program. 3) The task specified in a TKON(820), TKOF(821), or MSKS(690) instruction doesn't exist.	Check the startup cyclic task attributes. Check the execution status of each task as controlled by TKON(820) and TKOF(821). Make sure that all of the task numbers specified in TKON(820), TKOF(821), and MSKS(690) instructions have corresponding tasks. Use MSKS(690) to mask any I/O or scheduled interrupt tasks that are not being used and that do not have programs set for them.
				A29510: Illegal access error An illegal access error has occurred and the PLC Setup has been set to stop operation for an instruction error. The following are illegal access errors: 1. Reading/writing a parameter area. 2. Writing memory that is not installed. 3. Writing an EM bank that is EM file memory. 4. Writing to a read-only area. 5. Indirect DM/EM address that is not in BCD when BCD mode is specified.	Find the program address where the error occurred (A298/A299) and correct the instruction.
				A29509: Indirect DM/EM BCD error An indirect DM/EM BCD error has occurred and the PLC Setup has been set to stop operation for an instruction error.	Find the program address where the error occurred (A298/A299) and correct the indirect addressing or change to binary mode.
				A29508: Instruction error An instruction processing error has occurred and the PLC Setup has been set to stop operation for an instruction error.	Find the program address where the error occurred (A298/A299) and correct the instruction.
				A29514: Illegal instruction error The program contains an instruction that cannot be executed.	Retransfer the program to the CPU Unit.

Error	Program- ming Console display	Error code (in A400)	Flag and word data	Probable cause	Possible remedy
Too Many I/O Points error	TOO MANY I/O PNT	80E1	A40111: Too Many I/O Points Flag A407: Too Many I/O Points, Details	<p>The probable causes are listed below. The 3-digit binary value (000 to 101) in A40713 to A40715 indicates the cause of the error. The value of these 3 bits is also output to A40700 to A40712.</p> <ol style="list-style-type: none"> 1) The total number of I/O points set in the I/O Table exceeds the maximum allowed for the CPU Unit 2) The number of Expansion Racks exceeds the maximum (bits: 101). 3) More than 10 I/O Units are connected to one Rack (bits: 111). 	Correct the problem and then turn the power supply OFF and back ON.
I/O Table Setting error	I/O SET ERR	80E0	A40110: I/O Setting Error Flag	<p>The Units that are connected do not agree with the registered I/O table or the number of Units that are connected does not agree with the number in the registered I/O table.</p> <p>(The following Units must be set as a 16-point Units in the I/O tables made on the CX-Programmer because they are allocated 1 word each even though they have only 8 points: CJ1W-ID201, CJ1W-OC201, CJ1W-IA201, CJ1W-OA201, and CJ1W-OD201/202/203/204. An I/O setting error will occur if this Unit is set as an 8-point Unit.)</p>	<p>Any discrepancies in the I/O table will be detected when the I/O verification operation is performed. If this error occurs even when the number Units is correct, there may be a faulty Unit. Automatically create the I/O tables and check for Units that are not being detected.</p> <p>If the number of Units is not correct, turn OFF the power supply and correctly connect the proper Units.</p> <p>If the number of Units is correct, confirm the Unit in discrepancy, turn OFF the power supply, and then correct the Unit connections.</p> <p>If there is a mistake in the I/O tables, recreate or edit them to correct the mistake.</p>
				<p>An Interrupt Input Unit has been connected in the wrong position, i.e., not in one of the five positions (CJ1 and CJ1-H) or three positions (CJ1M) next to the CPU Unit, or has been registered in the Registered I/O Tables in the wrong position.</p>	<p>A40508 will turn ON if an Interrupt Input Unit is in the wrong position (i.e., either physically in the wrong position in the system or registered in the wrong position in the Registered I/O Tables).</p> <p>Mount the Unit in the correct position or correct the Registered I/O Tables.</p>

Error	Program- ming Console display	Error code (in A400)	Flag and word data	Probable cause	Possible remedy
Cycle Time Overrun error	CYCLE TIME ERR	809F	A40108: Cycle Time Too Long Flag	The cycle time has exceeded the maximum cycle time (watch cycle time) set in the PLC Setup.	Change the program to reduce the cycle time or change the maximum cycle time setting. Check the Maximum Interrupt Task Processing Time in A440 and see if the Cycle Time Watch Time can be changed. The cycle time can be reduced by dividing unused parts of the program into tasks, jumping unused instructions in tasks, and disabling cyclic refreshing of Special I/O Units that don't require frequent refreshing.
	CYCLE TIME OVER	809F	A40515: Peripheral Servicing Cycle Time Too Long	Turns ON when the peripheral servicing time in a Parallel Processing Mode exceeds 2 s.	Change the CPU Processing Mode in the PLC Setup to Normal Mode or Peripheral Servicing Priority Mode, or review the system to reduce the event load. Parallel processing may not be possible if the program execution time (given in A66) is too short (e.g., less than 0.2 ms).
System FALS error	SYS FAIL FALS	C101 to C2FF	A40106: FALS Error Flag	FALS(007) has been executed in the program. The error code in A400 will indicate the FAL number. The leftmost digit of the code will be C and the rightmost 3 digits of the code will be from 100 to 2FF hex and will correspond to FAL numbers 001 to 511.	Correct according to cause indicated by the FAL number (set by user).

Non-fatal Errors

A non-fatal error has occurred if the indicators have the following conditions in RUN or MONITOR mode.

Power Supply Unit Indicator	CPU Unit Indicators				
	POWER	RUN	ERR/ALM	INH	PRPHL
ON	ON	Flashing	---	---	---

Connect a Programming Console to display the error message or use the error log window on the CX-Programmer. The cause of the error can be determined from the error message and related Auxiliary Area flags and words.

Errors are listed in order of importance. When two or more errors occur at the same time, the more serious error's error code will be recorded in A400.

Error	Program- ming Console display	Error code (in A400)	Flag and word data	Probable cause	Possible remedy
System FAL error	SYS FAIL FAL	4101 to 42FF	A40215: FAL Error Flag A360 to A391: Exe- cuted FAL Number Flags	FAL(006) has been exe- cuted in program. Executed FAL Number Flags A36001 to A39115 correspond to FAL numbers 001 to 511. The error code in A400 will indicate the FAL number. The leftmost digit of the code will be 4 and the right- most 3 digits of the code will be from 100 to 2FF hex and will correspond to FAL num- bers 001 to 511.	Correct according to cause indicated by FAL number (set by user).
Interrupt Task error	INTRPT ERR	008B	A40213: Interrupt Task Error Flag A426: Inter- rupt Task Error, Task Number	PLC Setup Set to Detect Interrupt Task Errors: Attempted to refresh a Spe- cial I/O Unit's I/O from an interrupt task with IORF(097) while the Unit's I/ O was being refreshed by cyclic I/O refreshing (dupli- cate refreshing).	Check the program. Either disable detection of interrupt task errors in the PLC Setup (address 128, bit 14) or cor- rect the problem in the program.
Basic I/O error	DENSITY I/O ERR	009A	A40212: Basic I/O Unit Error Flag A408: Basic I/O Unit Error, Slot Number	An error has occurred in a Basic I/O Unit. A408 contains the errant rack/slot number.	Check the errant Unit for blown fuse, etc.
PLC Setup error	PLC Setup ERR	009B	A40210: PLC Setup Error Flag A406: PLC Setup Error Location	There is a setting error in the PLC Setup. The location of the error is written to A406.	Change the indicated setting to a valid setting.

Error	Programming Console display	Error code (in A400)	Flag and word data	Probable cause	Possible remedy
CPU Bus Unit error	CPU BU ERR	0200 to 020F	A40207: CPU Bus Unit Error Flag A417: CPU Bus Unit Error, Unit Number Flags	An error occurred in a data exchange between the CPU Unit and a CPU Bus Unit. The corresponding flag in A417 is turned ON to indicate the problem Unit. Bits A41700 to A41715 correspond to unit numbers 0 to F.	Check the Unit indicated in A417. Refer to the Unit's operation manual to find and correct the cause of the error. Restart the Unit by toggling its Restart Bit or turn the power OFF and ON again. Replace the Unit if it won't restart.
Special I/O Unit error	SIOU ERR	0300 to 035F, or 03FF	A40206: Special I/O Unit Error Flag A418 to A423: Special I/O Unit Error, Unit Number Flags	An error occurred in a data exchange between the CPU Unit and a Special I/O Unit. The corresponding flag in A418 to A423 is turned ON to indicate the problem Unit. Bits A41800 to A42315 correspond to unit numbers 0 to 95.	Check the Unit indicated in A418 to A423. Refer to the Unit's operation manual to find and correct the cause of the error. Restart the Unit by toggling its Restart Bit or turn the power OFF and ON again. Replace the Unit if it won't restart.
Battery error	BATT LOW	00F7	A40204: Battery Error Flag	This error occurs when the PLC Setup has been set to detect battery errors and the CPU Unit's backup battery is missing or its voltage has dropped.	Check battery and replace if necessary. Change the PLC Setup setting if battery-free operation is being used.
CPU Bus Unit Setup error	CPU BU ST ERR	0400 to 040F	A40203: CPU Bus Unit Setting Error Flag A427: CPU Bus Unit Setting Error, Unit Number Flags	An installed CPU Bus Unit does not match the CPU Bus Unit registered in the I/O table. The corresponding flag in A427 will be ON. Bits 00 to 15 correspond to unit numbers 0 to F.	Change the registered I/O table.
Special I/O Unit Setup error	SIOU SETUP ERR	0500 to 055F	A40202: Special I/O Unit Setting Error Flag A428 to A433: Special I/O Unit Setting Error, Unit Number Flags	An installed Special I/O Unit does not match the Special I/O Unit registered in the I/O table. The corresponding flag in A428 to A433 will be ON. Bits A42800 to A43315 correspond to unit numbers 0 to 95.	Change the registered I/O table.