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Using SFC51 and the System Status List (SSL) to determine a battery fault

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Reference to Automation and Drives Service & Support

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http://support.automation.siemens.com/WW/view/en/23330722

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Using SFC51 and the System Status List (SSL) to determine a battery fault

In the event of a battery failure, the PLC calls OB81. You can use OB81 to set or reset signals, depending on whether the failure is incoming or outgoing. This user-defined signal can then be used to generate a fault message.

In some applications, the fault reset command writes zeros over all fault messages, and any fault that is still active will obviously not be overwritten and will remain on after a fault reset. Because OB81 is called only once, it would not reactivate the alarm for a battery fault, even if the battery fault is still active.

The solution to this problem was to generate a static signal that is based upon the System Status List (SSL or SZL) available in the PLC. The sample program Battery_Fault shows how to generate a static signal for a battery fault.

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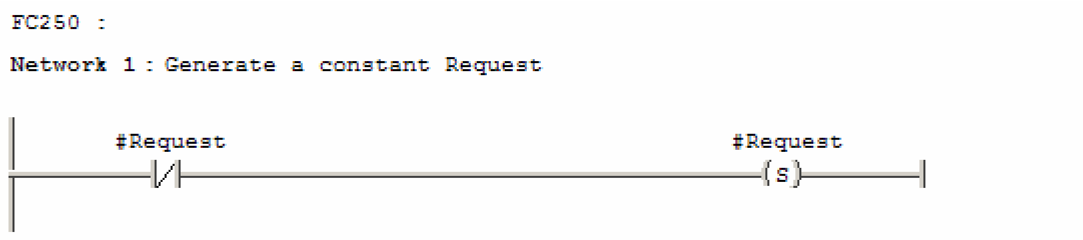
1 Check_BAF (FC250): checking the status for a battery fault

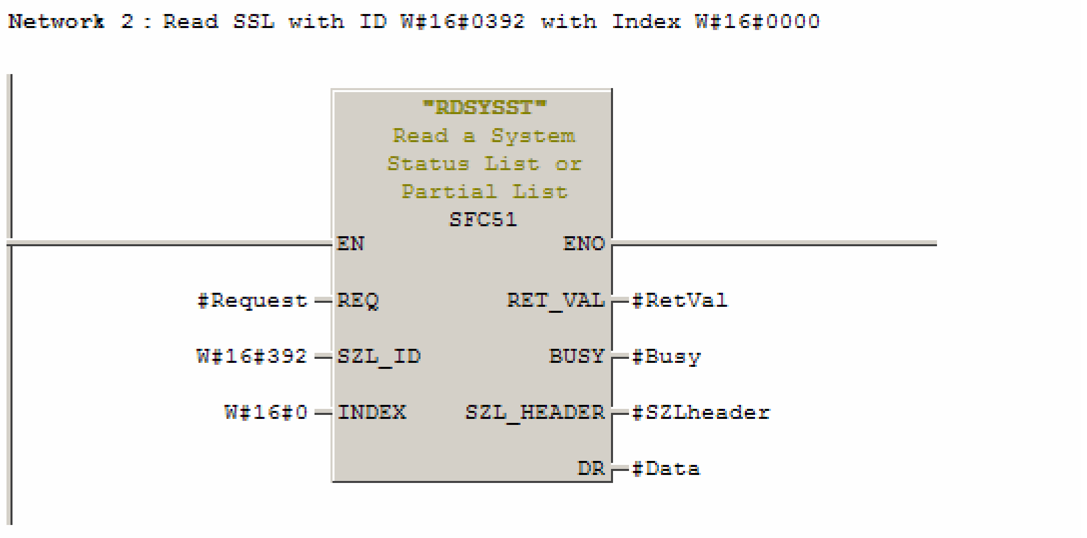
The Check_BAF function (FC250) has a single-output BAF that is a BOOL to represent a battery fault. BAF = 0 represents that no battery fault exists, and BAF = 1 represents that a battery fault exists. The function uses SFC51 ("RDSYSST") to read from the SSL for the battery with an SZL_ID of W#16#392 and an INDEX of W#16#0.

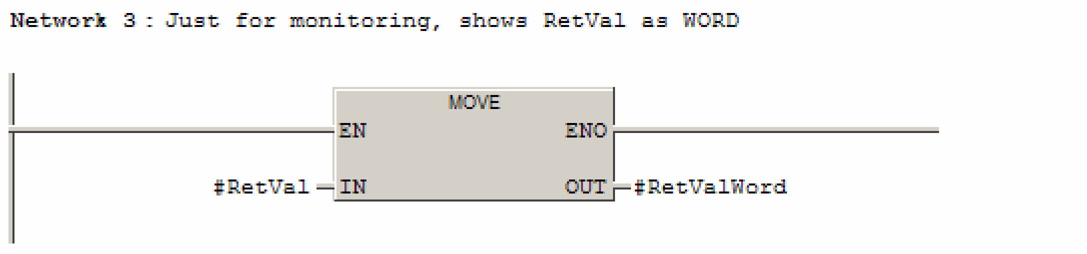


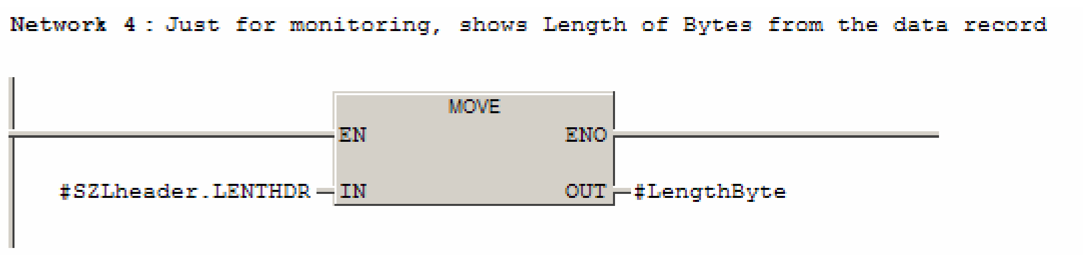
FC250 :

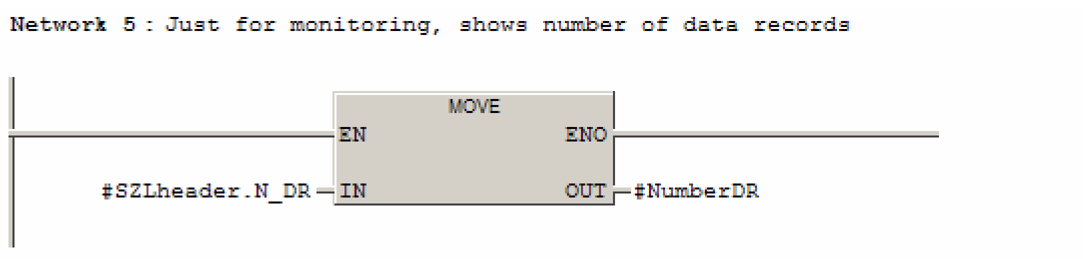
Network 1 : Generate a constant Request

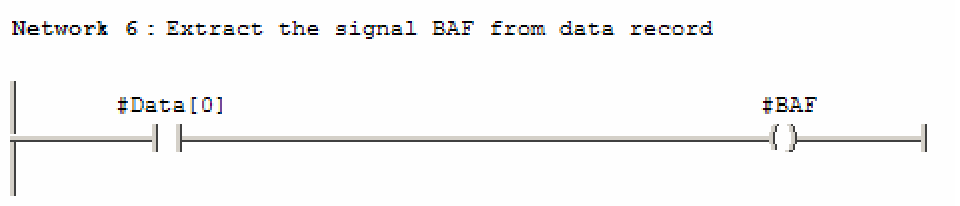
Using SFC51 and the System Status List


Network 2 : Read SSL with ID W#16#0392 with Index W#16#0000


Network 3 : Just for monitoring, shows RetVal as WORD


Network 4 : Just for monitoring, shows Length of Bytes from the data record


Network 5 : Just for monitoring, shows number of data records


Network 6 : Extract the signal BAF from data record

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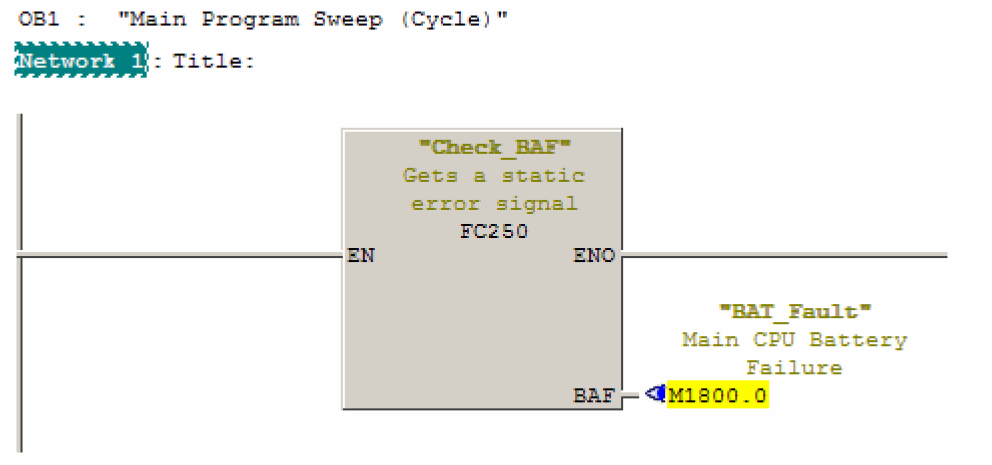
2 Calling FC250 (Check_BAF) from your program

Call he Check_BAF function from OB1 (or from an FC or FB). You can also define PDiag Monitoring on the BAF output signal for use as an alarm message.



OB1 : "Main Program Sweep (Cycle)"

Network 1 : Title:

3 Reference information

For information about RDSYSST and the System Status List (SSL), refer to the STEP 7 online help or to the *STEP 7 - System and Standard Functions for S7-300 and S7-400 User Manual*.

For information about the SSL entries for specific S7 CPUs, refer to the following manuals:

- S7-300 Programmable Controller Hardware and Installation
- S7-400, M7-400 Programmable Controllers Module Specifications

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