converting_celcius_fahrenite

Design Description

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converting_celcius_fahrenite: Design Description

by Ganesh

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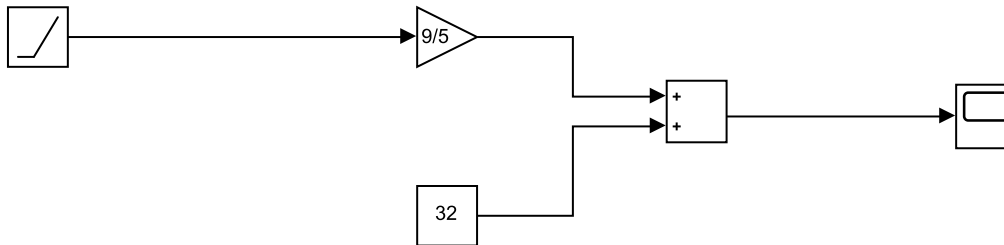
Chapter 1. Model Version

Version: 1.1

Last modified: Sat Sep 19 17:40:58 2020

Checksum: 4167955281 2428199386 3639468554 2049360185

Chapter 2. Root System

Figure 2.1. converting_celcius_fahrenite

Blocks

Parameters

"Add" (Sum)

Table 2.1. "Add" Parameters

Parameter	Value
Icon shape	rectangular
List of signs	++
Sum over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
Accumulator data type	Inherit: Inherit via internal rule
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via internal rule
Lock data type settings against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"Constant" (Constant)

Table 2.2. "Constant" Parameters

Parameter	Value
Constant value	32
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit from 'Constant value'
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf
Frame period	inf

"Gain1" (Gain)

Table 2.3. "Gain1" Parameters

Parameter	Value
Gain	9/5
Multiplication	Element-wise(K.*u)
Parameter minimum	[]
Parameter maximum	[]
Parameter data type	Inherit: Inherit via internal rule
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via internal rule
Lock output data type setting against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"Ramp" (SubSystem)

Table 2.4. "Ramp" Parameters

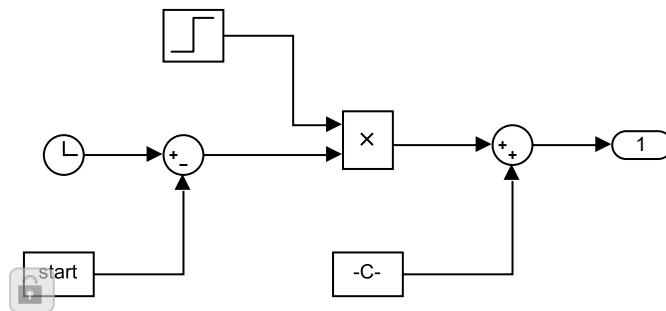| Parameter	Value
SimulinkmasksSlope_MP	50
SimulinkmasksStartTime_MP	0
SimulinkmasksInitialOutput_MP	0
SimulinkmasksInterpretVectorParametersAs1D_MP	on

Block Execution Order

1. Constant (Constant)
2. Constant (Constant)
3. Constant1 (Constant)
4. Step (Step)
5. Clock (Clock)
6. Sum (Sum)
7. Product (Product)
8. Output (Sum)
9. Gain1 (Gain)
10. Add (Sum)
11. Scope (Scope)

Chapter 3. Subsystems

Ramp

Figure 3.1. converting_celcius_fahrenite/Ramp

Blocks

Parameters

"Clock" (Clock)

Table 3.1. "Clock" Parameters

Parameter	Value
Display time	off
Decimation	10

"Constant" (Constant)

Table 3.2. "Constant" Parameters

Parameter	Value
Constant value	start
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via back propagation

Parameter	Value
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf
Frame period	inf

"Constant1" (Constant)

Table 3.3. "Constant1" Parameters

Parameter	Value
Constant value	InitialOutput
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via back propagation
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf
Frame period	inf

"Out1" (Outport)

Table 3.4. "Out1" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off
Unit (e.g., m, m/s^2, N*m)	inherit
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit
Sample time (-1 for inherited)	-1
Ensure outport is virtual	off
Source of initial output value	Dialog

Parameter	Value
Output when disabled	held
Initial output	[]
MustResolveToSignalObject	off
Specify output when source is unconnected	off
Constant value	0
Interpret vector parameters as 1-D	on

"Output" (Sum)

Table 3.5. "Output" Parameters

Parameter	Value
Icon shape	round
List of signs	|++
Sum over	All dimensions
Dimension	1
Require all inputs to have the same data type	on
Accumulator data type	Inherit: Inherit via internal rule
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Same as first input
Lock data type settings against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	on
Sample time (-1 for inherited)	-1

"Product" (Product)

Table 3.6. "Product" Parameters

Parameter	Value
Number of inputs	2
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	on
Output minimum	[]
Output maximum	[]

Parameter	Value
Output data type	Inherit: Same as first input
Lock output data type setting against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	on
Sample time (-1 for inherited)	-1

"Step" (Step)

Table 3.7. "Step" Parameters

Parameter	Value
Step time	start
Initial value	0
Final value	slope
Output data type	fixdt('double', 'DataTypeOverride', 'Off')
Sample time	0
Interpret vector parameters as 1-D	on
Enable zero-crossing detection	on

"Sum" (Sum)

Table 3.8. "Sum" Parameters

Parameter	Value
Icon shape	round
List of signs	|+-
Sum over	All dimensions
Dimension	1
Require all inputs to have the same data type	on
Accumulator data type	Inherit: Inherit via internal rule
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Same as first input
Lock data type settings against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	on
Sample time (-1 for inherited)	-1

Chapter 4. System Design Variables

Design Variable Summary

Table 4.1. Functions used in Design Variable Expressions

Function Name	Parent Blocks	Calling character vector
start	Ramp	start

Chapter 5. System Model Configuration

Source: Model
Source Name: converting_celcius_fahrenite

Table 5.1. converting_celcius_fahrenite Configuration Set

Property	Value
Description	
Components	[converting_celcius_fahrenite Configuration Set.Components(1), converting_celcius_fahrenite Configuration Set.Components(2), converting_celcius_fahrenite Configuration Set.Components(3), converting_celcius_fahrenite Configuration Set.Components(4), converting_celcius_fahrenite Configuration Set.Components(5), converting_celcius_fahrenite Configuration Set.Components(6), converting_celcius_fahrenite Configuration Set.Components(7), converting_celcius_fahrenite Configuration Set.Components(8), converting_celcius_fahrenite Configuration Set.Components(9)]
Name	Configuration

Table 5.2. converting_celcius_fahrenite Configuration Set.Components(1)

Property	Value
Name	Solver
Description	
Components	
StartTime	0.0
StopTime	10.0
AbsTol	auto
AutoScaleAbsTol	on
FixedStep	auto
InitialStep	auto
MaxOrder	5
ZcThreshold	auto
ConsecutiveZCsStepRelTol	10*128*eps
MaxConsecutiveZCs	1000
ExtrapolationOrder	4
NumberNewtonIterations	1

MaxStep	auto
MinStep	auto
MaxConsecutiveMinStep	1
RelTol	1e-3
EnableMultiTasking	off
ConcurrentTasks	off
Solver	VariableStepAuto
SolverName	VariableStepAuto
SolverType	Variable-step
SolverJacobianMethodControl	auto
ShapePreserveControl	DisableAll
ZeroCrossControl	UseLocalSettings
ZeroCrossAlgorithm	Nonadaptive
SolverResetMethod	Fast
PositivePriorityOrder	off
AutoInsertRateTranBlk	off
SampleTimeConstraint	Unconstrained
InsertRTBMode	Whenever possible
SampleTimeProperty	
DecoupledContinuousIntegration	off
MinimalZcImpactIntegration	off
ODENIntegrationMethod	ode3

Table 5.3. <u>converting_celcius_fahrenite Configuration Set.Components(2)</u>

Property	Value
Name	Data Import/Export
Description	
Components	
Decimation	1
ExternalInput	[t, u]
FinalStateName	xFinal
InitialState	xInitial
LimitDataPoints	off
MaxDataPoints	1000
LoadExternalInput	off
LoadInitialState	off
SaveFinalState	off

SaveOperatingPoint	off
SaveFormat	Dataset
SaveOutput	on
SaveState	off
SignalLogging	on
DSMLogging	on
InspectSignalLogs	off
SaveTime	on
ReturnWorkspaceOutputs	on
StateSaveName	xout
TimeSaveName	tout
OutputSaveName	yout
SignalLoggingName	logsout
DSMLoggingName	dsmout
OutputOption	RefineOutputTimes
OutputTimes	[]
ReturnWorkspaceOutputsName	out
Refine	1
LoggingToFile	off
DatasetSignalFormat	timeseries
LoggingFileName	out.mat
LoggingIntervals	[-inf, inf]

Table 5.4. <u>converting_celcius_fahrenite Configuration Set.Components</u>(3)

Property	Value
Name	Optimization
Description	
Components	
BlockReduction	on
BooleanDataType	on
ConditionallyExecuteInputs	on
DefaultParameterBehavior	Tunable
InlineParams	off
UseDivisionForNetSlopeComputation	off
GainParamInheritBuiltInType	off
UseFloatMulNetSlope	off
DefaultUnderspecifiedDataType	double

UseSpecifiedMinMax	off
InlineInvariantSignals	off
OptimizeBlockIOStorage	on
BufferReuse	on
GlobalBufferReuse	on
GlobalVariableUsage	None
StrengthReduction	off
AdvancedOptControl	
ExpressionFolding	on
BooleansAsBitfields	off
BitfieldContainerType	uint_T
BitwiseOrLogicalOp	Same as modeled
EnableMemcpy	on
MemcpyThreshold	64
PassReuseOutputArgsAs	Structure reference
PassReuseOutputArgsThreshold	12
LocalBlockOutputs	on
RollThreshold	5
StateBitsets	off
DataBitsets	off
ActiveStateOutputEnumStorageType	Native Integer
ZeroExternalMemoryAtStartup	on
ZeroInternalMemoryAtStartup	on
InitFltsAndDblsToZero	off
NoFixptDivByZeroProtection	off
EfficientFloat2IntCast	off
EfficientMapNaN2IntZero	on
LifeSpan	auto
EvaledLifeSpan	Inf
MaxStackSize	Inherit from target
BufferReusableBoundary	on
SimCompilerOptimization	off
AccelVerboseBuild	off
OptimizeBlockOrder	off
OptimizeDataStoreBuffers	on
BusAssignmentInplaceUpdate	on
DifferentSizesBufferReuse	off
UseRowMajorAlgorithm	off

OptimizationLevel	level2
OptimizationPriority	Balanced
OptimizationCustomize	on
LabelGuidedReuse	off
MultiThreadedLoops	off
DenormalBehavior	GradualUnderflow
EfficientTunableParamExpr	off

Table 5.5. converting_celcius_fahrenite Configuration Set.Components(4)

Property	Value
Name	Diagnostics
Description	
Components	
RTPrefix	error
ConsistencyChecking	none
ArrayBoundsChecking	none
SignalInfNanChecking	none
StringTruncationChecking	error
SignalRangeChecking	none
ReadBeforeWriteMsg	UseLocalSettings
WriteAfterWriteMsg	UseLocalSettings
WriteAfterReadMsg	UseLocalSettings
AlgebraicLoopMsg	warning
ArtificialAlgebraicLoopMsg	warning
SaveWithDisabledLinksMsg	warning
SaveWithParameterizedLinksMsg	warning
CheckSSInitialOutputMsg	on
UnderspecifiedInitializationDetection	Simplified
MergeDetectMultiDrivingBlocksExec	error
CheckExecutionContextRuntimeOutputMsg	off
SignalResolutionControl	UseLocalSettings
BlockPriorityViolationMsg	warning
MinStepSizeMsg	warning
TimeAdjustmentMsg	none
MaxConsecutiveZCsMsg	error
MaskedZcDiagnostic	warning
IgnoredZcDiagnostic	warning

SolverPrmCheckMsg	none
InheritedTsInSrcMsg	warning
MultiTaskDSMMsg	error
MultiTaskCondExecSysMsg	error
MultiTaskRateTransMsg	error
SingleTaskRateTransMsg	none
TasksWithSamePriorityMsg	warning
SigSpecEnsureSampleTimeMsg	warning
CheckMatrixSingularityMsg	none
IntegerOverflowMsg	warning
Int32ToFloatConvMsg	warning
ParameterDowncastMsg	error
ParameterOverflowMsg	error
ParameterUnderflowMsg	none
ParameterPrecisionLossMsg	warning
ParameterTunabilityLossMsg	warning
FixptConstUnderflowMsg	none
FixptConstOverflowMsg	none
FixptConstPrecisionLossMsg	none
UnderSpecifiedDataTypeMsg	none
UnnecessaryDatatypeConvMsg	none
VectorMatrixConversionMsg	none
FcnCallInpInsideContextMsg	error
SignalLabelMismatchMsg	none
UnconnectedInputMsg	warning
UnconnectedOutputMsg	warning
UnconnectedLineMsg	warning
UseOnlyExistingSharedCode	error
SFcnCompatibilityMsg	none
FrameProcessingCompatibilityMsg	error
UniqueDataStoreMsg	none
BusObjectLabelMismatch	warning
RootOutportRequireBusObject	warning
AssertControl	UseLocalSettings
AllowSymbolicDim	on
ModelReferenceIOMsg	none
ModelReferenceVersionMismatchMessage	none
ModelReferenceIOMismatchMessage	none

UnknownTsInhSupMsg	warning
ModelReferenceDataLoggingMessage	warning
ModelReferenceSymbolNameMessage	warning
ModelReferenceExtraNoncontSigs	error
StateNameClashWarn	none
OperatingPointInterfaceChecksumMismatchMsg	warning
NonCurrentReleaseOperatingPointMsg	error
PregeneratedLibrarySubsystemCodeDiagnostic	warning
InitInArrayFormatMsg	warning
StrictBusMsg	ErrorLevel1
BusNameAdapt	WarnAndRepair
NonBusSignalsTreatedAsBus	none
SFUnusedDataAndEventsDiag	warning
SFUnexpectedBacktrackingDiag	error
SFInvalidInputDataAccessInChartInitDiag	warning
SFNoUnconditionalDefaultTransitionDiag	error
SFTransitionOutsideNaturalParentDiag	warning
SFUnreachableExecutionPathDiag	warning
SFUndirectedBroadcastEventsDiag	warning
SFTransitionActionBeforeConditionDiag	warning
SFOutputUsedAsStateInMooreChartDiag	error
SFTemporalDelaySmallerThanSampleTimeDiag	warning
SFSelfTransitionDiag	warning
SFExecutionAtInitializationDiag	warning
SFMachineParentedDataDiag	warning
IntegerSaturationMsg	warning
AllowedUnitSystems	all
UnitsInconsistencyMsg	warning
AllowAutomaticUnitConversions	on
RCSCRenamedMsg	warning
RCSCObservableMsg	warning
ForceCombineOutputUpdateInSim	off
UnderSpecifiedDimensionMsg	none
DebugExecutionForFMUViaOutOfProcess	off
ArithmeticOperatorsInVariantConditions	error

Table 5.6. converting_celcius_fahrenite Configuration Set.Components(5)

Property	Value
Name	Hardware Implementation
Description	
Components	
ProdBitPerChar	8
ProdBitPerShort	16
ProdBitPerInt	32
ProdBitPerLong	32
ProdBitPerLongLong	64
ProdBitPerFloat	32
ProdBitPerDouble	64
ProdBitPerPointer	64
ProdBitPerSizeT	64
ProdBitPerPtrDiffT	64
ProdLargestAtomicInteger	Char
ProdLargestAtomicFloat	Float
ProdIntDivRoundTo	Zero
ProdEndianess	LittleEndian
ProdWordSize	64
ProdShiftRightIntArith	on
ProdLongLongMode	off
ProdHWDeviceType	Intel->x86-64 (Windows64)
TargetBitPerChar	8
TargetBitPerShort	16
TargetBitPerInt	32
TargetBitPerLong	32
TargetBitPerLongLong	64
TargetBitPerFloat	32
TargetBitPerDouble	64
TargetBitPerPointer	32
TargetBitPerSizeT	32
TargetBitPerPtrDiffT	32
TargetLargestAtomicInteger	Char
TargetLargestAtomicFloat	None
TargetShiftRightIntArith	on

TargetLongLongMode	off
TargetIntDivRoundTo	Undefined
TargetEndianess	Unspecified
TargetWordSize	32
TargetPreprocMaxBitsSint	32
TargetPreprocMaxBitsUint	32
TargetHWDeviceType	Specified
TargetUnknown	off
ProdEqTarget	on
UseEmbeddedCoderFeatures	on
UseSimulinkCoderFeatures	on
HardwareBoardFeatureSet	EmbeddedCoderHSP

Table 5.7. <u>converting_celcius_fahrenite Configuration Set.Components(6)</u>

Property	Value
Name	Model Referencing
Description	
Components	
UpdateModelReferenceTargets	IfOutOfDateOrStructuralChange
EnableRefExpFcnMdlSchedulingChecks	on
CheckModelReferenceTargetMessage	error
EnableParallelModelReferenceBuilds	off
ParallelModelReferenceErrorOnInvalidPool	on
ParallelModelReferenceMATLABWorkerInit	None
ModelReferenceNumInstancesAllowed	Multi
PropagateVarSize	Infer from blocks in model
ModelDependencies	
ModelReferencePassRootInputsByReference	on
ModelReferenceMinAlgLoopOccurrences	off
PropagateSignalLabelsOutOfModel	on
SupportModelReferenceSimTargetCustomCode	off

Table 5.8. <u>converting_celcius_fahrenite Configuration Set.Components(7)</u>

Property	Value
Name	Simulation Target
Description	

Components	
SimCustomSourceCode	
SimCustomHeaderCode	
SimCustomInitializer	
SimCustomTerminator	
SimReservedNameArray	
SimUserSources	
SimUserIncludeDirs	
SimUserLibraries	
SimUserDefines	
SFSimEnableDebug	off
SFSimEcho	on
SimCtrlC	on
SimIntegrity	on
SimUseLocalCustomCode	on
SimParseCustomCode	on
SimAnalyzeCustomCode	off
SimBuildMode	sf_incremental_build
SimGenImportedTypeDefs	off
CompileTimeRecursionLimit	50
EnableRuntimeRecursion	on
MATLABDynamicMemAlloc	on
MATLABDynamicMemAllocThreshold	65536
CustomCodeFunctionArrayLayout	
DefaultCustomCodeFunctionArrayLayout	NotSpecified
CustomCodeUndefinedFunction	FilterOut

Table 5.9. <u>converting_celcius_fahrenite Configuration Set.Components(8)</u>

Property	Value
Name	Code Generation
Description	
SystemTargetFile	grt.tlc
HardwareBoard	None
ShowCustomHardwareApp	off
ShowEmbeddedHardwareApp	off
TLCOptions	
GenCodeOnly	off

MakeCommand	make_rtw
GenerateMakefile	on
PackageGeneratedCodeAndArtifacts	off
PackageName	
TemplateMakefile	grt_default_tmf
PostCodeGenCommand	
GenerateReport	off
RTWVerbose	on
RetainRTWFile	off
ProfileTLC	off
TLCDebug	off
TLCCoverage	off
TLCAssert	off
RTWUseLocalCustomCode	on
RTWUseSimCustomCode	off
CustomSourceCode	
CustomHeaderCode	
CustomInclude	
CustomSource	
CustomLibrary	
CustomDefine	
CustomBLASCallback	
CustomLAPACKCallback	
CustomFFTCallback	
CustomInitializer	
CustomTerminator	
Toolchain	Automatically locate an installed toolchain
BuildConfiguration	Faster Builds
CustomToolchainOptions	
IncludeHyperlinkInReport	off
LaunchReport	off
PortableWordSizes	off
GenerateErtSFunction	off
CreateSILPILBlock	None
CodeExecutionProfiling	off
CodeExecutionProfileVariable	executionProfile
CodeProfilingSaveOptions	SummaryOnly
CodeProfilingInstrumentation	off

CodeCoverageSettings	converting_celcius_fahrenite Configuration Set.Components (8).CodeCoverageSettings
SILDebugging	off
TargetLang	C
IncludeERTFirstTime	off
GenerateTraceInfo	off
GenerateTraceReport	off
GenerateTraceReportSl	off
GenerateTraceReportSf	off
GenerateTraceReportEml	off
GenerateWebview	off
GenerateCodeMetricsReport	off
GenerateCodeReplacementReport	off
RTWCompilerOptimization	off
ObjectivePriorities	
RTWCustomCompilerOptimizations	
CheckMdlBeforeBuild	Off
Components	[converting_celcius_fahrenite Configuration Set.Components(8).Components(1), converting_celcius_fahrenite Configuration Set.Components(8).Components(2)]

Table 5.10. converting_celcius_fahrenite Configuration Set.Components(9)

Property	Value
Description	Simulink Coverage Configuration Component
Components	
Name	Simulink Coverage
CovEnable	off
CovScope	EntireSystem
CovIncludeTopModel	on
RecordCoverage	off
CovPath	/
CovSaveName	covdata
CovCompData	
CovMetricSettings	dwe
CovFilter	
CovHTMLOptions	
CovNameIncrementing	off
CovHtmlReporting	off

CovForceBlockReductionOff	on
CovEnableCumulative	on
CovSaveCumulativeToWorkspaceVar	off
CovSaveSingleToWorkspaceVar	off
CovCumulativeVarName	covCumulativeData
CovCumulativeReport	off
CovSaveOutputData	on
CovOutputDir	slcov_output/$ModelName$
CovDataFileName	$ModelName$_cvdata
CovShowResultsExplorer	on
CovReportOnPause	on
CovModelRefEnable	off
CovModelRefExcluded	
CovExternalEMLEnable	on
CovSFcnEnable	on
CovBoundaryAbsTol	1.0000e-05
CovBoundaryRelTol	0.0100
CovUseTimeInterval	off
CovStartTime	0
CovStopTime	0
CovMetricStructuralLevel	Decision
CovMetricLookupTable	off
CovMetricSignalRange	off
CovMetricSignalSize	off
CovMetricObjectiveConstraint	off
CovMetricSaturateOnIntegerOverflow	off
CovMetricRelationalBoundary	off
CovLogicBlockShortCircuit	off
CovUnsupportedBlockWarning	on
CovHighlightResults	off
CovMcdcMode	Masking

Table 5.11. <u>converting_celcius_fahrenite Configuration Set.Components(8).CodeCoverageSettings</u>

Property	Value
TopModelCoverage	off
ReferencedModelCoverage	off

CoverageTool	None

Table 5.12. converting_celcius_fahrenite Configuration Set.Components(8).Components(1)

Property	Value
Name	Code Appearance
Description	
Components	
ForceParamTrailComments	off
GenerateComments	on
CommentStyle	Auto
IgnoreCustomStorageClasses	on
IgnoreTestpoints	off
MaxIdLength	31
ShowEliminatedStatement	off
OperatorAnnotations	off
SimulinkDataObjDesc	off
SFDataObjDesc	off
MATLABFcnDesc	off
MangleLength	1
SharedChecksumLength	8
CustomSymbolStrGlobalVar	RN$M
CustomSymbolStrType	NR$M_T
CustomSymbolStrField	NM
CustomSymbolStrFcn	RNMF
CustomSymbolStrFcnArg	rt$I$N$M
CustomSymbolStrBlkIO	rtb_NM
CustomSymbolStrTmpVar	NM
CustomSymbolStrMacro	RN$M
CustomSymbolStrUtil	NC
CustomSymbolStrEmxType	emxArray_MN
CustomSymbolStrEmxFcn	emx$M$N
CustomUserTokenString	
CustomCommentsFcn	
DefineNamingRule	None
DefineNamingFcn	
ParamNamingRule	None

ParamNamingFcn	
SignalNamingRule	None
SignalNamingFcn	
InsertBlockDesc	off
InsertPolySpaceComments	off
SimulinkBlockComments	on
BlockCommentType	BlockPathComment
StateflowObjectComments	off
MATLABSourceComments	off
EnableCustomComments	off
InternalIdentifier	Shortened
InlinedPrmAccess	Literals
ReqsInCode	off
UseSimReservedNames	off
ReservedNameArray	
EnumMemberNameClash	error

Table 5.13. converting_celcius_fahrenite Configuration Set.Components(8).Components(2)

Property	Value
Name	Target
Description	
Components	
IsERTTarget	off
TargetLibSuffix	
TargetPreCompLibLocation	
GenFloatMathFcnCalls	NOT IN USE
TargetLangStandard	C99 (ISO)
CodeReplacementLibrary	None
UtilityFuncGeneration	Auto
MultiwordTypeDef	System defined
MultiwordLength	2048
DynamicStringBufferSize	256
GenerateFullHeader	on
InferredTypesCompatibility	off
ExistingSharedCode	
GenerateSampleERTMain	off

GenerateTestInterfaces	off
ModelReferenceCompliant	on
ParMdlRefBuildCompliant	on
CompOptLevelCompliant	on
ConcurrentExecutionCompliant	on
IncludeMdlTerminateFcn	on
CombineOutputUpdateFcns	on
CombineSignalStateStructs	off
GroupInternalDataByFunction	off
SuppressErrorStatus	off
IncludeFileDelimiter	Auto
ERTCustomFileBanners	off
SupportAbsoluteTime	on
LogVarNameModifier	rt_
MatFileLogging	on
MultiInstanceERTCode	off
CodeInterfacePackaging	Nonreusable function
PurelyIntegerCode	off
SupportNonFinite	on
SupportComplex	on
SupportContinuousTime	on
SupportNonInlinedSFcns	on
RemoveDisableFunc	off
RemoveResetFunc	off
SupportVariableSizeSignals	off
ParenthesesLevel	Nominal
CastingMode	Nominal
ModelStepFunctionPrototypeControlCompliant	off
CPPClassGenCompliant	on
GRTInterface	off
GenerateAllocFcn	off
UseToolchainInfoCompliant	on
GenerateSharedConstants	on
LUTObjectStructOrderExplicitValues	Size,Breakpoints,Table
LUTObjectStructOrderEvenSpacing	Size,Breakpoints,Table
ArrayLayout	Column-major
UnsupportedSFcnMsg	error
ERTHeaderFileRootName	RE

ERTSourceFileRootName	RE
ERTDataFileRootName	$R_data
ExtMode	off
ExtModeStaticAlloc	off
ExtModeTesting	off
ExtModeStaticAllocSize	1000000
ExtModeTransport	0
ExtModeMexFile	ext_comm
ExtModeMexArgs	
ExtModeIntrfLevel	Level1
RTWCAPISignals	off
RTWCAPIParams	off
RTWCAPIStates	off
RTWCAPIRootIO	off
GenerateASAP2	off
MultiInstanceErrorCode	Error

Chapter 6. Glossary

Atomic Subsystem. A subsystem treated as a unit by an implementation of the design documented in this report. The implementation computes the outputs of all the blocks in the atomic subsystem before computing the next block in the parent system's block execution order (sorted list).

Block Diagram. A Simulink block diagram represents a set of simultaneous equations that relate a system or subsystem's inputs to its outputs as a function of time. Each block in the diagram represents an equation of the form y = f(t, x, u) where t is the current time, u is a block input, y is a block output, and x is a system state (see the Simulink documentation for information on the functions represented by the various types of blocks that make up the diagram). Lines connecting the blocks represent dependencies among the blocks, i.e., inputs whose current values are the outputs of other blocks. An implementation of a design described in this document computes a root or atomic system's outputs at each time step by computing the outputs of the blocks in an order determined by block input/output dependencies.

Block Parameter. A variable that determines the output of a block along with its inputs, for example, the gain parameter of a Gain block.

Block Execution Order. The order in which Simulink evaluates blocks during simulation of a model. The block execution order determined by Simulink ensures that a block executes only after all blocks on whose outputs it depends are executed.

Checksum. A number that indicates whether different versions of a model or atomic subsystem differ functionally or only cosmetically. Different checksums for different versions of the same model or subsystem indicate that the versions differ functionally.

Design Variable. A symbolic (MATLAB) variable or expression used as the value of a block parameter. Design variables allow the behavior of the model to be altered by altering the value of the design variable.

Signal. A block output, so-called because block outputs typically vary with time.

Virtual Subsystem. A subsystem that is purely graphical, i.e., is intended to reduce the visual complexity of the block diagram of which it is a subsystem. An implementation of the design treats the blocks in the subsystem as part of the first nonvirtual ancestor of the virtual subsystem (see Atomic Subsystem).

Chapter 7. About this Report

Report Overview

This report describes the design of the converting_celcius_fahrenite system. The report was generated automatically from a Simulink model used to validate the design. It contains the following sections:

Model Version. Specifies information about the version of the model from which this design description was generated. Includes the model checksum, a number that indicates whether different versions of the model differ functionally or only cosmetically. Different checksums for different versions indicate that the versions differ functionally.

Root System. Describes the design's root system.

Subsystems. Describes each of the design's subsystems.

Design Variables. Describes system design variables, i.e., MATLAB variables and expressions used as block parameter values.

System Model Configuration. Lists the configuration parameters, e.g., start and stop time, of the model used to simulate the system described by this report.

Glossary. Defines Simulink terms used in this report.

Root System Description

This section describes a design's root system. It contains the following sections:

Diagram. Simulink block diagram that represents the algorithm used to compute the root system's outputs.

Description. Description of the root system. This section appears only if the model's root system has a Documentation property or a Doc block.

Interface. Name, data type, width, and other properties of the root system's input and output signals. The number of the block port that outputs the signal appears in angle brackets appended to the signal name. This section appears only if the root system has input or output ports.

Blocks. This section has two subsections:

- **Parameters.** Describes key parameters of blocks in the root system. This section also includes graphical and/or tabular representations of lookup table data used by lookup table blocks, i.e., blocks that use lookup tables to compute their outputs.
- **Block Execution Order.** Order in which blocks must be executed at each time step in order to ensure that each block's inputs are available when it executes.

State Charts. Describes state charts used in the root system. This section appears only if the root system contains Stateflow blocks.

Subsystem Descriptions

This section describes a design's subsystems. Each subsystem description contains the following sections:

Checksum. This section appears only if the subsystem is an atomic subsystem. The checksum indicates whether the version of the model subsystem used to generate this report differs functionally from other versions of the model subsystem. If two model checksums differ, the corresponding versions of the model differ functionally.

Diagram. Simulink block diagram that graphically represents the algorithm used to compute the subsystem's outputs.

Description. Description of the subsystem. This section appears only if the subsystem has a Documentation property or contains a Doc block.

Interface. Name, data type, width, and other properties of the subsystem's input and output signals. The number of the block port that outputs the signal appears in angle brackets appended to the signal name. This section appears only if the subsystem is atomic and has input or output ports.

Blocks. Blocks that this subsystem contains. This section has two subsections:

- **Parameters.** Key parameters of blocks in the subsystem. This section also includes graphical and/or tabular representations of lookup table data used by lookup table blocks, blocks that use lookup tables to compute their outputs.
- **Block Execution Order.** Order in which the subsystem's blocks must be executed at each time step in order to ensure that each block's inputs are available when the block executes .This section appears only if the subsystem is atomic. Note: in Acrobat(PDF) reports, the number in square brackets next to the block name is a hyperlink to the block parameter table. The number has no model significance.

State Charts. Describes state charts used in the subsystem. This section appears only if the root system contains Stateflow blocks.

State Chart Descriptions

This section describes the state machines used by Stateflow blocks to compute their outputs, i.e., Stateflow blocks. Each state machine description contains the following sections:

Chart. Diagram representing the state machine.

States. Describes the state machine's states. Each state description includes the state's diagram and diagrams and/or descriptions of graphical functions, Simulink functions, truth tables, and MATLAB functions parented by the state.

Transitions. Transitions between the state machine's states. Each transition description specifies the values of key transition properties. Appears only if a transition has properties that do not appear on the chart.

Junctions. Transition junctions. Each junction description specifies the values of key junction properties. Appears only if a junction has properties that do not appear on the chart.

Events. Events that trigger state transitions. Each event description specifies the values of key event properties.

Data. Data types and other properties of the Stateflow block's inputs, outputs, and other state machine data.

Targets. Executable implementations of the state machine used to compute the outputs of the corresponding Stateflow block.

MATLAB Supporting Functions. List of functions invoked by MATLAB functions defined in the chart.