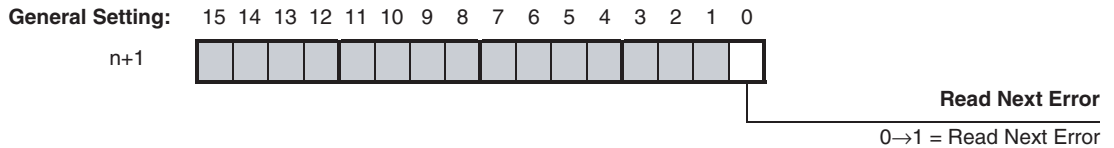


Error History Log File

Up to a maximum of 30 errors can be logged in chronological order inside the Counter Unit, constituting the Error History Log File. If multiple errors are active at the same time every error (-code) can be read sequentially into CIO (n+15, n+16) by using the Read Next Error bit. Every next error is read from the Error History Log File at the rising edge of the Read Next Error bit. If you attempt to read an error after the last error in the list has been read, the value of zero will be returned. Now you can scroll through the same error list again from the next rising edge of the Read Next Error bit.



5-2-1 DM-configuration errors

DM-configuration errors are detected during initialisation after the Unit has been powered up or restarted. DM-configuration errors can also be detected after the IOWR-instruction “(Re) Configure Unit” has been issued (refer to section 4-5-3-4 “(Re) Configure Unit”). In case a DM-configuration error is detected the Unit will report the error and stop operating. The error(s) can be read in CIO using the “Read Next Error” bit.

Error Code 1	Error Code 2	Error	Description	
0300	Offset (BCD)	Out of Range	The DM-setting located at $D20000 + (Nx100) + \text{Offset}$ is Out of Range (N = Machine Number).	
0310	Offset (BCD)	Invalid BCD-code	The DM-setting located at $D20000 + (Nx100) + \text{Offset}$ is an invalid BCD-code (N = Machine Number). (The range of a valid BCD-code for a digit is 0-9. If one or more digits is within range A-F an invalid BCD-code is specified).	
0311	Offset (BCD)	Invalid Initial Counter Value	The Initial Counter Value located at $D20000 + (Nx100) + \text{Offset}$ is outside the counting range that is set for that Counter (N = Machine Number).	
0320	Counter No.	Range No. (BCD)	Invalid Range Limits	Upper Range Limit < Lower Range Limit. <u>Counter No.</u> indicates the Linear Counter number and <u>Range No.</u> indicates the Range number.
0330	Counter No.	Range No. (BCD) / CV No. (BCD)	Invalid Range Limit(s) / Comparison Value	If the Unit is in Range Mode: Lower and/or Upper Range Limit is/are outside Counting Range. <u>Counter No.</u> indicates the Counter number and <u>Range No.</u> indicates the Range number. If the Unit is in Comparison Mode: Comparison value is outside Counting Range. <u>Counter No.</u> indicates the Counter number and <u>CV No.</u> indicates the Comparison Value number. (The counting range of Circular and Linear Counters can be specified, refer to section 3-2-1 “Circular Counter” and 3-2-2 “Linear Counter” for more information).
0331	Counter No.	CV No. (BCD)	Comparison Values are equal	For the Counter, with the <u>Counter Number</u> as reported in Error Code 2, one or more Comparison Values are equal. <u>CV No.</u> indicates the Comparison Value number.

Clearing DM-configuration errors

DM-configuration errors can be cleared by correcting the faulty settings in Data Memory and consecutively transferring the new configuration data again to the Unit. To transfer the configuration data you can choose from one out of two possibilities:

- Turn the power of the CJ-series PLC system ON.
- Restart the Counter Unit (refer to section 4-1-2 "Special I/O Units Restart bits").

5-2-2 IOWR/IORD-instruction errors

IOWR/IORD-instruction errors are detected by the Unit after they have been issued from the ladder program to the Counter Unit. IOWR-instructions are used to change Counter settings of the Unit. In case you specify faulty operands in the IOWR-instruction the Unit reports this as an error. IORD-instructions only generate an error in case an invalid Control Code or an invalid number of words is specified.

Error Code 1	Error Code 2		Error	Description
0350	Invalid Control Code		Invalid Control Code	The Control Code, specified in the IOWR/IORD-instruction is not supported by the Counter Unit. The <u>Invalid Control Code</u> is reported in Error Code 2.
0360	Control Code		Invalid number of words	The number of words that is specified in the IOWR/IORD-instruction is faulty. The <u>Control Code</u> of the instruction for which the invalid number of words is specified is reported in Error Code 2.
0400	Counter No.	000	Z-Reset Mode Out of Range	Two problems can cause this error. The Z-Reset Mode that you specified is not in the valid range (0-1). It is also possible that you issued an IOWR-instruction to change the Maximum or Minimum Count Value of a Circular or Linear Counter, causing one or more of the already defined Range Limits or Comparison Values to be outside the new Counting Range. <u>Counter No.</u> indicates the number of the Counter.
0412	Counter No.	000	Invalid Counting Range	The Lower Count Limit of the Counter is not a negative value and/or the Upper Count Limit is not a positive value.
0413	Counter No.	000	Invalid Current Counter Value	The Counter Value issued with the IOWR-instruction is outside the counting range of the Counter. <u>Counter No.</u> indicates the number of the Counter.
0420	Counter No.	Range No.	Invalid Range Limits	Upper Range Limit < Lower Range Limit. <u>Counter No.</u> indicates the Linear Counter number and <u>Range No.</u> indicates the Range number.

Error Code 1	Error Code 2		Error	Description
0430	Counter No.	Range No. (BCD) / CV No. (BCD)	Invalid Range Limit(s) / Comparison Value	<p>If the Unit is in Range Mode: Lower and/or Upper Range Limit is/are outside Counting Range. <u>Counter No.</u> indicates the Counter number and <u>Range No.</u> indicates the Range number.</p> <p>If the Unit is in Comparison Mode: Comparison value is outside Counting Range. <u>Counter No.</u> indicates the Counter number and <u>CV No.</u> indicates the Comparison Value number.</p> <p>(The counting range of Circular and Linear Counters can be specified, refer to section 3-2-1 "Circular Counter" and 3-2-2 "Linear Counter" for more information).</p>
0431	Counter No.	CV No. (BCD)	Comparison Values are equal	For the Counter with the <u>Counter Number</u> as reported in Error Code 2 one or more Comparison Values are equal. <u>CV No.</u> indicates the Comparison Value number.

Clearing IOWR-instruction errors

IOWR-instruction errors can be cleared by issuing the IOWR-instruction with the Error Clear ("EC") command (refer to section 4-5-3-4 "Error Clear Command" for more information).

5-2-3 Overflow/Underflow errors

Over- and underflow errors are reported only for Linear Counters assuming that they have been configured to generate error codes (refer to section 3-2-2 "Linear Counter").

Error Code 1	Error Code 2	Error	Description
0450	Counter No.	Overflow	The Linear Counter with the <u>Counter No.</u> as reported in Error Code 2 generated overflow.
0460	Counter No.	Underflow	The Linear Counter with the <u>Counter No.</u> as reported in Error Code 2 generated underflow.

Clearing overflow/underflow errors

Overflow- and underflow errors can be cleared by resetting or presetting the Counter that generated over- or underflow. To reset a Counter refer to section 3-6 "Reset Signals". To preset a Counter refer 3-4 "Controlling a Counter".

5-2-4 Preset error

A Preset error is generated if a Circular or Linear Counter is preset with an invalid Preset Value (refer to section 3-4 "Controlling a Counter" for more information about presetting). The Preset Value is invalid if it is outside the counting range of the Circular or Linear Counter.

Error Code 1	Error Code 2	Error	Description
0470	Counter No.	Invalid Preset Value	The Linear Counter with the <u>Counter No.</u> as reported in Error Code 2 is preset with an invalid Preset Value.

Clearing Preset error

A Preset error can be cleared by resetting or by presetting the Counter that generated a Preset error, with a valid Preset Value. To reset a Counter refer to section 3-6 "Reset Signals". To preset a Counter refer to section 3-4 "Controlling a Counter".

5-2-5 Interrupt FIFO full error

Every interrupt you want to use, is assigned to an external interrupt task number (0-255). This number corresponds with the external interrupt task in the CJ-series CPU Unit that is to be executed when the assigned interrupt is activated (refer to section 4-6 "Interrupts").

Multiple interrupts, will be queued in FIFO-order inside the Counter Unit, for as long as the current active interrupt is not executed. The FIFO-buffer stores up to 30 interrupt requests. If the FIFO-buffer is full the Unit will report an error to the CJ-series CPU Unit. All interrupts generated by the Unit, after the "Interrupt FIFO full" error has occurred will be ignored and will not generate additional errors. Error Code 2 contains the external interrupt task number of the corresponding interrupt that was excluded from the full FIFO-queue.

Error Code 1	Error Code 2	Error	Description
0480	External Interrupt Task No. (BCD)	Interrupt-FIFO full	The interrupt-FIFO inside the Counter Unit is full and the interrupt assigned to <i>External Interrupt Task</i> could not be executed.

Clearing Interrupt FIFO error

If the speed with which the Counter Unit generates interrupts is higher than the speed with which the CJ-series CPU Unit executes the interrupts, the FIFO-buffer inside the Unit runs full and the "Interrupt FIFO full" error is generated. The error can be cleared by issuing the IOWR-instruction with the Error Clear ("EC") command (refer to section 4-5-3-4 "Error Clear Command" for details).

The error indicates that the load of interrupts on the CJ-series CPU Unit is too high. Clearing the error as mentioned before most probably needs additional measures to be taken in order to prevent this error from happening in the future:

- Mask one or more interrupts of the Unit, which caused the error.
- Mask one or more interrupts of other Units in the system, which are generating interrupts as well.
- Reduce the execution time of the assigned External Interrupt Tasks.

External interrupt requests from the Counter Unit will not reach the CPU Unit if the CPU Unit is not a CJ1-H or CJ1M CPU Unit (CJ1 CPU Units which do not support external interrupts), or the Unit is mounted at an incorrect position.

Make sure that the Counter Unit is installed in the correct position. It must be installed in one of the five positions adjacent to the CPU Unit if a CJ1-H CPU Unit is used, or in one of the three positions adjacent the to CPU Unit if a CJ1M CPU Unit is used.

5-2-6 System Errors

When errors occur in the CJ-series CPU Unit or on the I/O Bus the ERH-LED is turned ON. At the occurrence of an I/O Bus error an error code (see n+17, n+18) is generated as well.

Error Code 1	Error Code 2	Error	Description
000E	0000	I/O Bus error	An error has occurred on the I/O Bus causing the Counter Unit to be in an undefined state. On occurrence of an I/O Bus error you can configure the Outputs to keep their last state or to have a pre-defined state (refer to section 3-6 "Reset Signals").
0002	Time-Out in milliseconds	Time-Out error	A cyclic refresh time-out error was generated caused by a PLC system error or you have chosen to disable the Cyclic Refresh of the Counter Unit in the CJ-series PLC settings. This error will be cleared as soon as Cyclic Refresh will take place again. The IORF ladder instruction has no influence on this behaviour.

Clearing System errors

Turn ON the power supply again or restart the system. If the error persists, then replace the CJ-series CPU Unit.