Model Advisor Report - pmsm_sensorless.slx

Model version: 7.0

Simulink version: 10.3

Identify disabled library links

Current run: 25-Mar-2022 17:04:54 System: pmsm_sensorless **Run Summary** Pass Fail Warning **Not Run** Total **2** 13 **3** 0 <u> 4</u> 5 84 ■ Model Advisor **2**0 **2**0 **△**0 **□**46 **□** 1 By Product **2**0 **2**0 **4**0 **1**41 ☐ 1.1 Simulink Identify unconnected lines, input ports, and output ports Not Run Check root model Inport block specifications Not Run Check diagnostic settings ignored during accelerated model reference simulation Not Run Check for parameter tunability information ignored for referenced models Not Run Check for implicit signal resolution Not Run Check for optimal bus virtuality Not Run Check for calls to slDataTypeAndScale() Not Run Check for Discrete-Time Integrator blocks with initial condition uncertainty Not Run

| Not Run |
|---|
| Identify parameterized library links Not Run |
| |
| Identify unresolved library links |
| Not Run |
| Identify configurable subsystem template blocks having the instances in the model for converting to variant subsystem blocks. |
| Not Run |
| ☐ Check usage of function-call connections |
| Not Run |
| ☐ Check and update mask image display commands with unnecessary imread() function calls |
| Not Run |
| ☐ Check and update mask to affirm icon drawing commands dependency on mask workspace |
| Not Run |
| Runtime diagnostics for S-functions |
| Not Run |
| ☐ Check if Read/Write diagnostics are enabled for Data Store blocks |
| Not Run |
| ☐ Check Data Store Memory blocks for multitasking, strong typing, and shadowing issues |
| Not Run |
| □ Check model for foreign characters |
| Not Run |
| □ Check Model History properties |
| Not Run |
| □ Check S-functions in the model |

Not Run

| ∷≣ | Open the Upgrade Advisor | | | |
|----|---|--|--|--|
| | Not Run | | | |
| ∷≣ | Check structure parameter usage with bus signals | | | |
| | Not Run | | | |
| | Check for large number of function arguments from virtual bus across model reference boundary | | | |
| | Not Run | | | |
| ∷ | Check Delay, Unit Delay and Zero-Order Hold blocks for rate transition | | | |
| | Not Run | | | |
| ∷ | Check bus signals treated as vectors | | | |
| | Not Run | | | |
| ∷ | Check for potentially delayed function-call block return values | | | |
| | Not Run | | | |
| ⊞ | Identify block output signals with continuous sample time and non-floating point data type | | | |
| | Not Run | | | |
| ⊞ | Check usage of Merge blocks | | | |
| | Not Run | | | |
| ∷ | Check usage of Outport blocks | | | |
| | Not Run | | | |
| ∷ | Check usage of Discrete-Time Integrator blocks | | | |
| | Not Run | | | |
| ⊞ | Check model settings for migration to simplified initialization mode | | | |
| | Not Run | | | |
| ∷≣ | Check for non-continuous signals driving derivative ports | | | |
| | Not Run | | | |

| Check data store block sample times for modeling errors | | | | |
|---|---|--|--|--|
| | Not Run | | | |
| | Check for potential ordering issues involving data store access | | | |
| | Not Run | | | |
| | Identify unit mismatches in the model | | | |
| | Not Run | | | |
| ∷≡ | Identify automatic unit conversions in the model | | | |
| | Not Run | | | |
| | Identify disallowed unit systems in the model | | | |
| | Not Run | | | |
| | Identify undefined units in the model | | | |
| | Not Run | | | |
| | Identify ambiguous units in the model | | | |
| | Not Run | | | |
| | Identify questionable operations for strict single-precision design | | | |
| | Not Run | | | |
| □ • | I.2 Simscape | | | |
| · | Check consistency of block parameter units | | | |
| | Not Run | | | |
| == | Check for outdated AC source blocks | | | |
| | Not Run | | | |
| | Check for dry hydraulic nodes | | | |
| | Not Run | | | |
| □ • | I.3 Embedded Coder ✓0 ✓0 ✓0 ✓1 | | | |



| ⚠ | Check Data Store Memory blocks for multitasking, strong typing, and shadowing issues | | | | |
|---|--|--|--|--|--|
| | Duplicate data store names checking is not set to 'error'. Duplicate usage of data store names can lead to unintended shadowing of data stores of higher model scope. Consider changing the <u>Duplicate data store</u> names setting to 'error'. | | | | |
| ⊞ | Check data store block sample times for modeling errors | | | | |
| | Not Run | | | | |
| | Check for potential ordering issues involving data store access | | | | |
| | Not Run | | | | |
| | Check for relative execution order change for Data Store Read and Data Store Write blocks | | | | |
| | Not Run | | | | |
| | | | | | |

□ 2.5 Simulink Model File Integrity ②1 ❷0 ▲1 □0

Check model for foreign characters

Check that the characters in the model can be represented in the current encoding.

Warning

There are characters in the model that cannot be represented in the current encoding.

Details

Parameter 'Name' of the 'Annotation' object in 'pmsm_sensorless' contains characters which cannot be represented in the current encoding

Parameter 'Name' of the 'Annotation' object in 'pmsm_sensorless' contains characters which cannot be represented in the current encoding

Recommended Action

Find these characters in the model and remove them.

Check Model History properties

Check models for edited Model History property values

Check that parameters in the Model Properties dialog History pane use the default tags. In the MDL file format you can configure some model properties to make use of source control tool keyword substitution. If you save your model in SLX format, source control tools cannot perform keyword substitution. Any information in the model file from such keyword substitution is cached when you first save the MDL file as SLX, and is never updated again. The Model Properties History pane and any Model Info blocks in your model show stale information from then on.

Passed

This model uses the default value for property ModifiedByFormat.

Passed

This model uses the default value for property ModifiedDateFormat.

Passed

This model uses the default value for property ModelVersionFormat.

| □ 2.6 S-function Checks |
|--|
| Check S-functions in the model |
| There are no user-defined S-functions in the model. |
| □ 2.7 Units Inconsistencies ②0 ③0 ▲0 □5 |
| Identify unit mismatches in the model |
| Not Run |
| Identify automatic unit conversions in the model |
| Not Run |
| Identify disallowed unit systems in the model |
| Not Run |
| Identify undefined units in the model |
| Not Run |
| Identify ambiguous units in the model |
| Not Run |
| □ 2.8 Modeling Signals and Parameters using Buses □ 1 □ 0 □ 0 □ 2 |
| Check for optimal bus virtuality |
| Passed |
| Check structure parameter usage with bus signals |
| Not Run |
| □ Check bus signals treated as vectors |
| Not Run |

| □ 2.9 Modeling Single-Precision Systems | | | | |
|---|--|--|--|--|
| | lentify questionable operations for strict single-precision design | | | |
| Ν | lot Run | | | |
| □ 2.1 | 0 Migrating to Simplified Initialization mode | | | |
| С | heck usage of Merge blocks | | | |
| N | lot Run | | | |
| С | heck usage of Outport blocks | | | |
| | lot Run | | | |
| С | heck usage of Discrete-Time Integrator blocks | | | |
| N | lot Run | | | |
| С | heck model settings for migration to simplified initialization mode | | | |
| N | lot Run | | | |
| □ 2.1 | 1 Model Referencing | | | |
| ⊘ c | heck diagnostic settings ignored during accelerated model reference simulation | | | |
| T | he configuration parameter settings passed the check. | | | |
| O C | heck for parameter tunability information ignored for referenced models | | | |
| F | Passed | | | |
| ⊘ C | heck for implicit signal resolution | | | |
| F | Passed | | | |
| С | heck bus signals treated as vectors | | | |
| Ν | lot Run | | | |
| O C | heck root model Inport block specifications | | | |
| _ | Passed | | | |

| Check for large number of function arguments from virtual bus across model reference boundary | | | | | | |
|---|--|--|--|--|--|--|
| Not Rur | า | | | | | |
| □ 2.12 Man | aging Library Links And Variants | | | | | |
| ▲ Identify | disabled library links | | | | | |
| | g cks listed below are disabled library links. To resolve the link, right-click the block in the Simulink n, and choose 'Resolve Link' from the 'Library Link' menu. | | | | | |
| pmsm_sensorless/Subsystem/Idq_e to labc/de-qe to ds-qs pmsm_sensorless/Subsystem/Vabc to Vdq_e/ds-s to de-qe pmsm_sensorless/Subsystem/Vabc to Vdq_e/sin_cos_calculator | | | | | | |
| Identify | parameterized library links | | | | | |
| Passed | | | | | | |
| Identify | unresolved library links | | | | | |
| Passed | | | | | | |
| - | configurable subsystem template blocks having the instances in the model for to variant subsystem blocks. | | | | | |
| Identify level. | and upgrade Configurable Subsystem template blocks having instances in the model or subsystem | | | | | |
| Passed No conf | l figurable subsystem blocks found. | | | | | |
| □ 2.13 Data | a Transfer Efficiency | | | | | |
| Check I | Delay, Unit Delay and Zero-Order Hold blocks for rate transition | | | | | |
| Not Rur | า | | | | | |
| □ 2.14 Mod | leling Standards for Secure Coding (CERT C, CWE, ISO/IEC TS 17961) ✓0 ✓0 ✓0 ✓0 ✓0 ✓0 ✓0 ✓ | | | | | |
| A Chook | configuration parameters for secure coding standards | | | | | |

Check configuration parameters for secure coding standards

Identify configuration parameters that might impact secure coding standards compliant code generation.

Warning

The model configuration parameters are not set to the recommended values specified in the data file.

| Status | Parameter | Current Value | Recommended Values | Prerequisites |
|----------------|--|----------------------------------|--------------------|---------------------------------------|
| Warning | Model Verification block enabling (AssertControl) | UseLocalSettings | DisableAll | |
| D - Warning | SystemTargetFile | Non-ERT based target | ERT based target | |
| Warning | SupportContinuousTime | Prerequisite constraint not met. | off | SystemTargetFile |
| Warning | SupportNonInlinedSFcns | Prerequisite constraint not met. | off | SystemTargetFile |
| Warning | MatFileLogging | on | off | |
| Warning | EnableSignedLeftShifts | Prerequisite constraint not met. | off | SystemTargetFile |
| Warning | EnableSignedRightShifts | Prerequisite constraint not met. | off | SystemTargetFile |
| Warning | Inf or NaN block output (SignalInfNanChecking) | none | warning | |
| Warning | Dynamic memory allocation in MATLAB functions (MATLABDynamicMemAlloc) | on | off | |
| Warning | <u>Undirected event broadcasts</u> (<u>SFUndirectedBroadcastEventsDiag</u>) | warning | error | |
| Warning | Compile-time recursion limit for MATLAB functions (CompileTimeRecursionLimit) | 50 | 0 | |
| Warning | Enable run-time recursion for MATLAB functions (EnableRuntimeRecursion) | on | off | |
| Warning | MATLABFcnDesc | Prerequisite constraint not met. | on | GenerateComments, SystemTargetFile |

∧ Less

Recommended Action

Modify the configuration parameters listed above to the recommended values.

□ 2.15 Upgrading to the Current Simulink Version









Open the Upgrade Advisor

Warning

To check for upgrade issues, open the Upgrade Advisor.

Recommended Action

Click the link below to close the Model Advisor and open the Upgrade Advisor for pmsm_sensorless. Open the Upgrade Advisor