**Setpoint constraints for control**

**(range and rate limits, cutoff)**

Project TFS path: $/FW SVI FF Releases/Release1/FIRMWARE

Project Change Set: 34879

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| --- | --- | --- | --- | --- | --- |
| Containing file | | | FD-SW\target\appl\fdev\src\mntbmspff.c | Review Date | Reviewer |
| Function or data | | | Definitions | 03/05/2014 | AP |
|  | | | | | |
| TFS wit |  | | FF\_TRUE and FF\_FALSE defined as 1u and 0u respectively, should use the FF definitions. Note, that base.h defines TRUE as 0xFF and FALSE as 0x00. The pseudo Boolean constants are used in the global object and the code in general is known to use constructs like ***== TRUE***. | | |
| Impact | | | Unnecessary defines, incompatible with the rest of the code. | | |
| Resolution | | | **Suggestion to address during preparations of the new release..** | | |
|  | | | | | |
| Function or data | | | Definitions | 03/05/2014 | AP |
|  | | | | | |
| TFS wit | |  | SetPoint range constants SP\_MIN\_CLAMP\_VALUE and SP\_MAX\_CLAMP\_VALUE are defined locally in this file, should be defined in the header file, potential re-definition. Additionally, the comment about the clamping operation is incorrect, as it refers to the -51% and 200%. | | |
| Impact | | | Potential re-definition. | | |
| Resolution | | | Deferred. | | |
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| Function or data | | | Magic numbers | 03/05/2014 | AP |
|  | | | | | |
| TFS wit | |  | The file has some magic numbers in the function [ffmansp\_SendManualSetpoint](file:///C:\Source\FBAP\FIRMWARE\doxydoc\html_FF\mntbmspff_8c.html#a3e81fe972b76ec007504cbf566225a21): 155 (when sending the HART command, and sub-command number (5). | | |
| Impact | | | None. | | |
| Resolution | | | Deferred. | | |
|  | | | | | |
| Function or data | | | [ffmansp\_WriteManualSetpoint](file:///C:\Source\FBAP\FIRMWARE\doxydoc\html_FF\mntbmspff_8h.html#a01861a73a9b6753788cdfddcad2422f3)  [ffmansp\_WriteManualSetpointD](file:///C:\Source\FBAP\FIRMWARE\doxydoc\html_FF\mntbmspff_8h.html#ad01b4edda8e98b22f234821925a8cef3)  [ffmansp\_WriteManualSetpointD](file:///C:\Source\FBAP\FIRMWARE\doxydoc\html_FF\mntbmspff_8h.html#ad01b4edda8e98b22f234821925a8cef3)INT | 03/05/2014 | AP |
| TFS wit | |  | The verification of the setpoint source is only affirmative (***p\_PTB->[setpoint\_source](file:///C:\\Source\\FBAP\\FIRMWARE\\doxydoc\\html_FF\\struct_t___f_b_i_f___p_t_b.html" \l "a8cf5388d80546a0c715e0ef07496783d) ==*** [***SP\_SELECT\_DOINT***](file:///C:\Source\FBAP\FIRMWARE\doxydoc\html_FF\appl__int_8h.html#a4422be1d96c0ba921837ff7b849f4fa6)), there is no ***else*** processing if the setpoint\_source is actually improper for the function. The correctness of the processing is based on the assumption that the variable ***fferr*** is initialized and cannot be changed in the preceding code. | | |
| Impact | | | Potential fragility | | |
| Resolution | | | Deferred. | | |

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| Containing file | | FD-SW\target\appl\fdev\inc\mn\_advanced.h | Review Date | Reviewer |
| Function or data | | Definitions | 03/06/2014 | AP |
|  | | | | |
| TFS wit |  | Related to the comment above (re: FF\_TRUE and FF\_FALSE). Additional definition of enums ***a\_true*** and ***a\_false***. | | |
| Impact | | Unnecessary defines, incompatible with the rest of the code. | | |
| Resolution | | **Suggestion to address during preparations of the new release..** | | |
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| Containing file | | FD-SW\target\appl\fdev\src\mn\_advanced.c | Review Date | Reviewer |
| Function or data | | Definitions | 03/06/2014 | AP |
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| TFS wit |  | Using #define to define the whole ***array*** initial values in one MACRO is not the advised method of initializing the arrays; the ***static const*** array could be used. Additionally initializing the array on the stack in the function [ffcheck\_WriteAdvanced](file:///C:\\Source\\FBAP\\FIRMWARE\\doxydoc\\html_FF\\mn__advanced_8h.html" \l "a7ce8fda9f303fe4ca98d5e2cc0f1ca55) could be performed by copying the *default const array* into the variable instead of using the compound macro. Lines 412, 33 – 40.  The constructs:  **static** **const** u16 pFK\_1 = 0x5AA5u;  **static** **const** u16 pFK\_2 = 0xA55Au;  should be replaced by the *#define* constants. | | |
| Impact | | N/A | | |
| Resolution | | **Defer.** | | |
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| Containing file | | FD-SW\target\appl\fdev\src\mnhart2ff.c | | | Review Date | | Reviewer |
| Function or data | | **mn\_HART\_acyc\_cmd** | | | 03/05/2014 | | AP |
|  | | | | | | | |
| TFS wit |  | HART\_TYPE\_MISMATCH – This constant is used to pre-initialize the response byte to detect the failure, but there is no specific check for it in the error translation function **err\_Hart2FF; it falls into the *default* case. Is it correct? Should it be a separate error case?** | | | | | |
| Impact | | Not an issue, might need clarification. | | | | | |
| Resolution | |  | | | | | |
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| Containing file | | FD-SW\target\appl\fdev\src\mn\_fstate.c | | | Review Date | | Reviewer |
| Function or data | |  | | | 03/06/2014 | | AP |
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| TFS wit |  | FILE IS NOT REVIEWED. | | | | | |
| Impact | |  | | | | | |
| Resolution | |  | | | | | |
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The rest of the Setpoint path is in the APP uC code base:

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| Containing file | | FIRMWARE\framework\services\project\_ffap\okctlmodes.c | Review Date | Reviewer |
| Function or data | | Definitions and conditional compilation | 03/06/2014 | AP |
|  | | | | |
| TFS wit |  | #ifdef AK – should be replaced with more appropriate notation. | | |
| Impact | | N/A | | |
| Resolution | | Deferred. | | |
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| Containing file | | FIRMWARE\framework\tasks\control\control.c | Review Date | Reviewer |
| Function or data | |  | 03/06/2014 | AP |
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| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |
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| Containing file | | FIRMWARE\framework\sysio\poscharact.c | Review Date | Reviewer |
| Function or data | |  | 03/06/2014 | AP |
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| TFS wit |  | NO FINDINGS | | |
| Impact | |  | | |
| Resolution | |  | | |
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