AEB

Design Description

TEAM_3

AEB: Design Description

by TEAM_3

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Chapter 1. Model Version

Version: 1.27

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Checksum: 3739853411 2035705306 1626802242 3998468865

Chapter 2. Root System

Figure 2.1. AEB_MODEL_F0x2830x29
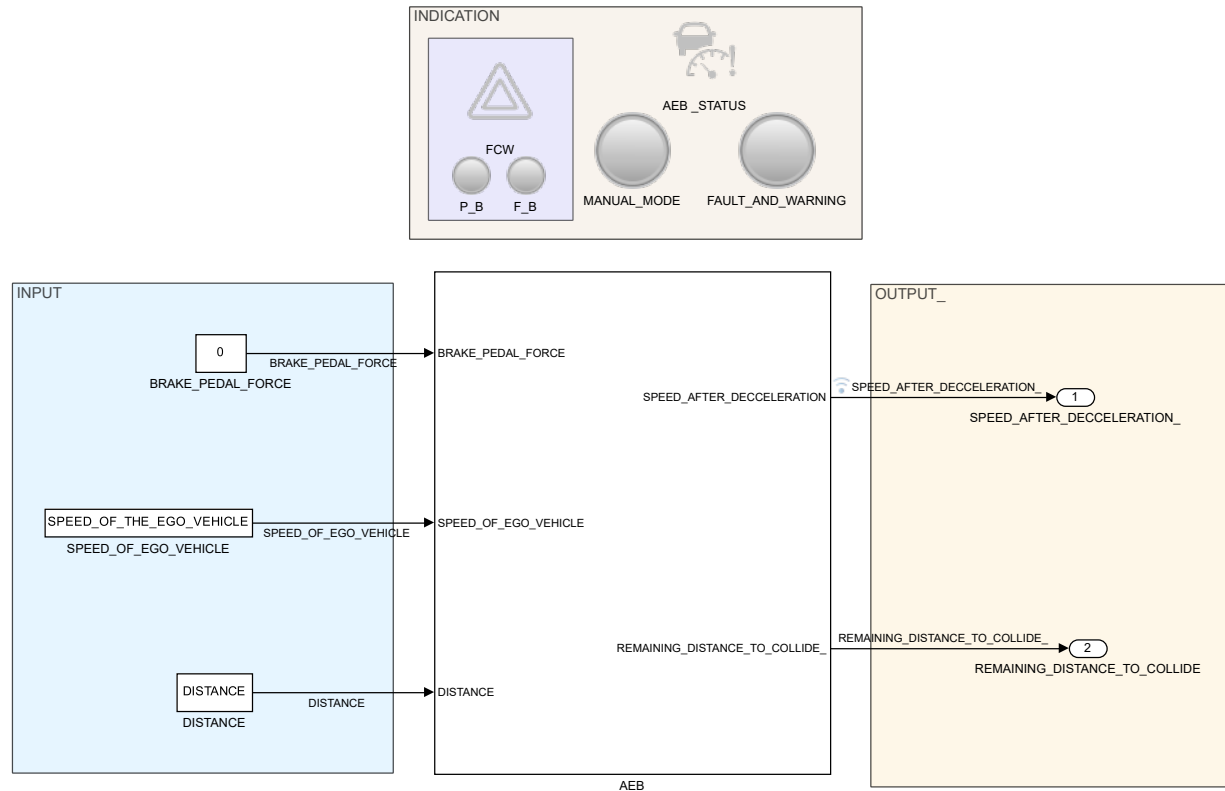
Description

VERSION 1.1
Done up to Brake pedal force calculation.
VERSION 1.2
Braking force applied from brake pedal force have been calculated.
VERSION 1.3
Calculating the required braking deceleration and setting the reaction time and following conditions.
VERSION 1.4
Both braking deceleration have been compared within the reaction time.
VERSION 1.5
logic gates are included to enable AEB system.
VERSION 1.6
Including some of the diagnostic check\fault and warning and condition for input range to enable AEB system through logic gate.

VERSION 1.7
Speed conversion kmph to m/s, distance to avoid collision have been calculated.
VERSION 1.8
Modelling condition for time phase partial braking.
VERSION 1.9
Modelled the condition for sudden action to apply full brake.
VERSION 1.10
Modelling the for condition for TTCmin and TTCemerge.
VERSION 1.11
Modelling the minimum thershold for TTCmin and correcting the TTCemerge for full brake according to this TTCmin.
VERSION 1.12
Modelling the condition when to enable the full brake.
VERSION 1.13
modelled and checked the input for partial brake is correct when TTCmin have sufficient time.
VERSION 1.14
Modelling the partial brake in closed loop and limiting the braking decceleration with switch block.
VERSION 1.15
Correcting some errors by using switches and logic gates.
VERSION 1.16
Calculating the partial brake output is appropriate or not.
VERSION 1.17
Modelling the full brake in closed loop and limiting the braking decceleration with switch block.
VERSION 1.18
Recorrecting the errors occurred.
VERSION 1.19
Modelling the input condition for full brake and sudden action.
VERSION 1.20
Calculating the distance travelled after braking.
VERSION 1.21
Modelling the condition for AEB OFF at speed of ego and leading vehicle become equal.
VERSION 1.22
In output block switch is created to result the corresponding output finally.
VERSION 1.23
Indication were included for AEB status, partial brake, full brake, forward collision warning, manual mode, fault and warning.
VERSION 1.24
Updating the signal name, creating the subsystem for each calculations, proper routing line, proper naming.
VERSION 1.25
Removing the unwanted display.
VERSION 1.26
Correcting the error occurred. were the speed of ego and leading vehicle became zero AEB OFF at partial brake itself; while system is at full brake, so logic gate and switch block is included to overcome this error.

Interface

Output Signals

Table 2.1. Output Signals

Signal Name	Block	Description	Data Type	Width	Dimensions
REMAINING_DISTANCE_TO_COLLIDE_	AEB_MODEL_F0x2830x29/AEB		double	1	1x1
SPEED_AFTER_DECCELERATION_	AEB_MODEL_F0x2830x29/AEB		double	1	1x1

Blocks

Parameters

"AEB _STATUS" (LampBlock)

Table 2.2. "AEB _STATUS" Parameters

Parameter	Value
Label	Hide
Binding	< Simulink.HMI.SignalSpecification>
ShowInitialText	on
ColorDefault	[0.75294 0.75294 0.75294]
StateColors	[2x1 struct w/ fields: Value, Color]
Opacity	1

"BRAKE_PEDAL_FORCE" (Constant)

Table 2.3. "BRAKE_PEDAL_FORCE" Parameters

Parameter	Value
Constant value	0
Interpret vector parameters as 1-D	on
Output minimum	[]

Parameter	Value
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

"DISTANCE" (Constant)

Table 2.4. "DISTANCE" Parameters

Parameter	Value
Constant value	DISTANCE
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

"F_B" (LampBlock)

Table 2.5. "F_B" Parameters

Parameter	Value
Label	Hide
Binding	< Simulink.HMI.SignalSpecification>
ShowInitialText	on
ColorDefault	[0.75294 0.75294 0.75294]
StateColors	Value: 1 Color: [1 0.4118 0.1608]
Opacity	1

"FAULT_AND_WARNING" (LampBlock)

Table 2.6. "FAULT_AND_WARNING" Parameters

Parameter	Value
Label	Hide
Binding	< Simulink.HMI.SignalSpecification>
ShowInitialText	on
ColorDefault	[0.75294 0.75294 0.75294]
StateColors	Value: 0 Color: [0.6353 0.0784 0.1843]
Opacity	1

"FCW" (LampBlock)

Table 2.7. "FCW" Parameters

Parameter	Value
Label	Hide
Binding	< Simulink.HMI.SignalSpecification>
ShowInitialText	on
ColorDefault	[0.75294 0.75294 0.75294]
StateColors	Value: 1 Color: [0.9961 0.2000 0.0392]
Opacity	1

"MANUAL_MODE" (LampBlock)

Table 2.8. "MANUAL_MODE" Parameters

Parameter	Value
Label	Hide
Binding	< Simulink.HMI.SignalSpecification>
ShowInitialText	on
ColorDefault	[0.75294 0.75294 0.75294]
StateColors	Value: 0 Color: [0.0745 0.6235 1]
Opacity	1

"P_B" (LampBlock)

Table 2.9. "P_B" Parameters

Parameter	Value
Label	Hide
Binding	< Simulink.HMI.SignalSpecification>
ShowInitialText	on
ColorDefault	[0.75294 0.75294 0.75294]
StateColors	Value: 0 Color: [1 0.4118 0.1608]
Opacity	1

"REMAINING_DISTANCE_TO_COLLIDE" (Outport)

Table 2.10. "REMAINING_DISTANCE_TO_COLLIDE" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held
Initial output	[]
MustResolveToSignalObject	off
Specify output when source is unconnected	off

Parameter	Value
Constant value	0
Interpret vector parameters as 1-D	on

"SPEED_AFTER_DECCELERATION_" (Outport)

Table 2.11. "SPEED_AFTER_DECCELERATION_" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"SPEED_OF_EGO_VEHICLE" (Constant)

Table 2.12. "SPEED_OF_EGO_VEHICLE" Parameters

Parameter	Value
Constant value	SPEED_OF_THE_EGO_VEHICLE
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

Block Execution Order

1. SPEED_OF_EGO_VEHICLE (Constant)
2. KM/HR_TO_M/S (Constant)
3. Divide (Product)
4. DISTANCE (Constant)
5. Constant (Constant)
6. CAL_TTC (Constant)
7. Constant (Constant)
8. Compare (RelationalOperator)
9. Switch (Switch)
10. Subtract (Sum)
11. Constant1 (Constant)
12. Subtract1 (Sum)
13. BRAKES_MALFUNCTIONING (Constant)
14. BRAKE_PEDALRATIO (Constant)
15. COEFFICENT_OF_FRICTION (Constant)
16. CAL_TTC (Constant)
17. Constant (Constant)
18. Compare (RelationalOperator)
19. Constant1 (Constant)
20. Constant4 (Constant)
21. Constant5 (Constant)
22. Square2 (Math)
23. Product3 (Product)
24. Divide2 (Product)
25. Divide3 (Product)

26. [Multiply](Gain) (Gain)
27. Constant (Constant)
28. [Constant1](Constant) (Constant)
29. [Constant2](Constant) (Constant)
30. [Relational Operator1](RelationalOperator) (RelationalOperator)
31. [Logical Operator2](Logic) (Logic)
32. [Constant3](Constant) (Constant)
33. [Radius_piston_surface_area](Constant) (Constant)
34. [Square](Math) (Math)
35. [phi](Constant) (Constant)
36. [BRAKE_PEDAL_FORCE](Constant) (Constant)
37. Product (Product)
38. [MASTER_CYLINDER_BORE_SIZE](Constant) (Constant)
39. [Divide](Product) (Product)
40. [Product1](Product) (Product)
41. [Constant2](Constant) (Constant)
42. [Product2](Product) (Product)
43. [MASS_OF_THE_VEHICLE](Constant) (Constant)
44. [Divide1](Product) (Product)
45. [Multiply](Gain) (Gain)
46. [_](RelationalOperator) (RelationalOperator)
47. [BRAKE_PEDAL_SENSOR_FAILURE](Constant) (Constant)
48. [CALIBRATION_ISSUE](Constant) (Constant)
49. [CAL_TTC](Constant) (Constant)
50. Constant (Constant)
51. [Compare](RelationalOperator) (RelationalOperator)
52. [Condt_SPEED_OF_THE_EGO_VEHICLE](Constant) (Constant)
53. [SENSOR_FAILURE](Constant) (Constant)
54. [SOLENOID_VALVE_FAILURE](Constant) (Constant)
55. [OR](Logic) (Logic)
56. [NOT](Logic) (Logic)
57. [_](Constant) (Constant)
58. Clock (Clock)
59. *ON Delay*
    1. Constant (Constant)
    2. [Constant1](Constant) (Constant)
    3. [pos. edge](Constant) (Constant)
    4. [neg. edge](Constant) (Constant)
    5. [either edge](Constant) (Constant)
    6. [Multiport Switch](MultiPortSwitch) (MultiPortSwitch)
    7. Clock (Clock)
    8. Memory (Memory)
    9. *POSITIVE Edge*
        1. [Relational Operator1](RelationalOperator) (RelationalOperator)
    10. *NEGATIVE Edge*
        1. [Relational Operator1](RelationalOperator) (RelationalOperator)
    11. [Logical Operator1](Logic) (Logic)
    12. *Triggered Subsystem*

       1. In1 (SignalConversion)
13. Sum (Sum)
14. Relational Operator (RelationalOperator)
15. Data Type Conversion (DataTypeConversion)
16. IC=ic (Memory)
17. Switch (Switch)
18. Sum (Sum)
19. Relational Operator (RelationalOperator)
20. Logical Operator2 (Logic)
60. *OFF Delay*
    1. Constant (Constant)
    2. Constant1 (Constant)
    3. pos. edge (Constant)
    4. neg. edge (Constant)
    5. either edge (Constant)
    6. Multiport Switch (MultiPortSwitch)
    7. Clock (Clock)
    8. Memory (Memory)
    9. *POSITIVE Edge*
        1. Relational Operator1 (RelationalOperator)
    10. *NEGATIVE Edge*
        1. Relational Operator1 (RelationalOperator)
    11. Logical Operator1 (Logic)
    12. *Triggered Subsystem*
        1. In1 (SignalConversion)
    13. Sum (Sum)
    14. Relational Operator (RelationalOperator)
    15. Logical Operator (Logic)
    16. Data Type Conversion (DataTypeConversion)
    17. IC=ic (Memory)
    18. Switch (Switch)
    19. Sum (Sum)
    20. Relational Operator (RelationalOperator)
    21. Logical Operator1 (Logic)
    22. Logical Operator2 (Logic)
61. *TmpAtomicSubsysAtSwitchInport1*
    1. Logical Operator1 (Logic)
62. Switch (Switch)
63. AEB_ENABLE_ (Logic)
64. *AEB_SYSTEM*
    1. Constant (Constant)
    2. Constant (Constant)
    3. CAL_TTC (Constant)
    4. Constant (Constant)
    5. Compare (RelationalOperator)
    6. Constant (Constant)
    7. Compare (RelationalOperator)
    8. Constant (Constant)

9. [Compare](#) (RelationalOperator)
10. [Constant](#) (Constant)
11. [TTC_EMERG](#) (Constant)
12. [Constant](#) (Constant)
13. [Constant](#) (Constant)
14. [Constant](#) (Constant)
15. [Constant1](#) (Constant)
16. [Constant2](#) (Constant)
17. [Constant4](#) (Constant)
18. [Constant5](#) (Constant)
19. [Square1](#) (Math)
20. [Product3](#) (Product)
21. [Constant3](#) (Constant)
22. [Constant6](#) (Constant)
23. [Constant](#) (Constant)
24. [Constant](#) (Constant)
25. [Constant](#) (Constant)
26. [Constant](#) (Constant)
27. [Constant1](#) (Constant)
28. [Constant2](#) (Constant)
29. [Constant4](#) (Constant)
30. [Constant5](#) (Constant)
31. [Constant6](#) (Constant)
32. [Constant3](#) (Constant)
33. [Constant](#) (Constant)
34. [Constant](#) (Constant)
35. [Constant](#) (Constant)
36. [Constant](#) (Constant)
37. [Constant](#) (Constant)
38. [Constant](#) (Constant)
39. [Constant](#) (Constant)
40. [Constant](#) (Constant)
41. [Constant](#) (Constant)
42. [Constant](#) (Constant)
43. [Constant1](#) (Constant)
44. [Constant](#) (Constant)
45. [CAL_TTC1](#) (Constant)
46. [Constant](#) (Constant)
47. [Constant](#) (Constant)
48. [Constant](#) (Constant)
49. [Compare](#) (RelationalOperator)
50. [CAL_TTC](#) (Constant)
51. [Constant](#) (Constant)
52. [Compare](#) (RelationalOperator)
53. [Constant](#) (Constant)
54. [Constant](#) (Constant)
55. [Constant](#) (Constant)
56. [Constant2](#) (Constant)
57. [Constant3](#) (Constant)

58. CAL_TTC (Constant)
59. Constant (Constant)
60. Compare (RelationalOperator)
61. Constant (Constant)
62. Constant (Constant)
63. REACTION TIME (Constant)
64. TTC_EMERGE (Constant)
65. *REACTION_TIME*
    1. In1 (SignalConversion)
66. Subtract2 (Sum)
67. Compare (RelationalOperator)
68. Switch (Switch)
69. *TmpAtomicSubsysAtSwitch1Inport3*
    1. Compare (RelationalOperator)
    2. *TmpAtomicSubsysAtminimum_required1Inport1*
    3. minimum_required1 (Switch)
70. Switch1 (Switch)
71. Unit_Delay4 (UnitDelay)
72. Square1 (Math)
73. Product3 (Product)
74. Unit_Delay4 (UnitDelay)
75. Switch (Switch)
76. Divide (Product)
77. Divide2 (Product)
78. Product4 (Product)
79. Compare (RelationalOperator)
80. Switch1 (Switch)
81. Unit_Delay4 (UnitDelay)
82. Compare (RelationalOperator)
83. Compare (RelationalOperator)
84. AND1 (Logic)
85. Switch1 (Switch)
86. Product5 (Product)
87. Subtract1 (Sum)
88. Compare (RelationalOperator)
89. minimum_required (Switch)
90. Switch (Switch)
91. Switch2 (Switch)
92. Switch (Switch)
93. Divide (Product)
94. Divide2 (Product)
95. Product4 (Product)
96. Compare (RelationalOperator)
97. Switch1 (Switch)
98. Product5 (Product)
99. Subtract1 (Sum)
100. m/s_to_km/s (Gain)

31. [Divide2](#) (Product)
32. [Product4](#) (Product)
33. [Compare](#) (RelationalOperator)
34. [Switch1](#) (Switch)
35. [Product5](#) (Product)
36. [Subtract1](#) (Sum)
37. [Product2](#) (Product)
38. [Square2](#) (Math)
39. [Product1](#) (Product)
40. [Add1](#) (Sum)
41. [Subtract3](#) (Sum)
42. [KM/hr to M/hr](#) (Gain)
43. [Compare](#) (RelationalOperator)
44. [Unit_Delay4](#) (UnitDelay)
45. [Square1](#) (Math)
46. [Product3](#) (Product)
47. [Unit_Delay4](#) (UnitDelay)
48. [Switch](#) (Switch)
49. [Divide](#) (Product)
50. [Divide2](#) (Product)
51. [Product4](#) (Product)
52. [Compare](#) (RelationalOperator)
53. [Switch1](#) (Switch)
54. [Unit_Delay4](#) (UnitDelay)
55. [Compare](#) (RelationalOperator)
56. [Compare](#) (RelationalOperator)
57. [AND1](#) (Logic)
58. [Switch1](#) (Switch)
59. [Product5](#) (Product)
60. [Subtract1](#) (Sum)
61. [Switch2](#) (Switch)
62. [Product2](#) (Product)
63. [Square2](#) (Math)
64. [Product1](#) (Product)
65. [Add1](#) (Sum)
66. [Subtract3](#) (Sum)
67. [Divide1](#) (Product)
68. [Switch4](#) (Switch)
69. *[TmpAtomicSubsysAtSwitch4Inport3](#)*
    1. [Switch](#) (Switch)
70. [Switch4](#) (Switch)
71. [Multiply](#) (Gain)
72. [Compare](#) (RelationalOperator)
73. [Switch](#) (Switch)
74. *[TmpAtomicSubsysAtSwitch4Inport3](#)*
    1. [Switch2](#) (Switch)
    2. [Divide1](#) (Product)
75. [Switch4](#) (Switch)
76. [Compare](#) (RelationalOperator)

Chapter 3. Subsystems

AEB

Figure 3.1. AEB_MODEL_F0x2830x29/AEB
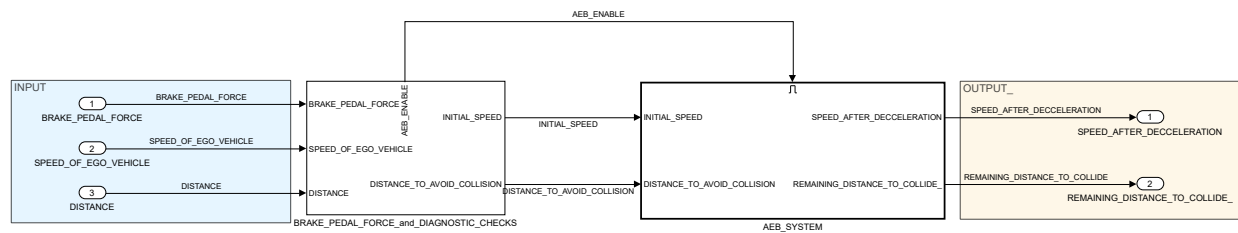
Blocks

Parameters

"BRAKE_PEDAL_FORCE" (Inport)

Table 3.1. "BRAKE_PEDAL_FORCE" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"DISTANCE" (Inport)

Table 3.2. "DISTANCE" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1

Parameter	Value
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"REMAINING_DISTANCE_TO_COLLIDE_" (Outport)

Table 3.3. "REMAINING_DISTANCE_TO_COLLIDE_" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"SPEED_AFTER_DECCELERATION" (Outport)

Table 3.4. "SPEED_AFTER_DECCELERATION" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"SPEED_OF_EGO_VEHICLE" (Inport)

Table 3.5. "SPEED_OF_EGO_VEHICLE" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]

Parameter	Value
Data type	Inherit: auto

AEB_SYSTEM

Figure 3.2. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM

Blocks

Parameters

" " (Goto)

Table 3.6. " " Parameters

Parameter	Value
Tag	DISTANCE_TO_AVOID_COLLISION
Icon display	Tag
Tag visibility	global

"Compare_To_Constant" (SubSystem)

Table 3.7. "Compare_To_Constant" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<
SimulinkmasksConstantValue_MP	0
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"condt_TTC_EMERGE" (From)

Table 3.8. "condt_TTC_EMERGE" Parameters

Parameter	Value
Goto tag	condt_TTC_EMERGE
Icon display	Tag

"Constant" (Constant)

Table 3.9. "Constant" Parameters

Parameter	Value
Constant value	0
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

"DISTANCE_TO_AVOID_COLLISION" (Inport)

Table 3.10. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Enable" (EnablePort)

Table 3.11. "Enable" Parameters

Parameter	Value
States when enabling	held
Propagate sizes of variable-size signals	Only when enabling
Show output port	off
Enable zero-crossing detection	on
Port dimensions	1
Sample time	-1
Minimum	[]
Maximum	[]
Data type	double
Interpolate data	on

"From1" (From)

Table 3.12. "From1" Parameters

Parameter	Value
Goto tag	REMAINING_DISTANCE_FOR_NEXT_BRAKING_
Icon display	Tag

"From2" (From)

Table 3.13. "From2" Parameters

Parameter	Value
Goto tag	FULL_BRAKE
Icon display	Tag

"From3" (From)

Table 3.14. "From3" Parameters

Parameter	Value
Goto tag	FULL_BRAKE
Icon display	Tag

"From4" (From)

Table 3.15. "From4" Parameters

Parameter	Value
Goto tag	FULL_BRAKE
Icon display	Tag

"From5" (From)

Table 3.16. "From5" Parameters

Parameter	Value
Goto tag	SPEED_AFTER_PB_DECCELERATION
Icon display	Tag

"Goto" (Goto)

Table 3.17. "Goto" Parameters

Parameter	Value
Tag	speed_comparison_FB
Icon display	Tag
Tag visibility	global

"Goto1" (Goto)

Table 3.18. "Goto1" Parameters

Parameter	Value
Tag	TTC_AFTER_PARTITAL_BRAKE
Icon display	Tag
Tag visibility	global

"Goto2" (Goto)

Table 3.19. "Goto2" Parameters

Parameter	Value
Tag	INITIAL_SPEED

Parameter	Value
Icon display	Tag
Tag visibility	global

"Goto4" (Goto)

Table 3.20. "Goto4" Parameters

Parameter	Value
Tag	SPEED_AFTER_PB_DECCELERATION
Icon display	Tag
Tag visibility	global

"Goto5" (Goto)

Table 3.21. "Goto5" Parameters

Parameter	Value
Tag	REMAINING_DISTANCE_FOR_NEXT_BRAKING_
Icon display	Tag
Tag visibility	global

"INITIAL_SPEED" (Inport)

Table 3.22. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"REMAINING_DISTANCE_TO_COLLIDE_" (Outport)

Table 3.23. "REMAINING_DISTANCE_TO_COLLIDE_" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"SPEED_AFTER_DECCELERATION" (Outport)

Table 3.24. "SPEED_AFTER_DECCELERATION" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
Minimum	[]
Maximum	[]

Parameter	Value
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Switch" (Switch)

Table 3.25. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch1" (Switch)

Table 3.26. "Switch1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch2" (Switch)

Table 3.27. "Switch2" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS

Figure 3.3. AEB_MODEL_F0x2830x29/AEB/ BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS
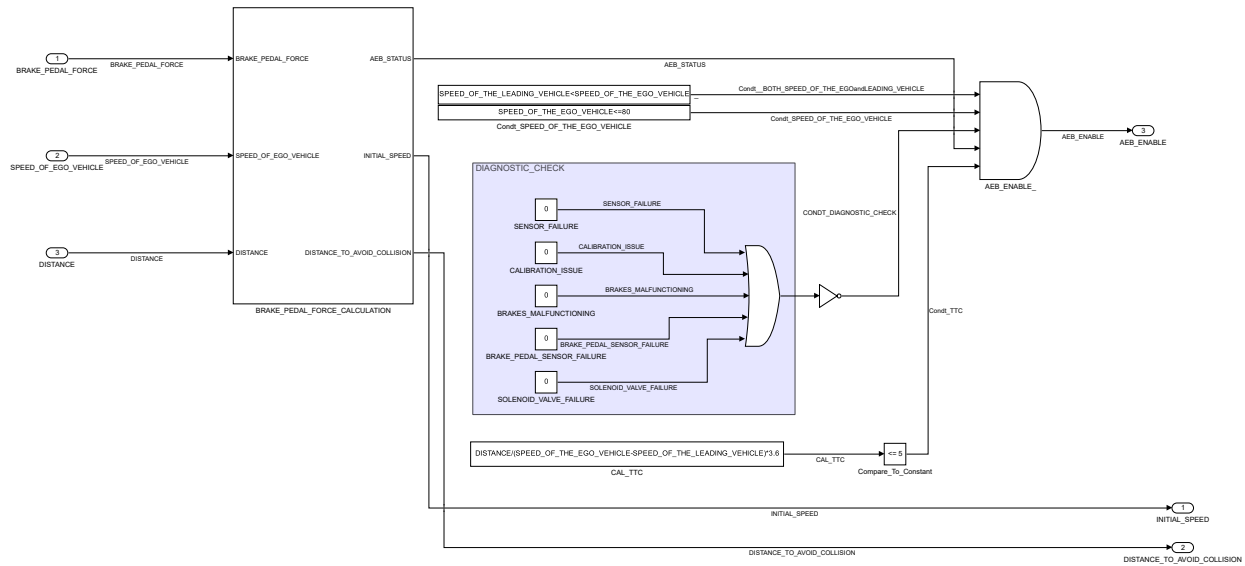
Blocks

Parameters

"_" (Constant)

Table 3.28. "_" Parameters

Parameter	Value
Constant value	SPEED_OF_THE_LEADING_VEHICLE< SPEED_OF_THE_EGO_VEHICLE
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

Parameter	Value
Frame period	inf

"AEB_ENABLE" (Outport)

Table 3.29. "AEB_ENABLE" Parameters

Parameter	Value
Port number	3
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"AEB_ENABLE_" (Logic)

Table 3.30. "AEB_ENABLE_" Parameters

Parameter	Value
Operator	AND
Number of input ports	5

Parameter	Value
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"BRAKE_PEDAL_FORCE" (Inport)

Table 3.31. "BRAKE_PEDAL_FORCE" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"BRAKE_PEDAL_SENSOR_FAILURE" (Constant)

Table 3.32. "BRAKE_PEDAL_SENSOR_FAILURE" Parameters

Parameter	Value
Constant value	0
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

"BRAKES_MALFUNCTIONING" (Constant)

Table 3.33. "BRAKES_MALFUNCTIONING" Parameters

Parameter	Value
Constant value	0

Parameter	Value
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

"CAL_TTC" (Constant)

Table 3.34. "CAL_TTC" Parameters

Parameter	Value
Constant value	DISTANCE/(SPEED_OF_THE_EGO_VEHICLE-SPEED_OF_THE_LEADING_VEHICLE)*3.6
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

"CALIBRATION_ISSUE" (Constant)

Table 3.35. "CALIBRATION_ISSUE" Parameters

Parameter	Value
Constant value	0
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

Parameter	Value
Sample time	inf
Frame period	inf

"Compare_To_Constant" (SubSystem)

Table 3.36. "Compare_To_Constant" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	5
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Condt_SPEED_OF_THE_EGO_VEHICLE" (Constant)

Table 3.37. "Condt_SPEED_OF_THE_EGO_VEHICLE" Parameters

Parameter	Value
Constant value	SPEED_OF_THE_EGO_VEHICLE <=80
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

"DISTANCE" (Inport)

Table 3.38. "DISTANCE" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1

Parameter	Value
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"DISTANCE_TO_AVOID_COLLISION" (Outport)

Table 3.39. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"INITIAL_SPEED" (Outport)

Table 3.40. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"NOT" (Logic)

Table 3.41. "NOT" Parameters

Parameter	Value
Operator	NOT
Number of input ports	2
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean

Parameter	Value
Sample time (-1 for inherited)	-1

"OR" (Logic)

Table 3.42. "OR" Parameters

Parameter	Value
Operator	OR
Number of input ports	5
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"SENSOR_FAILURE" (Constant)

Table 3.43. "SENSOR_FAILURE" Parameters

Parameter	Value
Constant value	0
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

"SOLENOID_VALVE_FAILURE" (Constant)

Table 3.44. "SOLENOID_VALVE_FAILURE" Parameters

Parameter	Value
Constant value	0
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]

Parameter	Value
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

"SPEED_OF_EGO_VEHICLE" (Inport)

Table 3.45. "SPEED_OF_EGO_VEHICLE" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

BRAKE_PEDAL_FORCE_CALCULATION

**Figure 3.4.
AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION**

Blocks

Parameters

"AEB_STATUS" (Outport)

Table 3.46. "AEB_STATUS" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"BRAKE_PEDAL_FORCE" (Inport)

Table 3.47. "BRAKE_PEDAL_FORCE" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]

Parameter	Value
Data type	Inherit: auto

"BRAKE_PEDALRATIO" (Constant)

Table 3.48. "BRAKE_PEDALRATIO" Parameters

Parameter	Value
Constant value	6.2
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

"COEFFICENT_OF_FRICTION" (Constant)

Table 3.49. "COEFFICENT_OF_FRICTION" Parameters

Parameter	Value
Constant value	0.8
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

"Constant2" (Constant)

Table 3.50. "Constant2" Parameters

Parameter	Value
Constant value	2

Parameter	Value
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

"Constant3" (Constant)

Table 3.51. "Constant3" Parameters

Parameter	Value
Constant value	2
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

"DISTANCE" (Inport)

Table 3.52. "DISTANCE" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"DISTANCE_TO_AVOID_COLLISION" (Outport)

Table 3.53. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	3
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Divide" (Product)

Table 3.54. "Divide" Parameters

Parameter	Value
Number of inputs	*/
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off

Parameter	Value
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

"Divide1" (Product)

Table 3.55. "Divide1" Parameters

Parameter	Value
Number of inputs	*/
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"INITIAL_SPEED" (Outport)

Table 3.56. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
Minimum	[]

Parameter	Value
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
Bus virtuality	inherit
Data mode	inherit
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
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

"MASS_OF_THE_VEHICLE" (Constant)

Table 3.57. "MASS_OF_THE_VEHICLE" Parameters

Parameter	Value
Constant value	MASS_OF_THE_VEHICLE
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

"MASTER_CYLINDER_BORE_SIZE" (Constant)

Table 3.58. "MASTER_CYLINDER_BORE_SIZE" Parameters

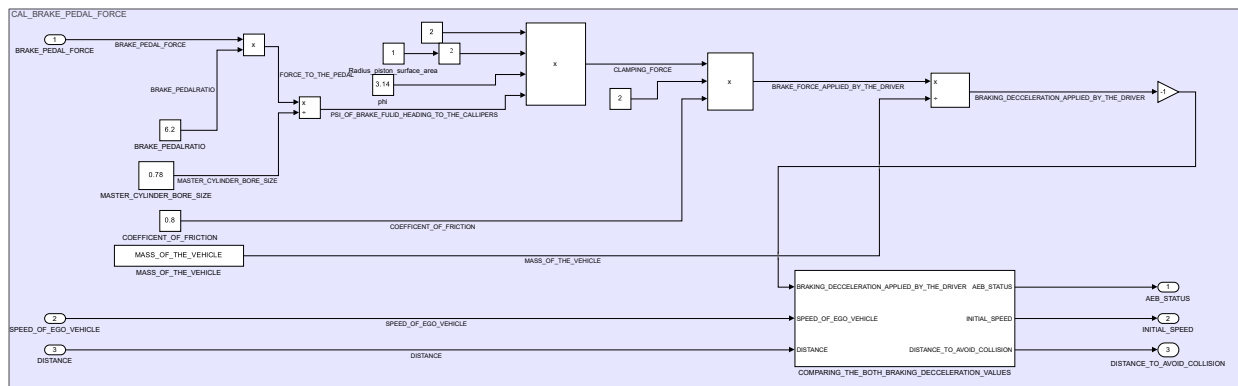| Parameter	Value
Constant value	0.78
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit from 'Constant value'
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf
Frame period	inf

"Multiply" (Gain)

Table 3.59. "Multiply" Parameters

Parameter	Value
Gain	-1
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

"phi" (Constant)

Table 3.60. "phi" Parameters

Parameter	Value
Constant value	3.14
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

"Product" (Product)

Table 3.61. "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	off
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

"Product1" (Product)

Table 3.62. "Product1" Parameters

Parameter	Value
Number of inputs	4
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Product2" (Product)

Table 3.63. "Product2" Parameters

Parameter	Value
Number of inputs	3
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Radius_piston_surface_area" (Constant)

Table 3.64. "Radius_piston_surface_area" Parameters

Parameter	Value
Constant value	1
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

"SPEED_OF_EGO_VEHICLE" (Inport)

Table 3.65. "SPEED_OF_EGO_VEHICLE" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Square" (Math)

Table 3.66. "Square" Parameters

Parameter	Value
Function	square
Algorithm method	Exact
Signed power	off
Sample time (-1 for inherited)	-1
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Same as first input

Parameter	Value
Lock output data type setting against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	on
Intermediate results data type	Inherit: Inherit via internal rule
Method	Newton-Raphson
Number of iterations	3

CAL.KM/Hr_TO_M/ Hr_and_DISTANCE_TO_AVOID_COLLISION

Figure 3.5. AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/ BRAKE_PEDAL_FORCE_CALCULATION/ COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/CAL.KM// Hr_TO_M//Hr_and_DISTANCE_TO_AVOID_COLLISION
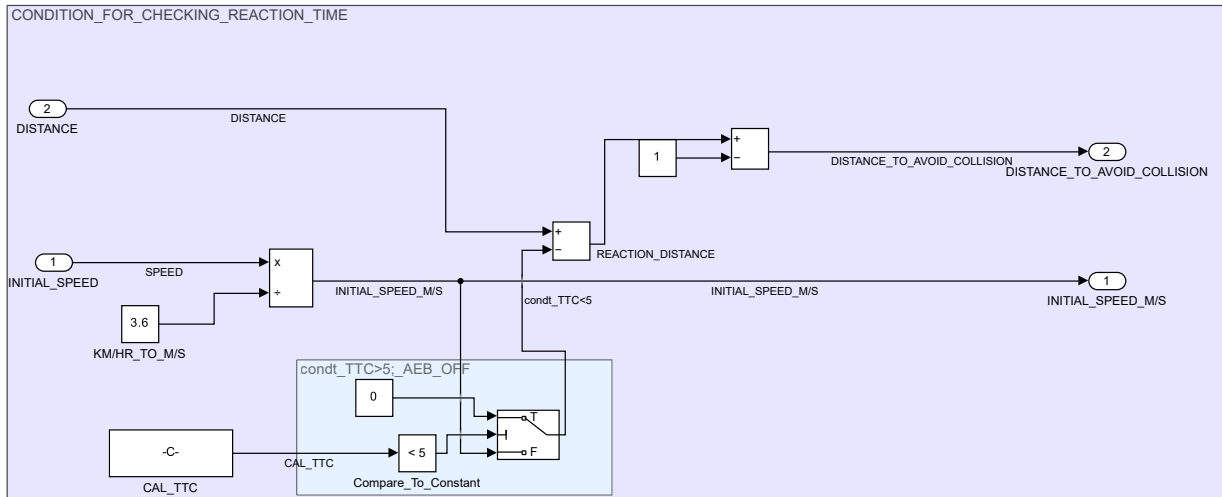
Blocks

Parameters

"CAL_TTC" (Constant)

Table 3.67. "CAL_TTC" Parameters

Parameter	Value
Constant value	DISTANCE/(SPEED_OF_THE_EGO_VEHIC LE-SPEED_OF_THE_LEADING_VEHICLE) *3.6
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 fix ed-point tools	off
Sample time	inf
Frame period	inf

"Compare_To_Constant" (SubSystem)

Table 3.68. "Compare_To_Constant" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<
SimulinkmasksConstantValue_MP	5
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.69. "Constant" Parameters

Parameter	Value
Constant value	0
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit from 'Const ant value'
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf

Parameter	Value
Frame period	inf

"Constant1" (Constant)

Table 3.70. "Constant1" Parameters

Parameter	Value
Constant value	1
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

"DISTANCE" (Inport)

Table 3.71. "DISTANCE" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"DISTANCE_TO_AVOID_COLLISION" (Outport)

Table 3.72. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
Minimum	[]

Parameter	Value
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Divide" (Product)

Table 3.73. "Divide" Parameters

Parameter	Value
Number of inputs	*/
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

Parameter	Value
Sample time (-1 for inherited)	-1

"INITIAL_SPEED" (Inport)

Table 3.74. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED_M/S" (Outport)

Table 3.75. "INITIAL_SPEED_M/S" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held
Initial output	[]

Parameter	Value
MustResolveToSignalObject	off
Specify output when source is unconnected	off
Constant value	0
Interpret vector parameters as 1-D	on

"KM/HR_TO_M/S" (Constant)

Table 3.76. "KM/HR_TO_M/S" Parameters

Parameter	Value
Constant value	3.6
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

"Subtract" (Sum)

Table 3.77. "Subtract" 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

Parameter	Value
Sample time (-1 for inherited)	-1

"Subtract1" (Sum)

Table 3.78. "Subtract1" 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

"Switch" (Switch)

Table 3.79. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on

Parameter	Value
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

CAL_BRAKING_DECCELERATION

Figure 3.6. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/ FB_CALCULATIONS/CAL_BRAKING_DECCELERATION

Blocks

Parameters

"CONDT_MAX_FB_BD" (SubSystem)

Table 3.80. "CONDT_MAX_FB_BD" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<
SimulinkmasksConstantValue_MP	-8
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.81. "Constant" Parameters

Parameter	Value
Constant value	-8

Parameter	Value
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

"Constant1" (Constant)

Table 3.82. "Constant1" Parameters

Parameter	Value
Constant value	0.5
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

"Constant2" (Constant)

Table 3.83. "Constant2" Parameters

Parameter	Value
Constant value	MASS_OF_THE_VEHICLE
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

Parameter	Value
Frame period	inf

"Constant4" (Constant)

Table 3.84. "Constant4" Parameters

Parameter	Value
Constant value	1
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

"Constant5" (Constant)

Table 3.85. "Constant5" Parameters

Parameter	Value
Constant value	-1
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

"Divide" (Product)

Table 3.86. "Divide" Parameters

Parameter	Value
Number of inputs	*/

Parameter	Value
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Divide2" (Product)

Table 3.87. "Divide2" Parameters

Parameter	Value
Number of inputs	/*
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"FB_DECCELERATION" (Outport)

Table 3.88. "FB_DECCELERATION" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"INITIAL_SPEED" (Inport)

Table 3.89. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]

Parameter	Value
Data type	Inherit: auto

"Product3" (Product)

Table 3.90. "Product3" Parameters

Parameter	Value
Number of inputs	3
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Product4" (Product)

Table 3.91. "Product4" 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	off
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

Parameter	Value
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"REMAINING_DISTANCE_AFTER_PARTIAL_BRAKING" (Inport)

Table 3.92. "REMAINING_DISTANCE_AFTER_PARTIAL_BRAKING" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Square1" (Math)

Table 3.93. "Square1" Parameters

Parameter	Value
Function	square
Algorithm method	Exact
Signed power	off
Sample time (-1 for inherited)	-1
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Same as first input
Lock output data type setting against changes by the fixed-point tool s	off
Integer rounding mode	Floor
Saturate on integer overflow	on
Intermediate results data type	Inherit: Inherit via internal rule
Method	Newton-Raphson
Number of iterations	3

"Switch" (Switch)

Table 3.94. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch1" (Switch)

Table 3.95. "Switch1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

CAL_BRAKING_DECCELERATION

Figure 3.7.
AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/FB_SYSTEM_IN_LOOP/
CALCULATIONS_WITH_RESPECT_TO_TTC/CAL_BRAKING_DECCELERATION
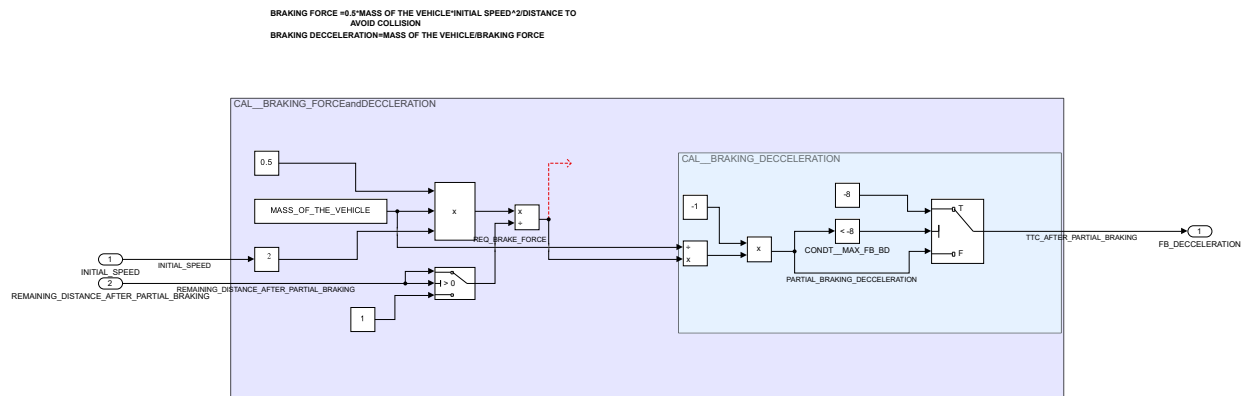
Blocks

Parameters

"CONDT__MAX_FB_BD" (SubSystem)

Table 3.96. "CONDT__MAX_FB_BD" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<
SimulinkmasksConstantValue_MP	-8
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.97. "Constant" Parameters

Parameter	Value
Constant value	-8
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]

Parameter	Value
Output data type	Inherit: Inherit from 'Const ant value'
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf
Frame period	inf

"Constant1" (Constant)

Table 3.98. "Constant1" Parameters

Parameter	Value
Constant value	0.5
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit from 'Const ant value'
Lock output data type setting against changes by the fixed-point tools	off
Sample time	inf
Frame period	inf

"Constant2" (Constant)

Table 3.99. "Constant2" Parameters

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

"Constant4" (Constant)

Table 3.100. "Constant4" Parameters

Parameter	Value
Constant value	1
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

"Constant5" (Constant)

Table 3.101. "Constant5" Parameters

Parameter	Value
Constant value	-1
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

"Divide" (Product)

Table 3.102. "Divide" Parameters

Parameter	Value
Number of inputs	*/
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1

Parameter	Value
Require all inputs to have the same data type	off
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

"Divide2" (Product)

Table 3.103. "Divide2" Parameters

Parameter	Value
Number of inputs	/*
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"FB_DECCELERATION" (Outport)

Table 3.104. "FB_DECCELERATION" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off

Parameter	Value
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
Bus virtuality	inherit
Data mode	inherit
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
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

"INITIAL_SPEED" (Inport)

Table 3.105. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Product3" (Product)

Table 3.106. "Product3" Parameters

Parameter	Value
Number of inputs	3
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Product4" (Product)

Table 3.107. "Product4" 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	off
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

"REMAINING_DISTANCE_AFTER_PARTIAL_BRAKING" (Inport)

Table 3.108. "REMAINING_DISTANCE_AFTER_PARTIAL_BRAKING" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Square1" (Math)

Table 3.109. "Square1" Parameters

Parameter	Value
Function	square
Algorithm method	Exact
Signed power	off
Sample time (-1 for inherited)	-1
Output minimum	[]
Output maximum	[]
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
Intermediate results data type	Inherit: Inherit via internal rule
Method	Newton-Raphson
Number of iterations	3

"Switch" (Switch)

Table 3.110. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold

Parameter	Value
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch1" (Switch)

Table 3.111. "Switch1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

CAL_BRAKING_DECCELERATION

Figure 3.8. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_CALCULATIONS/CAL_BRAKING_DECCELERATION
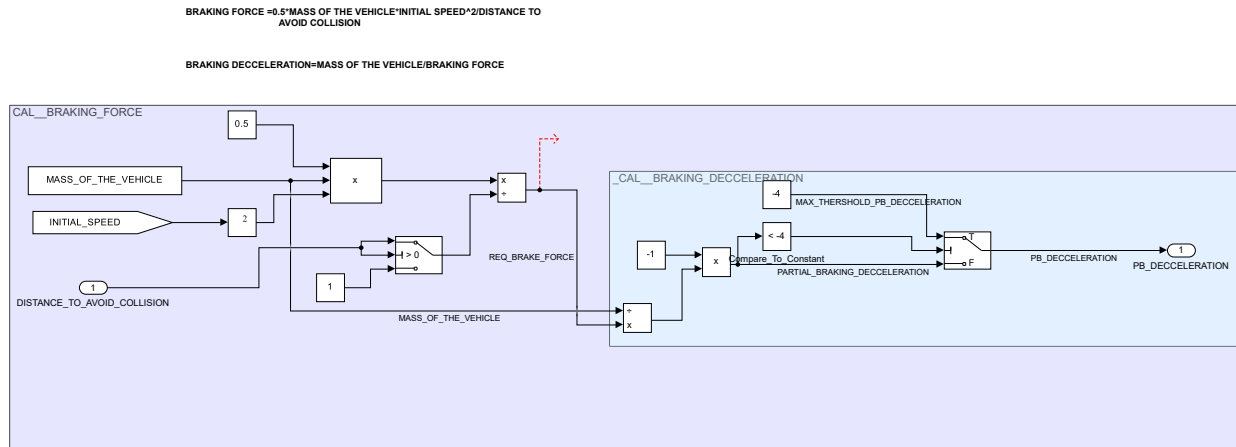
Blocks

Parameters

"Compare_To_Constant" (SubSystem)

Table 3.112. "Compare_To_Constant" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<
SimulinkmasksConstantValue_MP	-4
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.113. "Constant" Parameters

Parameter	Value
Constant value	-4
Interpret vector parameters as 1-D	on
Output minimum	[]

Parameter	Value
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

"Constant1" (Constant)

Table 3.114. "Constant1" Parameters

Parameter	Value
Constant value	0.5
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

"Constant2" (Constant)

Table 3.115. "Constant2" Parameters

Parameter	Value
Constant value	MASS_OF_THE_VEHICLE
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

"Constant4" (Constant)

Table 3.116. "Constant4" Parameters

Parameter	Value
Constant value	1
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

"Constant5" (Constant)

Table 3.117. "Constant5" Parameters

Parameter	Value
Constant value	-1
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

"DISTANCE_TO_AVOID_COLLISION" (Inport)

Table 3.118. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]

Parameter	Value
Maximum	[]
Data type	Inherit: auto

"Divide" (Product)

Table 3.119. "Divide" Parameters

Parameter	Value
Number of inputs	*/
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Divide2" (Product)

Table 3.120. "Divide2" Parameters

Parameter	Value
Number of inputs	/*
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

Parameter	Value
Integer rounding mode	Floor
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"From" (From)

Table 3.121. "From" Parameters

Parameter	Value
Goto tag	INITIAL_SPEED
Icon display	Tag

"PB_DECCELERATION" (Outport)

Table 3.122. "PB_DECCELERATION" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held
Initial output	[]
MustResolveToSignalObject	off
Specify output when source is unconnected	off

Parameter	Value
Constant value	0
Interpret vector parameters as 1-D	on

"Product3" (Product)

Table 3.123. "Product3" Parameters

Parameter	Value
Number of inputs	3
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Product4" (Product)

Table 3.124. "Product4" 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	off
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

Parameter	Value
Integer rounding mode	Floor
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"Square1" (Math)

Table 3.125. "Square1" Parameters

Parameter	Value
Function	square
Algorithm method	Exact
Signed power	off
Sample time (-1 for inherited)	-1
Output minimum	[]
Output maximum	[]
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
Intermediate results data type	Inherit: Inherit via internal rule
Method	Newton-Raphson
Number of iterations	3

"Switch" (Switch)

Table 3.126. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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

Parameter	Value
Integer rounding mode	Floor
Saturate on integer overflow	off
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch1" (Switch)

Table 3.127. "Switch1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

CAL_BRAKING_DECCELERATION

Figure 3.9. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_IN_LOOP/CALCULATIONS_WITH_RESPECT_TO_TTC/ CAL_BRAKING_DECCELERATION
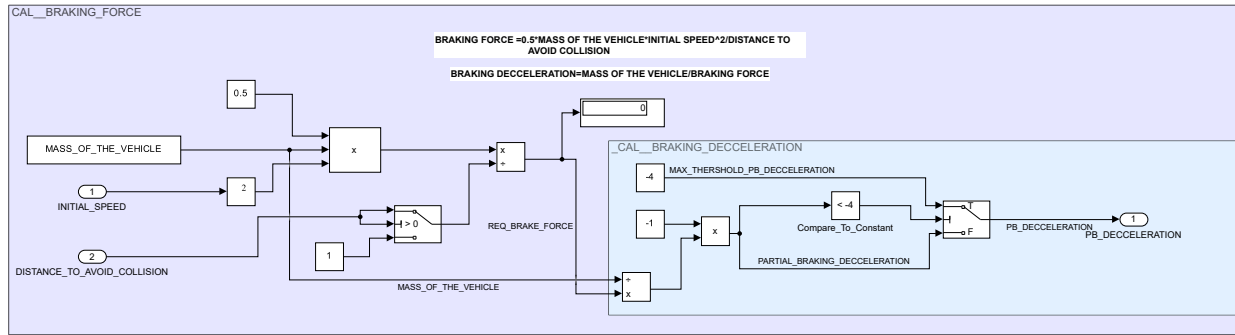
Blocks

Parameters

"Compare_To_Constant" (SubSystem)

Table 3.128. "Compare_To_Constant" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<
SimulinkmasksConstantValue_MP	-4
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.129. "Constant" Parameters

Parameter	Value
Constant value	-4
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]

Parameter	Value
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

"Constant1" (Constant)

Table 3.130. "Constant1" Parameters

Parameter	Value
Constant value	0.5
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

"Constant2" (Constant)

Table 3.131. "Constant2" Parameters

Parameter	Value
Constant value	MASS_OF_THE_VEHICLE
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

"Constant4" (Constant)

Table 3.132. "Constant4" Parameters

Parameter	Value
Constant value	1
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

"Constant5" (Constant)

Table 3.133. "Constant5" Parameters

Parameter	Value
Constant value	-1
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

"Display" (Display)

Table 3.134. "Display" Parameters

Parameter	Value
Numeric display format	short
Decimation	1
Floating display	off

"DISTANCE_TO_AVOID_COLLISION" (Inport)

Table 3.135. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Divide" (Product)

Table 3.136. "Divide" Parameters

Parameter	Value
Number of inputs	*/
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Divide2" (Product)

Table 3.137. "Divide2" Parameters

Parameter	Value
Number of inputs	/*
Multiplication	Element-wise(.*)
Multiply over	All dimensions

Parameter	Value
Dimension	1
Require all inputs to have the same data type	off
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

"INITIAL_SPEED" (Inport)

Table 3.138. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"PB_DECCELERATION" (Outport)

Table 3.139. "PB_DECCELERATION" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit

Parameter	Value
Data mode	inherit
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
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

"Product3" (Product)

Table 3.140. "Product3" Parameters

Parameter	Value
Number of inputs	3
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Product4" (Product)

Table 3.141. "Product4" 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	off
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

"Square1" (Math)

Table 3.142. "Square1" Parameters

Parameter	Value
Function	square
Algorithm method	Exact
Signed power	off
Sample time (-1 for inherited)	-1
Output minimum	[]
Output maximum	[]
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
Intermediate results data type	Inherit: Inherit via internal rule
Method	Newton-Raphson
Number of iterations	3

"Switch" (Switch)

Table 3.143. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch1" (Switch)

Table 3.144. "Switch1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

CAL_inital_after_decceleration_speed

Figure 3.10. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/ FB_CALCULATIONS/CAL_inital_after_decceleration_speed
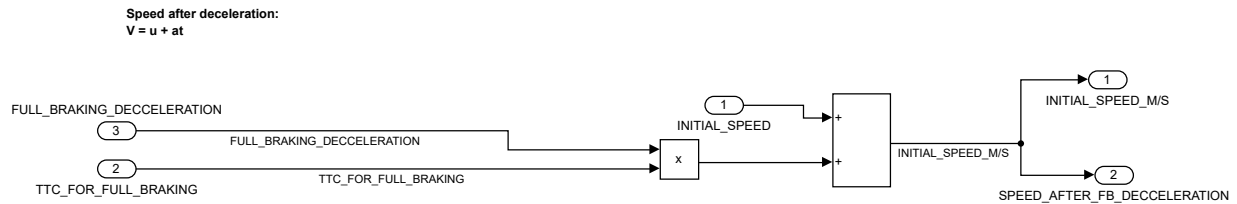
Blocks

Parameters

"FULL_BRAKING_DECCELERATION" (Inport)

Table 3.145. "FULL_BRAKING_DECCELERATION" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED" (Inport)

Table 3.146. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED_M/S" (Outport)

Table 3.147. "INITIAL_SPEED_M/S" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Product5" (Product)

Table 3.148. "Product5" 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	off

Parameter	Value
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

"SPEED_AFTER_FB_DECCELERATION" (Outport)

Table 3.149. "SPEED_AFTER_FB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Subtract1" (Sum)

Table 3.150. "Subtract1" 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

"TTC_FOR_FULL_BRAKING" (Inport)

Table 3.151. "TTC_FOR_FULL_BRAKING" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

CAL_inital_after_decceleration_speed

**Figure 3.11.
AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/FB_SYSTEM_IN_LOOP/
CALCULATIONS_WITH_RESPECT_TO_TTC/CAL_inital_after_decceleration_speed**
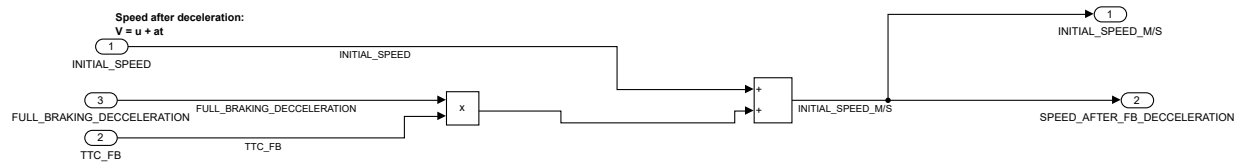
Blocks

Parameters

"FULL_BRAKING_DECCELERATION" (Inport)

Table 3.152. "FULL_BRAKING_DECCELERATION" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED" (Inport)

Table 3.153. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED_M/S" (Outport)

Table 3.154. "INITIAL_SPEED_M/S" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Product5" (Product)

Table 3.155. "Product5" 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	off

Parameter	Value
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

"SPEED_AFTER_FB_DECCELERATION" (Outport)

Table 3.156. "SPEED_AFTER_FB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Subtract1" (Sum)

Table 3.157. "Subtract1" 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

"TTC_FB" (Inport)

Table 3.158. "TTC_FB" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

CAL_INITAL_AFTER_DECCELERATION_SPEED

Figure 3.12. AEB_MODEL_F0x2830x29/AEB/ AEB_SYSTEM/PARTIAL_BRAKE/PARTIAL_BRAKING/PB_CALCULATIONS/ CAL_INITAL_AFTER_DECCELERATION_SPEED
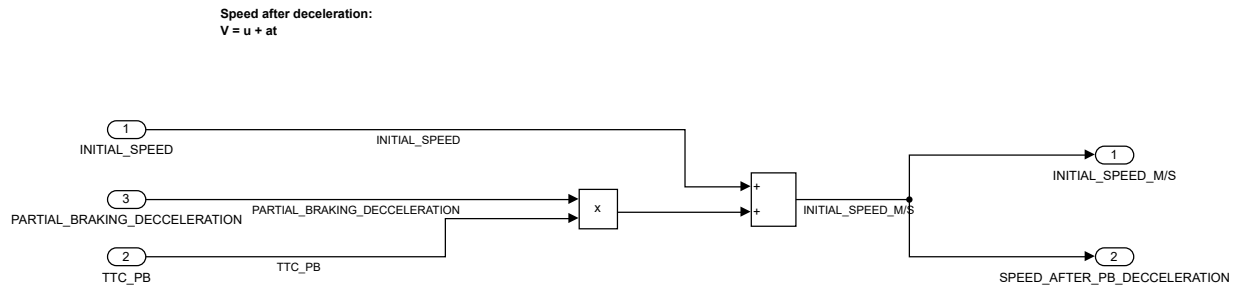
Blocks

Parameters

"INITIAL_SPEED" (Inport)

Table 3.159. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED_M/S" (Outport)

Table 3.160. "INITIAL_SPEED_M/S" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
Minimum	[]

Parameter	Value
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
Bus virtuality	inherit
Data mode	inherit
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
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

"PARTIAL_BRAKING_DECCELERATION" (Inport)

Table 3.161. "PARTIAL_BRAKING_DECCELERATION" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Product5" (Product)

Table 3.162. "Product5" Parameters

Parameter	Value
Number of inputs	2

Parameter	Value
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"SPEED_AFTER_PB_DECCELERATION" (Outport)

Table 3.163. "SPEED_AFTER_PB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held
Initial output	[]

Parameter	Value
MustResolveToSignalObject	off
Specify output when source is unconnected	off
Constant value	0
Interpret vector parameters as 1-D	on

"Subtract1" (Sum)

Table 3.164. "Subtract1" 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

"TTC_PB" (Inport)

Table 3.165. "TTC_PB" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

CAL_inital_after_decceleration_speed

**Figure 3.13. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/
PARTIAL_BRAKING/PB_IN_LOOP/CALCULATIONS_WITH_RESPECT_TO_TTC/
CAL_inital_after_decceleration_speed**

Blocks

Parameters

"INITIAL_SPEED" (Inport)

Table 3.166. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED_M/S" (Outport)

Table 3.167. "INITIAL_SPEED_M/S" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
Minimum	[]

Parameter	Value
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
Bus virtuality	inherit
Data mode	inherit
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
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

"PARTIAL_BRAKING_DECCELERATION" (Inport)

Table 3.168. "PARTIAL_BRAKING_DECCELERATION" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Product5" (Product)

Table 3.169. "Product5" Parameters

Parameter	Value
Number of inputs	2

Parameter	Value
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"SPEED_AFTER_PB_DECCELERATION" (Outport)

Table 3.170. "SPEED_AFTER_PB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held
Initial output	[]

Parameter	Value
MustResolveToSignalObject	off
Specify output when source is unconnected	off
Constant value	0
Interpret vector parameters as 1-D	on

"Subtract1" (Sum)

Table 3.171. "Subtract1" 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

"TTC_PB" (Inport)

Table 3.172. "TTC_PB" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

CAL_remainig_distance

Figure 3.14. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/ FB_CALCULATIONS/CAL_remainig_distance

Blocks

Parameters

"Add1" (Sum)

Table 3.173. "Add1" Parameters

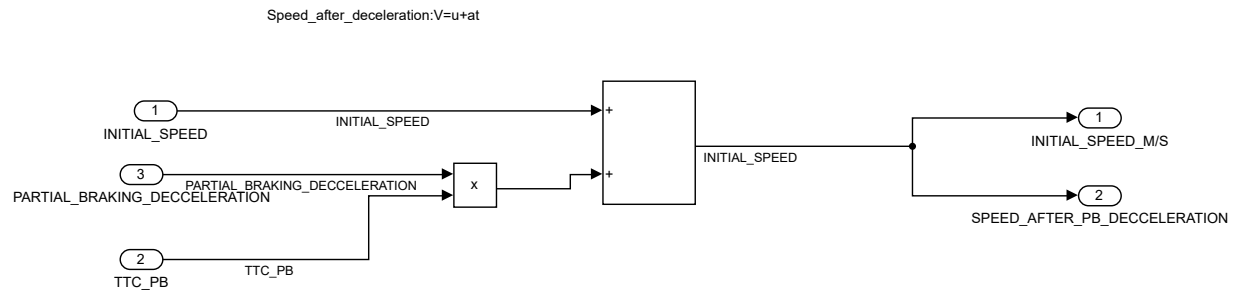| Parameter	Value
Icon shape	rectangular
List of signs	++
Sum over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
Accumulator data type	Inherit: Inherit via internal rule
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via internal rule
Lock data type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

"Constant3" (Constant)

Table 3.174. "Constant3" Parameters

Parameter	Value
Constant value	0.5
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

"FB_DECCELERATION" (Inport)

Table 3.175. "FB_DECCELERATION" Parameters

Parameter	Value
Port number	4
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED" (Inport)

Table 3.176. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Product1" (Product)

Table 3.177. "Product1" Parameters

Parameter	Value
Number of inputs	3
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Product2" (Product)

Table 3.178. "Product2" 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	off
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

"remainig_distance" (Outport)

Table 3.179. "remainig_distance" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"REMAINING_DISTANCE_AFTER_PARTIAL_BRAKING" (Inport)

Table 3.180. "REMAINING_DISTANCE_AFTER_PARTIAL_BRAKING" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]

Parameter	Value
Data type	Inherit: auto

"Square2" (Math)

Table 3.181. "Square2" Parameters

Parameter	Value
Function	square
Algorithm method	Exact
Signed power	off
Sample time (-1 for inherited)	-1
Output minimum	[]
Output maximum	[]
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
Intermediate results data type	Inherit: Inherit via internal rule
Method	Newton-Raphson
Number of iterations	3

"Subtract3" (Sum)

Table 3.182. "Subtract3" 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

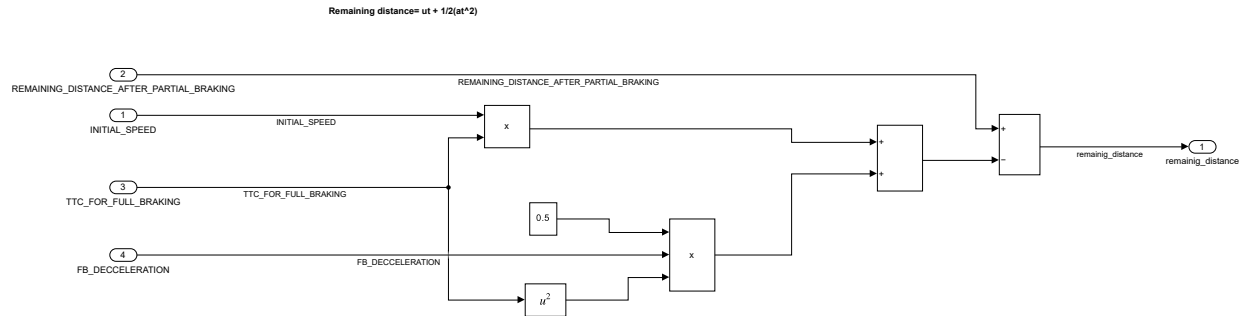| Parameter	Value
Lock data type settings against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"TTC_FOR_FULL_BRAKING" (Inport)

Table 3.183. "TTC_FOR_FULL_BRAKING" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

CAL_remainig_distance

Figure 3.15. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/FB_SYSTEM_IN_LOOP/ CALCULATIONS_WITH_RESPECT_TO_TTC/CAL_remainig_distance

Blocks

Parameters

"Add1" (Sum)

Table 3.184. "Add1" 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

"Constant3" (Constant)

Table 3.185. "Constant3" Parameters

Parameter	Value
Constant value	0.5
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

"DISTANCE_TO_AVOID_COLLISION" (Inport)

Table 3.186. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"FB_DECCELERATION" (Inport)

Table 3.187. "FB_DECCELERATION" Parameters

Parameter	Value
Port number	4
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED" (Inport)

Table 3.188. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Product1" (Product)

Table 3.189. "Product1" Parameters

Parameter	Value
Number of inputs	3
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Product2" (Product)

Table 3.190. "Product2" Parameters

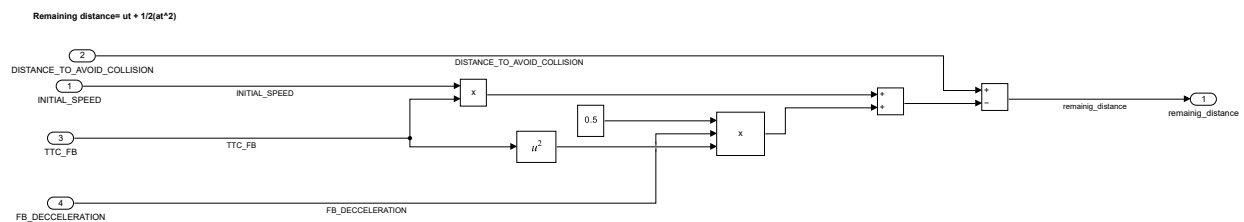| Parameter	Value
Number of inputs	2
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via internal rule
Lock output data type setting against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"remainig_distance" (Outport)

Table 3.191. "remainig_distance" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Square2" (Math)

Table 3.192. "Square2" Parameters

Parameter	Value
Function	square
Algorithm method	Exact
Signed power	off
Sample time (-1 for inherited)	-1
Output minimum	[]

Parameter	Value
Output maximum	[]
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
Intermediate results data type	Inherit: Inherit via internal rule
Method	Newton-Raphson
Number of iterations	3

"Subtract3" (Sum)

Table 3.193. "Subtract3" 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

"TTC_FB" (Inport)

Table 3.194. "TTC_FB" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1

Parameter	Value
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

CAL_remainig_distance

Figure 3.16. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_IN_LOOP/CALCULATIONS_WITH_RESPECT_TO_TTC/ CAL_remainig_distance
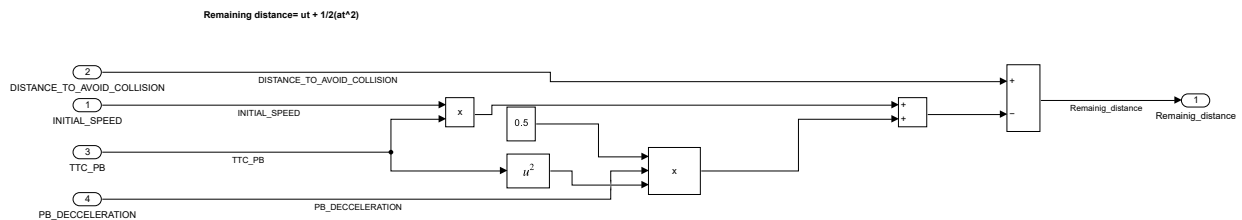
Blocks

Parameters

"Add1" (Sum)

Table 3.195. "Add1" 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

Parameter	Value
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"Constant3" (Constant)

Table 3.196. "Constant3" Parameters

Parameter	Value
Constant value	0.5
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

"DISTANCE_TO_AVOID_COLLISION" (Inport)

Table 3.197. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED" (Inport)

Table 3.198. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1

Parameter	Value
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"PB_DECCELERATION" (Inport)

Table 3.199. "PB_DECCELERATION" Parameters

Parameter	Value
Port number	4
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Product1" (Product)

Table 3.200. "Product1" Parameters

Parameter	Value
Number of inputs	3
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Product2" (Product)

Table 3.201. "Product2" 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	off
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

"Remainig_distance" (Outport)

Table 3.202. "Remainig_distance" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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

Parameter	Value
Ensure outport is virtual	off
Source of initial output value	Dialog
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

"Square2" (Math)

Table 3.203. "Square2" Parameters

Parameter	Value
Function	square
Algorithm method	Exact
Signed power	off
Sample time (-1 for inherited)	-1
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Same as first input
Lock output data type setting against changes by the fixed-point tool s	off
Integer rounding mode	Floor
Saturate on integer overflow	on
Intermediate results data type	Inherit: Inherit via internal rule
Method	Newton-Raphson
Number of iterations	3

"Subtract3" (Sum)

Table 3.204. "Subtract3" Parameters

Parameter	Value
Icon shape	rectangular
List of signs	+-

Parameter	Value
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

"TTC_PB" (Inport)

Table 3.205. "TTC_PB" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

CAL_REMAINING_DISTANCE

Figure 3.17. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_CALCULATIONS/CAL_REMAINING_DISTANCE

Blocks

Parameters

"Add1" (Sum)

Table 3.206. "Add1" 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

"Constant3" (Constant)

Table 3.207. "Constant3" Parameters

Parameter	Value
Constant value	0.5
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

"DISTANCE_TO_AVOID_COLLISION" (Inport)

Table 3.208. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED" (Inport)

Table 3.209. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"PB_DECCELERATION" (Inport)

Table 3.210. "PB_DECCELERATION" Parameters

Parameter	Value
Port number	4
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Product1" (Product)

Table 3.211. "Product1" Parameters

Parameter	Value
Number of inputs	3
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Product2" (Product)

Table 3.212. "Product2" Parameters

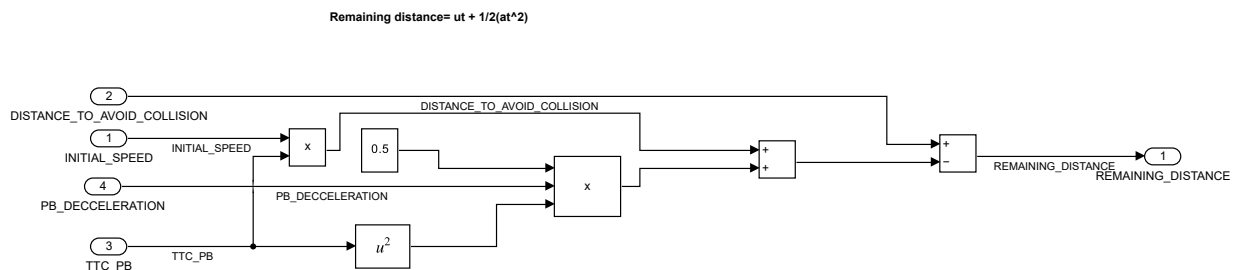| Parameter	Value
Number of inputs	2
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via internal rule
Lock output data type setting against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"REMAINING_DISTANCE" (Outport)

Table 3.213. "REMAINING_DISTANCE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Square2" (Math)

Table 3.214. "Square2" Parameters

Parameter	Value
Function	square
Algorithm method	Exact
Signed power	off
Sample time (-1 for inherited)	-1
Output minimum	[]

Parameter	Value
Output maximum	[]
Output data type	Inherit: Same as first input
Lock output data type setting against changes by the fixed-point tool s	off
Integer rounding mode	Floor
Saturate on integer overflow	on
Intermediate results data type	Inherit: Inherit via internal rule
Method	Newton-Raphson
Number of iterations	3

"Subtract3" (Sum)

Table 3.215. "Subtract3" 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

"TTC_PB" (Inport)

Table 3.216. "TTC_PB" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1

Parameter	Value
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

CAL_TTC

Figure 3.18. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC
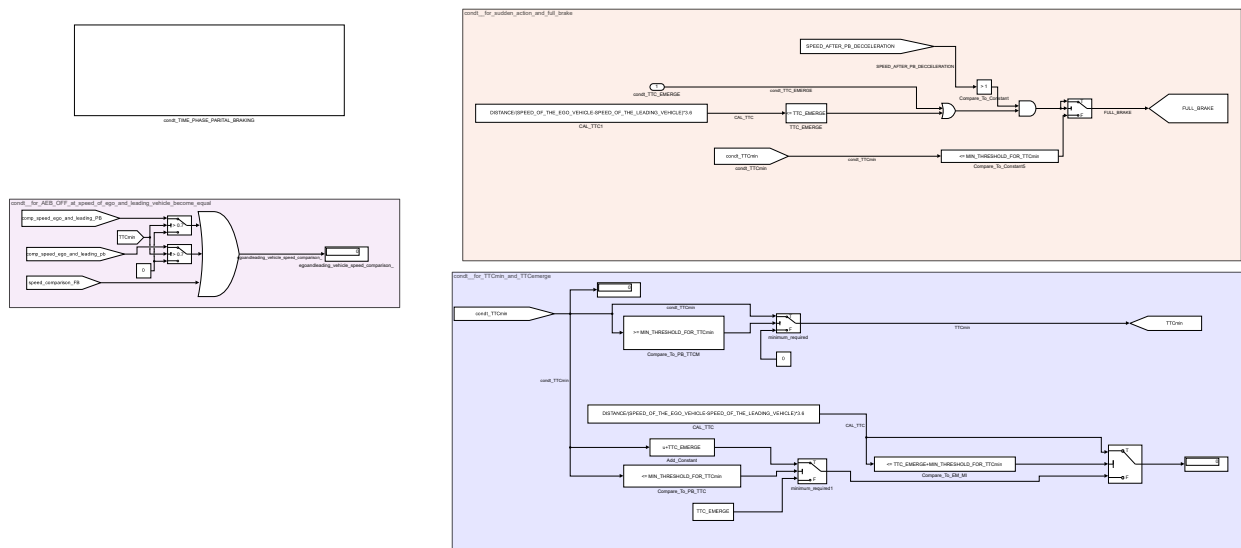
Blocks

Parameters

"Add_Constant" (Bias)

Table 3.217. "Add_Constant" Parameters

Parameter	Value
Bias	TTC_EMERGE
Saturate on integer overflow	off

"AND" (Logic)

Table 3.218. "AND" Parameters

Parameter	Value
Operator	AND
Number of input ports	2
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"CAL_TTC" (Constant)

Table 3.219. "CAL_TTC" Parameters

Parameter	Value
Constant value	DISTANCE/(SPEED_OF_THE_EGO_VEHICLE-SPEED_OF_THE_LEADING_VEHICLE)*3.6
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

"CAL_TTC1" (Constant)

Table 3.220. "CAL_TTC1" Parameters

Parameter	Value
Constant value	DISTANCE/(SPEED_OF_THE_EGO_VEHICLE-SPEED_OF_THE_LEADING_VEHICLE)*3.6
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]

Parameter	Value
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

"Compare_To_Constant" (SubSystem)

Table 3.221. "Compare_To_Constant" Parameters

Parameter	Value
SimulinkmasksOperator_MP	>
SimulinkmasksConstantValue_MP	1
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_Constant5" (SubSystem)

Table 3.222. "Compare_To_Constant5" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	MIN_THRESHOLD_FOR_TTCmin
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_EM_MI" (SubSystem)

Table 3.223. "Compare_To_EM_MI" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	TTC_EMERGE+MIN_THRESHOLD_FOR_TTCmin
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_PB_TTC" (SubSystem)

Table 3.224. "Compare_To_PB_TTC" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	MIN_THRESHOLD_FOR_TTCmin
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_PB_TTCM" (SubSystem)

Table 3.225. "Compare_To_PB_TTCM" Parameters

Parameter	Value
SimulinkmasksOperator_MP	>=
SimulinkmasksConstantValue_MP	MIN_THRESHOLD_FOR_TTCmin
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"condt_TTC_EMERGE" (Inport)

Table 3.226. "condt_TTC_EMERGE" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"condt_TTCmin" (From)

Table 3.227. "condt_TTCmin" Parameters

Parameter	Value
Goto tag	condt_TTCmin
Icon display	Tag

"Constant" (Constant)

Table 3.228. "Constant" Parameters

Parameter	Value
Constant value	0
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

"Constant2" (Constant)

Table 3.229. "Constant2" Parameters

Parameter	Value
Constant value	TTC_EMERGE
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

"Constant3" (Constant)

Table 3.230. "Constant3" Parameters

Parameter	Value
Constant value	0
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]

Parameter	Value
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

"Display" (Display)

Table 3.231. "Display" Parameters

Parameter	Value
Numeric display format	short
Decimation	1
Floating display	off

"Display1" (Display)

Table 3.232. "Display1" Parameters

Parameter	Value
Numeric display format	short
Decimation	1
Floating display	off

"egoandleading_vehicle_speed_comparison_" (Display)

Table 3.233. "egoandleading_vehicle_speed_comparison_" Parameters

Parameter	Value
Numeric display format	short
Decimation	1
Floating display	off

"From" (From)

Table 3.234. "From" Parameters

Parameter	Value
Goto tag	condt_TTCmin

Parameter	Value
Icon display	Tag

"From1" (From)

Table 3.235. "From1" Parameters

Parameter	Value
Goto tag	SPEED_AFTER_PB_DECCELERATION
Icon display	Tag

"From2" (From)

Table 3.236. "From2" Parameters

Parameter	Value
Goto tag	TTCmin
Icon display	Tag

"From6" (From)

Table 3.237. "From6" Parameters

Parameter	Value
Goto tag	comp_speed_ego_and_leading_PB
Icon display	Tag

"From7" (From)

Table 3.238. "From7" Parameters

Parameter	Value
Goto tag	comp_speed_ego_and_leading_pb
Icon display	Tag

"From8" (From)

Table 3.239. "From8" Parameters

Parameter	Value
Goto tag	speed_comparison_FB
Icon display	Tag

"Goto" (Goto)

Table 3.240. "Goto" Parameters

Parameter	Value
Tag	FULL_BRAKE
Icon display	Tag
Tag visibility	global

"Goto2" (Goto)

Table 3.241. "Goto2" Parameters

Parameter	Value
Tag	TTCmin
Icon display	Tag
Tag visibility	global

"minimum_required" (Switch)

Table 3.242. "minimum_required" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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

Parameter	Value
Saturate on integer overflow	off
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"minimum_required1" (Switch)

Table 3.243. "minimum_required1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"OR" (Logic)

Table 3.244. "OR" Parameters

Parameter	Value
Operator	OR
Number of input ports	2
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"OR1" (Logic)

Table 3.245. "OR1" Parameters

Parameter	Value
Operator	OR
Number of input ports	3
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"Switch" (Switch)

Table 3.246. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch1" (Switch)

Table 3.247. "Switch1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off

Parameter	Value
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch2" (Switch)

Table 3.248. "Switch2" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	MIN_THRESHOLD_FOR_T TCmin
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch3" (Switch)

Table 3.249. "Switch3" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold

Parameter	Value
Threshold	MIN_THRESHOLD_FOR_T TCmin
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_EMERGE" (SubSystem)

Table 3.250. "TTC_EMERGE" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	TTC_EMERGE
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

CAL_TTC

Figure 3.19. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/ FB_CALCULATIONS/CAL_TTC

Blocks

Parameters

"Constant6" (Constant)

Table 3.251. "Constant6" Parameters

Parameter	Value
Constant value	1
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

"Divide1" (Product)

Table 3.252. "Divide1" Parameters

Parameter	Value
Number of inputs	/*
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"INITIAL_SPEED_M/S" (Inport)

Table 3.253. "INITIAL_SPEED_M/S" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"SPEED_AFTER_FB_DECCELERATION" (Inport)

Table 3.254. "SPEED_AFTER_FB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Switch2" (Switch)

Table 3.255. "Switch2" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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

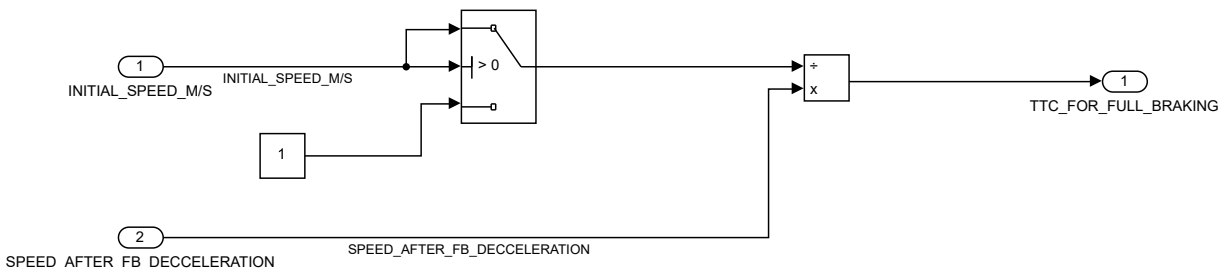| Parameter	Value
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_FOR_FULL_BRAKING" (Outport)

Table 3.256. "TTC_FOR_FULL_BRAKING" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

CAL_TTC

Figure 3.20. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/ FB_SYSTEM_IN_LOOP/CALCULATIONS_WITH_RESPECT_TO_TTC/CAL_TTC

Blocks

Parameters

"Constant6" (Constant)

Table 3.257. "Constant6" Parameters

Parameter	Value
Constant value	1
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

"Divide1" (Product)

Table 3.258. "Divide1" Parameters

Parameter	Value
Number of inputs	/*
Multiplication	Element-wise(.*)

Parameter	Value
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"INITIAL_SPEED_M/S" (Inport)

Table 3.259. "INITIAL_SPEED_M/S" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"SPEED_AFTER_DECCELERATION" (Inport)

Table 3.260. "SPEED_AFTER_DECCELERATION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Switch2" (Switch)

Table 3.261. "Switch2" Parameters

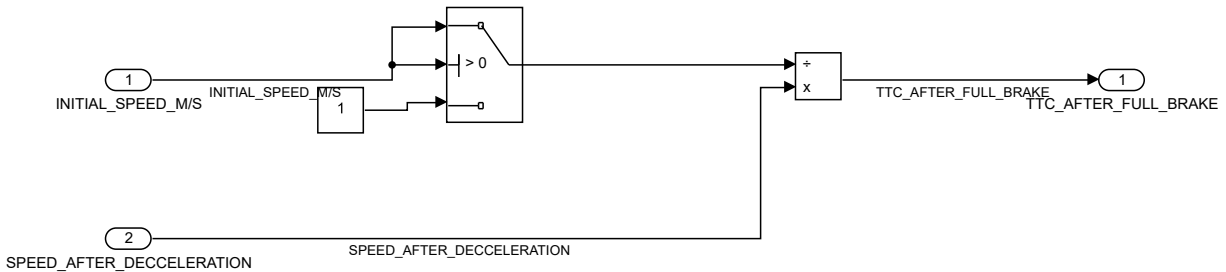| Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via internal rule
Lock output data type setting against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	off
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_AFTER_FULL_BRAKE" (Outport)

Table 3.262. "TTC_AFTER_FULL_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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

Parameter	Value
Ensure outport is virtual	off
Source of initial output value	Dialog
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

CAL_TTC

Figure 3.21. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_CALCULATIONS/CAL_TTC

Blocks

Parameters

"Constant6" (Constant)

Table 3.263. "Constant6" Parameters

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

Parameter	Value
Sample time	inf
Frame period	inf

"Divide1" (Product)

Table 3.264. "Divide1" Parameters

Parameter	Value
Number of inputs	/*
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"INITIAL_SPEED_M/S" (Inport)

Table 3.265. "INITIAL_SPEED_M/S" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"SPEED_AFTER_PB_DECCELERATION" (Inport)

Table 3.266. "SPEED_AFTER_PB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Switch2" (Switch)

Table 3.267. "Switch2" Parameters

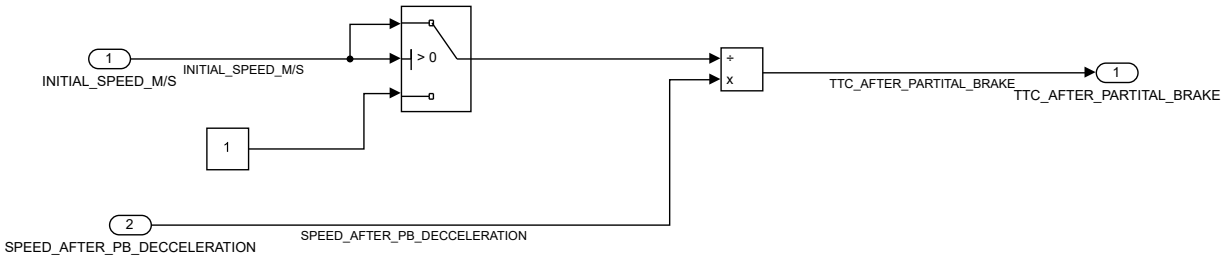| Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via internal rule
Lock output data type setting against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	off
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_AFTER_PARTITAL_BRAKE" (Outport)

Table 3.268. "TTC_AFTER_PARTITAL_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off

Parameter	Value
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
Bus virtuality	inherit
Data mode	inherit
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
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

CAL_TTC

Figure 3.22. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_IN_LOOP/CALCULATIONS_WITH_RESPECT_TO_TTC/ CAL_TTC

Blocks

Parameters

"Constant6" (Constant)

Table 3.269. "Constant6" Parameters

Parameter	Value
Constant value	1
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

"Divide1" (Product)

Table 3.270. "Divide1" Parameters

Parameter	Value
Number of inputs	/*
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"INITIAL_SPEED_M/S" (Inport)

Table 3.271. "INITIAL_SPEED_M/S" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"SPEED_AFTER_PB_DECCELERATION" (Inport)

Table 3.272. "SPEED_AFTER_PB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Switch2" (Switch)

Table 3.273. "Switch2" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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

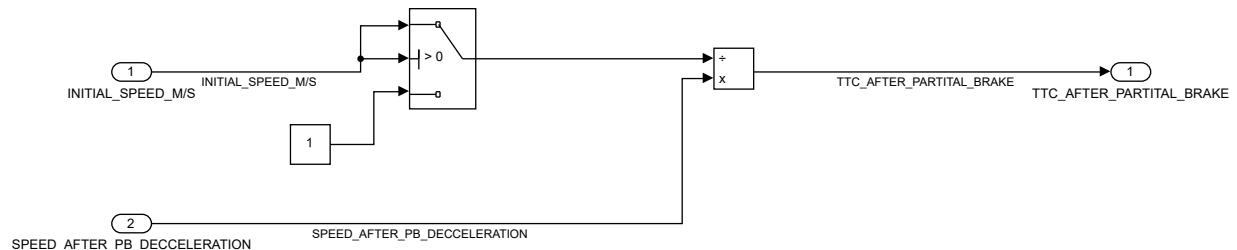| Parameter	Value
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_AFTER_PARTITAL_BRAKE" (Outport)

Table 3.274. "TTC_AFTER_PARTITAL_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

CALCULATIONS_WITH_RESPECT_TO_TTC

**Figure 3.23. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/
FB_SYSTEM_IN_LOOP/CALCULATIONS_WITH_RESPECT_TO_TTC**
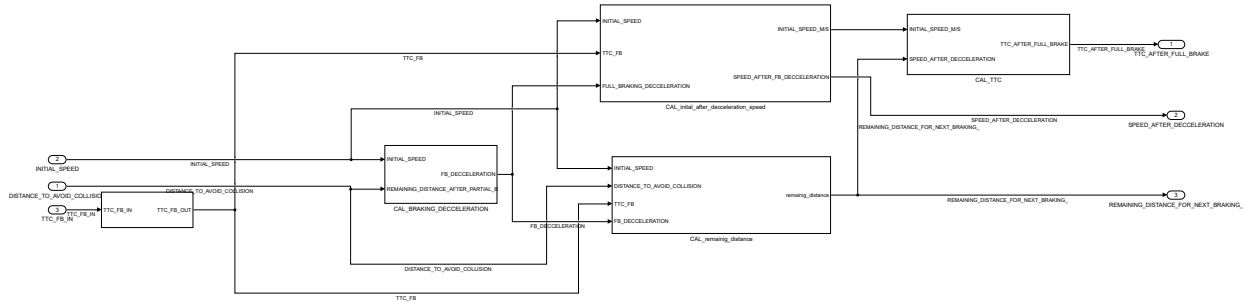
Blocks

Parameters

"DISTANCE_TO_AVOID_COLLISION" (Inport)

Table 3.275. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED" (Inport)

Table 3.276. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]

Parameter	Value
Data type	Inherit: auto

"REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Outport)

Table 3.277. "REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	3
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"SPEED_AFTER_DECCELERATION" (Outport)

Table 3.278. "SPEED_AFTER_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number

Parameter	Value
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"TTC_AFTER_FULL_BRAKE" (Outport)

Table 3.279. "TTC_AFTER_FULL_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit

Parameter	Value
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
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

"TTC_FB_IN" (Inport)

Table 3.280. "TTC_FB_IN" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

CALCULATIONS_WITH_RESPECT_TO_TTC

Figure 3.24. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_IN_LOOP/CALCULATIONS_WITH_RESPECT_TO_TTC

Blocks

Parameters

"DISTANCE_TO_AVOID_COLLISION" (Inport)

Table 3.281. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED" (Inport)

Table 3.282. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1

Parameter	Value
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Outport)

Table 3.283. "REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	3
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"SPEED_AFTER_PB_DECCELERATION" (Outport)

Table 3.284. "SPEED_AFTER_PB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"TTC_AFTER_PARTITAL_BRAKE" (Outport)

Table 3.285. "TTC_AFTER_PARTITAL_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
Minimum	[]
Maximum	[]

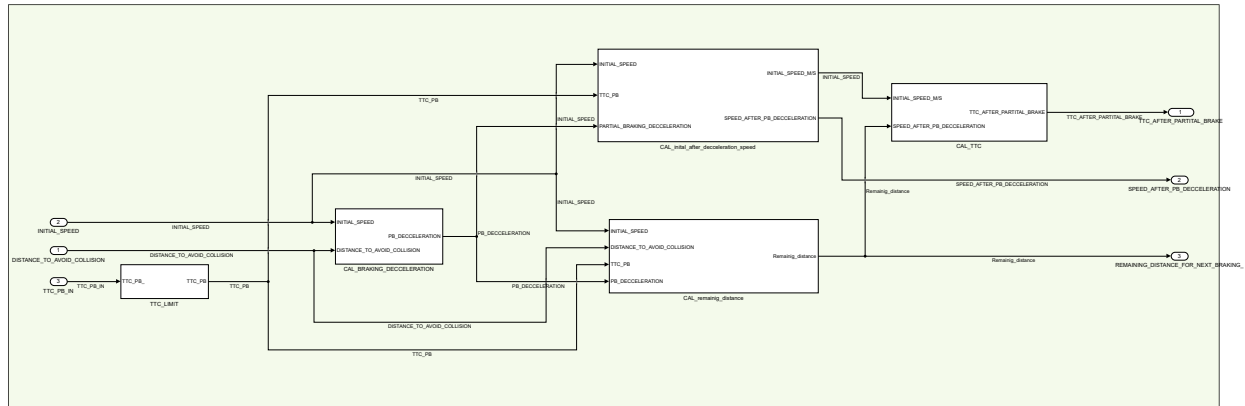| Parameter	Value
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off
Bus virtuality	inherit
Data mode	inherit
Unit (e.g., m, m/s^2, N*m)	inherit
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit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

"TTC_PB_IN" (Inport)

Table 3.286. "TTC_PB_IN" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

Compare_To_Constant

Figure 3.25. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/ Compare_To_Constant

Blocks

Parameters

"Compare" (RelationalOperator)

Table 3.287. "Compare" Parameters

Parameter	Value
Relational operator	>
Require all inputs to have the same data type	on
Output data type	boolean
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Integer rounding mode	Nearest

"Constant" (Constant)

Table 3.288. "Constant" Parameters

Parameter	Value
Constant value	const
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

Parameter	Value
Sample time	inf
Frame period	inf

"u" (Inport)

Table 3.289. "u" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"y" (Outport)

Table 3.290. "y" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held

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

COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES

**Figure 3.26.
AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION/
COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES**
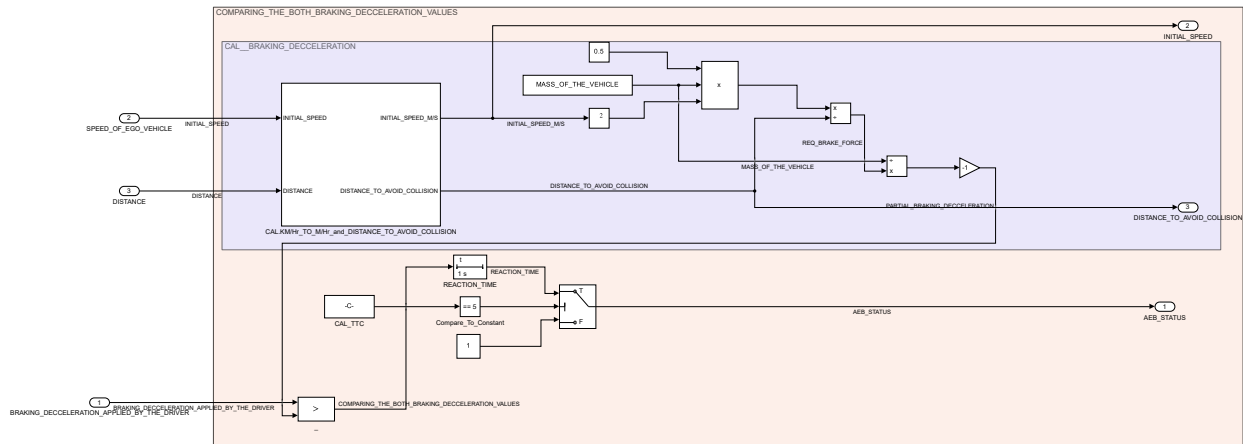
Blocks

Parameters

"_" (RelationalOperator)

Table 3.291. "_" Parameters

Parameter	Value
Relational operator	>
Require all inputs to have the same data type	off

Parameter	Value
Output data type	boolean
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Integer rounding mode	Simplest

"AEB_STATUS" (Outport)

Table 3.292. "AEB_STATUS" Parameters

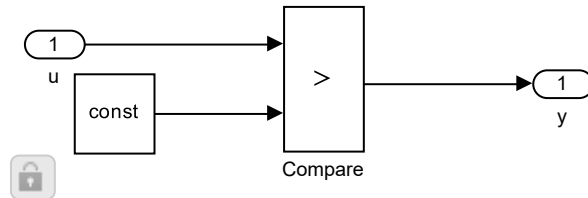| Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off
Bus virtuality	inherit
Data mode	inherit
Unit (e.g., 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
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

"BRAKING_DECCELERATION_APPLIED_BY_THE_DRIVER" (Inport)

Table 3.293. "BRAKING_DECCELERATION_APPLIED_BY_THE_DRIVER" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"CAL_TTC" (Constant)

Table 3.294. "CAL_TTC" Parameters

Parameter	Value
Constant value	DISTANCE/(SPEED_OF_THE_EGO_VEHICLE-SPEED_OF_THE_LEADING_VEHICLE)*3.6
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

"Compare_To_Constant" (SubSystem)

Table 3.295. "Compare_To_Constant" Parameters

Parameter	Value
SimulinkmasksOperator_MP	==
SimulinkmasksConstantValue_MP	5
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant1" (Constant)

Table 3.296. "Constant1" Parameters

Parameter	Value
Constant value	1
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

"Constant4" (Constant)

Table 3.297. "Constant4" Parameters

Parameter	Value
Constant value	0.5
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

"Constant5" (Constant)

Table 3.298. "Constant5" Parameters

Parameter	Value
Constant value	MASS_OF_THE_VEHICLE
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]

Parameter	Value
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

"DISTANCE" (Inport)

Table 3.299. "DISTANCE" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"DISTANCE_TO_AVOID_COLLISION" (Outport)

Table 3.300. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	3
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
Unit (e.g., m, m/s^2, N*m)	inherit
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit

Parameter	Value
Sample time (-1 for inherited)	-1
Ensure outport is virtual	off
Source of initial output value	Dialog
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

"Divide2" (Product)

Table 3.301. "Divide2" Parameters

Parameter	Value
Number of inputs	*/
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
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

"Divide3" (Product)

Table 3.302. "Divide3" Parameters

Parameter	Value
Number of inputs	/*
Multiplication	Element-wise(.*)
Multiply over	All dimensions

Parameter	Value
Dimension	1
Require all inputs to have the same data type	off
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

"INITIAL_SPEED" (Outport)

Table 3.303. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held
Initial output	[]
MustResolveToSignalObject	off
Specify output when source is unconnected	off

Parameter	Value
Constant value	0
Interpret vector parameters as 1-D	on

"Multiply" (Gain)

Table 3.304. "Multiply" Parameters

Parameter	Value
Gain	-1
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

"Product3" (Product)

Table 3.305. "Product3" Parameters

Parameter	Value
Number of inputs	3
Multiplication	Element-wise(.*)
Multiply over	All dimensions
Dimension	1
Require all inputs to have the same data type	off
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via internal rule

Parameter	Value
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

"REACTION_TIME" (SubSystem)

Table 3.306. "REACTION_TIME" Parameters

Parameter	Value
Select type	On delay
Time delay (s)	1
Initial condition of previous input	0
Sample time	0

"SPEED_OF_EGO_VEHICLE" (Inport)

Table 3.307. "SPEED_OF_EGO_VEHICLE" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Square2" (Math)

Table 3.308. "Square2" Parameters

Parameter	Value
Function	square
Algorithm method	Exact
Signed power	off
Sample time (-1 for inherited)	-1
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 tool s	off
Integer rounding mode	Floor
Saturate on integer overflow	on
Intermediate results data type	Inherit: Inherit via internal rule
Method	Newton-Raphson
Number of iterations	3

"Switch" (Switch)

Table 3.309. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

condt_TIME_PHASE_PARITAL_BRAKING

Figure 3.27. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/ condt_TIME_PHASE_PARITAL_BRAKING
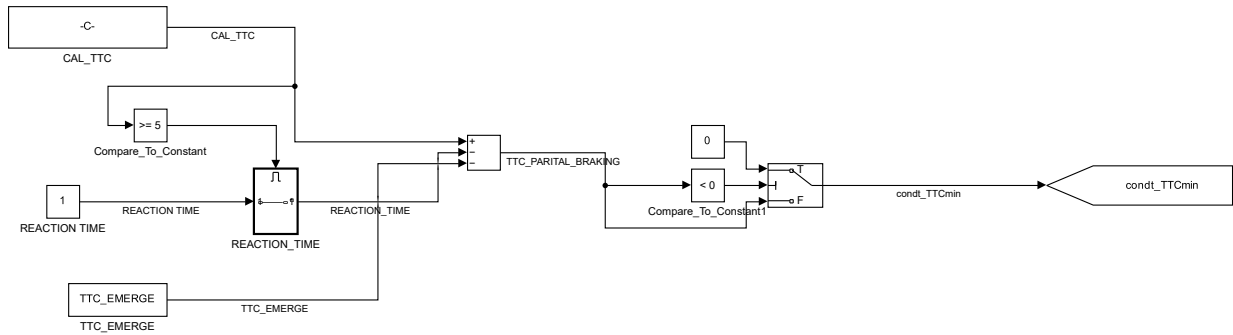
Blocks

Parameters

"CAL_TTC" (Constant)

Table 3.310. "CAL_TTC" Parameters

Parameter	Value
Constant value	DISTANCE/(SPEED_OF_THE_EGO_VEHICLE-SPEED_OF_THE_LEADING_VEHICLE)*3.6
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

"Compare_To_Constant" (SubSystem)

Table 3.311. "Compare_To_Constant" Parameters

Parameter	Value
SimulinkmasksOperator_MP	>=
SimulinkmasksConstantValue_MP	5
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_Constant1" (SubSystem)

Table 3.312. "Compare_To_Constant1" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<
SimulinkmasksConstantValue_MP	0
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.313. "Constant" Parameters

Parameter	Value
Constant value	0
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

"Goto" (Goto)

Table 3.314. "Goto" Parameters

Parameter	Value
Tag	condt_TTCmin
Icon display	Tag
Tag visibility	global

"REACTION TIME" (Constant)

Table 3.315. "REACTION TIME" Parameters

Parameter	Value
Constant value	1
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

"Subtract2" (Sum)

Table 3.316. "Subtract2" 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

Parameter	Value
Integer rounding mode	Floor
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"Switch" (Switch)

Table 3.317. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_EMERGE" (Constant)

Table 3.318. "TTC_EMERGE" Parameters

Parameter	Value
Constant value	TTC_EMERGE
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

FB_CALCULATIONS

Figure 3.28. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/ FB_CALCULATIONS
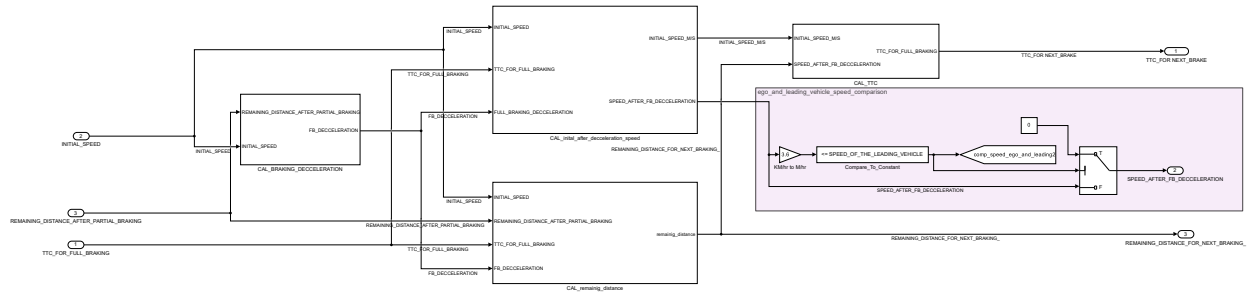
Blocks

Parameters

"Compare_To_Constant" (SubSystem)

Table 3.319. "Compare_To_Constant" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	SPEED_OF_THE_LEADING_VEHICLE
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.320. "Constant" Parameters

Parameter	Value
Constant value	0
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

Parameter	Value
Sample time	inf
Frame period	inf

"Goto" (Goto)

Table 3.321. "Goto" Parameters

Parameter	Value
Tag	comp_speed_ego_and_leading2
Icon display	Tag
Tag visibility	global

"INITIAL_SPEED" (Inport)

Table 3.322. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"KM/hr to M/hr" (Gain)

Table 3.323. "KM/hr to M/hr" Parameters

Parameter	Value
Gain	3.6
Multiplication	Element-wise(K.*u)
Parameter minimum	[]
Parameter maximum	[]
Parameter data type	Inherit: Inherit via internal rule
Output minimum	[]
Output maximum	[]

Parameter	Value
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

"REMAINING_DISTANCE_AFTER_PARTIAL_BRAKING" (Inport)

Table 3.324. "REMAINING_DISTANCE_AFTER_PARTIAL_BRAKING" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Outport)

Table 3.325. "REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	3
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
Unit (e.g., m, m/s^2, N*m)	inherit
Port dimensions (-1 for inherited)	-1

Parameter	Value
Variable-size signal	Inherit
Sample time (-1 for inherited)	-1
Ensure outport is virtual	off
Source of initial output value	Dialog
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

"SPEED_AFTER_FB_DECCELERATION" (Outport)

Table 3.326. "SPEED_AFTER_FB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held
Initial output	[]
MustResolveToSignalObject	off
Specify output when source is unconnected	off

Parameter	Value
Constant value	0
Interpret vector parameters as 1-D	on

"Switch" (Switch)

Table 3.327. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_FOR NEXT_BRAKE" (Outport)

Table 3.328. "TTC_FOR NEXT_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit

Parameter	Value
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
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

"TTC_FOR_FULL_BRAKING" (Inport)

Table 3.329. "TTC_FOR_FULL_BRAKING" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

FB_SYSTEM_IN_LOOP

Figure 3.29. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/ FB_SYSTEM_IN_LOOP

Blocks

Parameters

"Add" (Sum)

Table 3.330. "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 3.331. "Constant" Parameters

Parameter	Value
Constant value	0
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

"Constant1" (Constant)

Table 3.332. "Constant1" Parameters

Parameter	Value
Constant value	DISTANCE
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

"DISTANCE_TO_AVOID_COLLISION" (Constant)

Table 3.333. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Constant value	1
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]

Parameter	Value
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

"RATE_OF_REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Outport)

Table 3.334. "RATE_OF_REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"RATE_OF_SPEED" (Outport)

Table 3.335. "RATE_OF_SPEED" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Inport)

Table 3.336. "REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]

Parameter	Value
Data type	Inherit: auto

"SPEED_AFTER_FB_DECCELERATION" (Inport)

Table 3.337. "SPEED_AFTER_FB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Subtract" (Sum)

Table 3.338. "Subtract" 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

"Switch" (Switch)

Table 3.339. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_AFTER_FULL_BRAKE" (Inport)

Table 3.340. "TTC_AFTER_FULL_BRAKE" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

FULL_BRAKE

Figure 3.30. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE
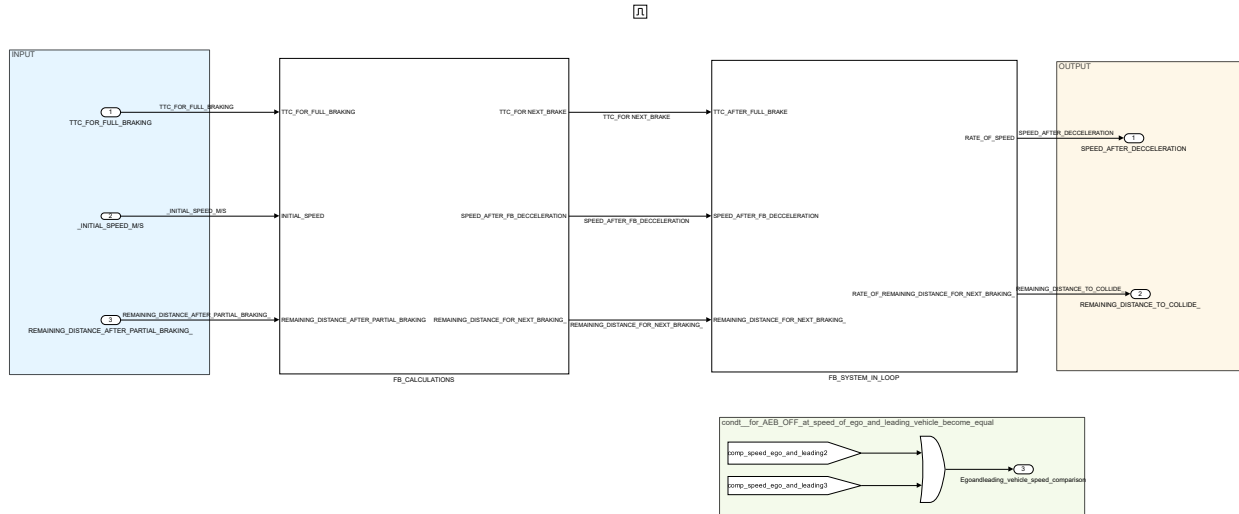
Blocks

Parameters

"_INITIAL_SPEED_M/S" (Inport)

Table 3.341. "_INITIAL_SPEED_M/S" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Egoandleading_vehicle_speed_comparison" (Outport)

Table 3.342. "Egoandleading_vehicle_speed_comparison" Parameters

Parameter	Value
Port number	3

Parameter	Value
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Enable" (EnablePort)

Table 3.343. "Enable" Parameters

Parameter	Value
States when enabling	held
Propagate sizes of variable-size signals	Only when enabling
Show output port	off
Enable zero-crossing detection	on
Port dimensions	1
Sample time	-1
Minimum	[]
Maximum	[]
Data type	double

Parameter	Value
Interpolate data	on

"From4" (From)

Table 3.344. "From4" Parameters

Parameter	Value
Goto tag	comp_speed_ego_and_leading2
Icon display	Tag

"From5" (From)

Table 3.345. "From5" Parameters

Parameter	Value
Goto tag	comp_speed_ego_and_leading3
Icon display	Tag

"OR1" (Logic)

Table 3.346. "OR1" Parameters

Parameter	Value
Operator	OR
Number of input ports	2
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"REMAINING_DISTANCE_AFTER_PARTIAL_BRAKING_" (Inport)

Table 3.347. "REMAINING_DISTANCE_AFTER_PARTIAL_BRAKING_" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1

Parameter	Value
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"REMAINING_DISTANCE_TO_COLLIDE_" (Outport)

Table 3.348. "REMAINING_DISTANCE_TO_COLLIDE_" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"SPEED_AFTER_DECCELERATION" (Outport)

Table 3.349. "SPEED_AFTER_DECCELERATION" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"TTC_FOR_FULL_BRAKING" (Inport)

Table 3.350. "TTC_FOR_FULL_BRAKING" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]

Parameter	Value
Data type	Inherit: auto

INPUT_CONDITION_FOR_FULLBRAKE

Figure 3.31. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/ INPUT_CONDITION_FOR_FULLBRAKE

Blocks

Parameters

"_INITIAL_SPEED_m/s" (Outport)

Table 3.351. "_INITIAL_SPEED_m/s" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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

Parameter	Value
Bus virtuality	inherit
Data mode	inherit
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
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

"Add_Constant" (Bias)

Table 3.352. "Add_Constant" Parameters

Parameter	Value
Bias	TTC_EMERGE
Saturate on integer overflow	off

"CAL_TTC" (Constant)

Table 3.353. "CAL_TTC" Parameters

Parameter	Value
Constant value	DISTANCE/(SPEED_OF_THE_EGO_VEHICLE-SPEED_OF_THE_LEADING_VEHICLE)*3.6
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

Parameter	Value
Frame period	inf

"Compare_To_Constant1" (SubSystem)

Table 3.354. "Compare_To_Constant1" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	TTC_EMERGE+MIN_THRESHOLD_FOR_TTCmin
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_TTC_EM" (SubSystem)

Table 3.355. "Compare_To_TTC_EM" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	TTC_EMERGE+MIN_THRESHOLD_FOR_TTCmin
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_TTC_PB_M" (SubSystem)

Table 3.356. "Compare_To_TTC_PB_M" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	MIN_THRESHOLD_FOR_TTCmin
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_TTCE_M" (SubSystem)

Table 3.357. "Compare_To_TTCE_M" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=

Parameter	Value
SimulinkmasksConstantValue_MP	TTC_EMERGE+MIN_THRESHOLD_FOR_TTCmin
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"condt_REMAINING_DISTANCE_" (Outport)

Table 3.358. "condt_REMAINING_DISTANCE_" Parameters

Parameter	Value
Port number	3
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"condt_TTC" (Outport)

Table 3.359. "condt_TTC" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"From" (From)

Table 3.360. "From" Parameters

Parameter	Value
Goto tag	DISTANCE_TO_AVOID_COLLISION
Icon display	Tag

"From1" (From)

Table 3.361. "From1" Parameters

Parameter	Value
Goto tag	condt_TTCmin
Icon display	Tag

"From11" (From)

Table 3.362. "From11" Parameters

Parameter	Value
Goto tag	REMAINING_DISTANCE_FOR_NEXT_BRAKING_
Icon display	Tag

"From2" (From)

Table 3.363. "From2" Parameters

Parameter	Value
Goto tag	SPEED_AFTER_PB_DECCELERATION
Icon display	Tag

"From6" (From)

Table 3.364. "From6" Parameters

Parameter	Value
Goto tag	INITIAL_SPEED
Icon display	Tag

"minimum_required1" (Switch)

Table 3.365. "minimum_required1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off

Parameter	Value
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch" (Switch)

Table 3.366. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch1" (Switch)

Table 3.367. "Switch1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0

Parameter	Value
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch2" (Switch)

Table 3.368. "Switch2" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_EMERG" (Constant)

Table 3.369. "TTC_EMERG" Parameters

Parameter	Value
Constant value	TTC_EMERGE

Parameter	Value
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

Internal dirac generator

Figure 3.32.
AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION/
COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/
Model/OFF Delay/Edge Detector/Model/Internal dirac generator
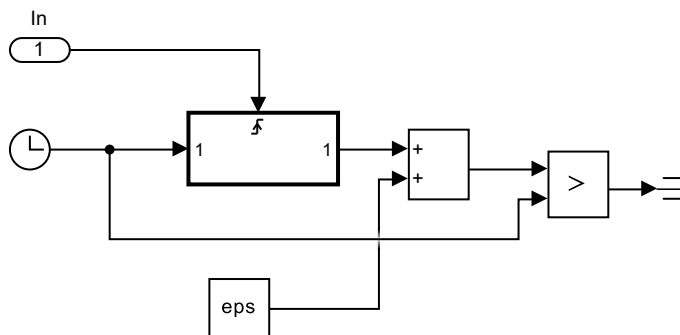
This subsystem force simulink to create a dirac pulse (eps pulse width)

Blocks

Parameters

"Clock" (Clock)

Table 3.370. "Clock" Parameters

Parameter	Value
Display time	off
Decimation	1

"Constant" (Constant)

Table 3.371. "Constant" Parameters

Parameter	Value
Constant value	eps
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

"In" (Inport)

Table 3.372. "In" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Relational Operator" (RelationalOperator)

Table 3.373. "Relational Operator" Parameters

Parameter	Value
Relational operator	>
Require all inputs to have the same data type	on
Output data type	boolean
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Integer rounding mode	Nearest

"Sum" (Sum)

Table 3.374. "Sum" Parameters

Parameter	Value
Icon shape	rectangular
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

Model

Figure 3.33. AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/ BRAKE_PEDAL_FORCE_CALCULATION/

**COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/
Model**
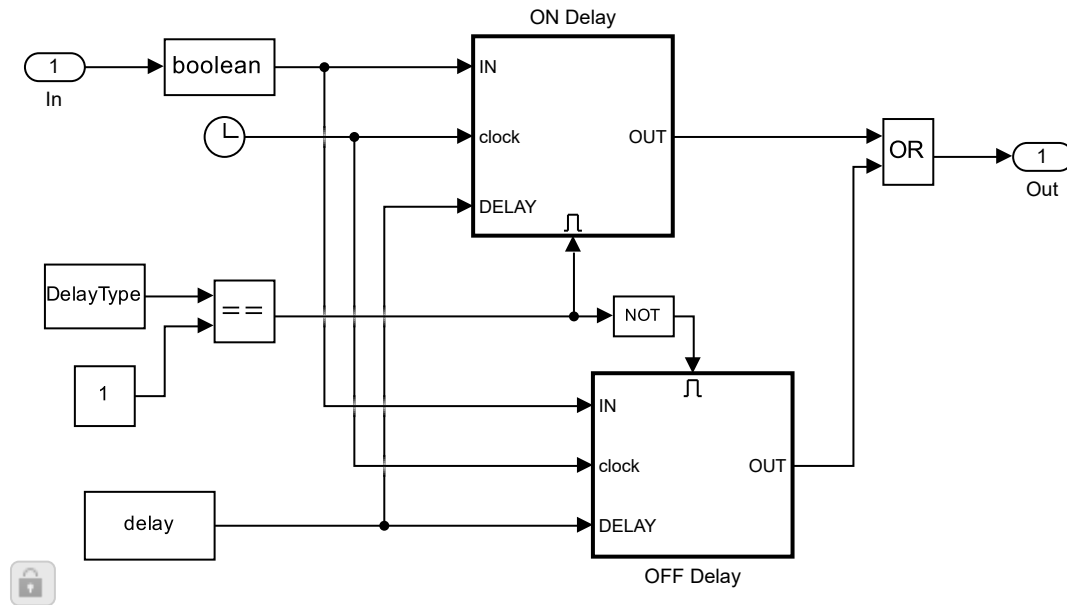
Blocks

Parameters

"Clock" (Clock)

Table 3.375. "Clock" Parameters

Parameter	Value
Display time	off
Decimation	10

"Constant" (Constant)

Table 3.376. "Constant" Parameters

Parameter	Value
Constant value	1
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]

Parameter	Value
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

"Constant1" (Constant)

Table 3.377. "Constant1" Parameters

Parameter	Value
Constant value	delay
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

"Constant2" (Constant)

Table 3.378. "Constant2" Parameters

Parameter	Value
Constant value	DelayType
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

"Data Type Conversion1" (DataTypeConversion)

Table 3.379. "Data Type Conversion1" Parameters

Parameter	Value
Output minimum	[]
Output maximum	[]
Output data type	boolean
Lock output data type setting against changes by the fixed-point tools	off
Input and output to have equal	Real World Value (RWV)
Integer rounding mode	Zero
Saturate on integer overflow	on
Sample time (-1 for inherited)	-1

"In" (Inport)

Table 3.380. "In" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Logical Operator1" (Logic)

Table 3.381. "Logical Operator1" Parameters

Parameter	Value
Operator	OR
Number of input ports	2
Icon shape	rectangular
Require all inputs and output to have the same data type	on
Output data type	boolean
Sample time (-1 for inherited)	-1

"Logical Operator2" (Logic)

Table 3.382. "Logical Operator2" Parameters

Parameter	Value
Operator	NOT
Number of input ports	1
Icon shape	rectangular
Require all inputs and output to have the same data type	on
Output data type	Inherit: Logical (see Configuration Para meters: Optimization)
Sample time (-1 for inherited)	-1

"Out" (Outport)

Table 3.383. "Out" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held
Initial output	[]
MustResolveToSignalObject	off
Specify output when source is unconnected	off

Parameter	Value
Constant value	0
Interpret vector parameters as 1-D	on

"Relational Operator1" (RelationalOperator)

Table 3.384. "Relational Operator1" Parameters

Parameter	Value
Relational operator	==
Require all inputs to have the same data type	on
Output data type	Inherit: Logical (see Configuration Parameters: Optimization)
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Integer rounding mode	Nearest

Model

**Figure 3.34.
AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION/**

**COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/
Model/OFF Delay/Edge Detector/Model**
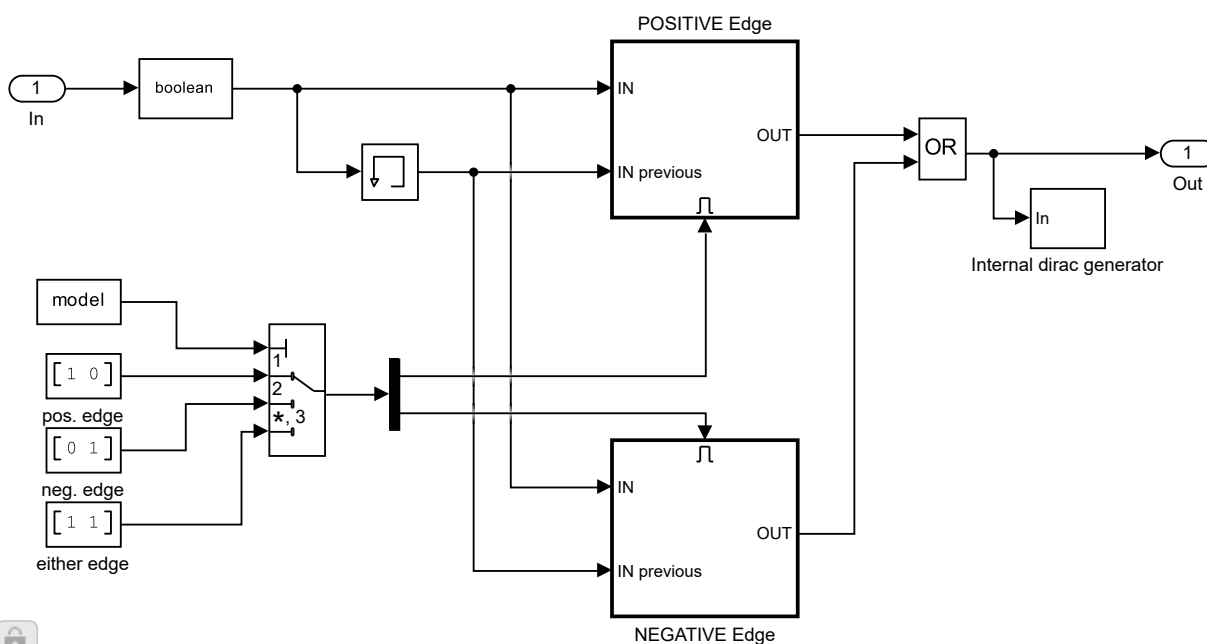
Blocks

Parameters

"Constant1" (Constant)

Table 3.385. "Constant1" Parameters

Parameter	Value
Constant value	model
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

"Data Type Conversion2" (DataTypeConversion)

Table 3.386. "Data Type Conversion2" Parameters

Parameter	Value
Output minimum	[]
Output maximum	[]
Output data type	boolean
Lock output data type setting against changes by the fixed-point tools	off
Input and output to have equal	Real World Value (RWV)
Integer rounding mode	Floor
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"Demux" (Demux)

Table 3.387. "Demux" Parameters

Parameter	Value
Number of outputs	2
Display option	none

"either edge" (Constant)

Table 3.388. "either edge" Parameters

Parameter	Value
Constant value	[1 1]
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

"In" (Inport)

Table 3.389. "In" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Logical Operator1" (Logic)

Table 3.390. "Logical Operator1" Parameters

Parameter	Value
Operator	OR
Number of input ports	2
Icon shape	rectangular
Require all inputs and output to have the same data type	on
Output data type	boolean
Sample time (-1 for inherited)	-1

"Memory" (Memory)

Table 3.391. "Memory" Parameters

Parameter	Value
Initial condition	ic
Inherit sample time	off
Direct feedthrough of input during linearization	off
Treat as a unit delay when linearizing with discrete sample time	on
State name must resolve to Simulink signal object	off

"Multiport Switch" (MultiPortSwitch)

Table 3.392. "Multiport Switch" Parameters

Parameter	Value
Data port order	One-based contiguous
Number of data ports	3
Data port indices (e.g. {1,[2,3]})	{1,2,3}
Data port for default case	Last data port
Diagnostic for default case	Error
Require all data port inputs to have the same data type	off
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	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"neg. edge" (Constant)

Table 3.393. "neg. edge" Parameters

Parameter	Value
Constant value	[0 1]
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

"Out" (Outport)

Table 3.394. "Out" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"pos. edge" (Constant)

Table 3.395. "pos. edge" Parameters

Parameter	Value
Constant value	[1 0]
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]

Parameter	Value
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

Model

**Figure 3.35.
AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION/
COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/
Model/OFF Delay/Sample and Hold/Model**
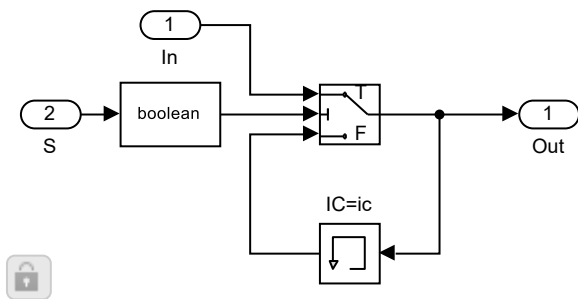
Blocks

Parameters

"Data Type Conversion" (DataTypeConversion)

Table 3.396. "Data Type Conversion" Parameters

Parameter	Value
Output minimum	[]
Output maximum	[]
Output data type	boolean
Lock output data type setting against changes by the fixed-point tools	off
Input and output to have equal	Real World Value (RWV)
Integer rounding mode	Floor

Parameter	Value
Saturate on integer overflow	off
Sample time (-1 for inherited)	-1

"IC=ic" (Memory)

Table 3.397. "IC=ic" Parameters

Parameter	Value
Initial condition	ic
Inherit sample time	off
Direct feedthrough of input during linearization	off
Treat as a unit delay when linearizing with discrete sample time	on
State name must resolve to Simulink signal object	off

"In" (Inport)

Table 3.398. "In" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Out" (Outport)

Table 3.399. "Out" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off

Parameter	Value
Output as nonvirtual bus in parent model	off
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held
Initial output	0
MustResolveToSignalObject	off
Specify output when source is unconnected	off
Constant value	0
Interpret vector parameters as 1-D	on

"S" (Inport)

Table 3.400. "S" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Switch" (Switch)

Table 3.401. "Switch" Parameters

| Parameter	Value
Criteria for passing first input	u2 >= Threshold
Threshold	0.5
Require all data port inputs to have the same data type	on
Output minimum	[]

Parameter	Value
Output maximum	[]
Output data type	Inherit: Inherit via intern al rule
Lock output data type setting against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	on
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

NEGATIVE Edge

Checksum: 3986279552 155390312 3733305527 3840701922

**Figure 3.36.
AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION/
COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/
Model/OFF Delay/Edge Detector/Model/NEGATIVE Edge**
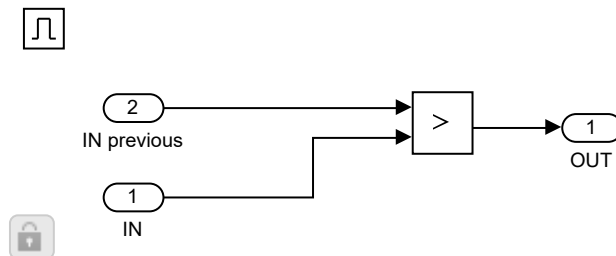
Interface

Input Signals

The following tables describe external signals used to compute the subsystem's inputs.The name of the input signal is the name of the input port that accepts the signal. The number in angle brackets is the number of the input port. A dimension of [1 1] indicates a scalar signal.

Table 3.402. Input Signals

Signal Name	Block	Description	Data Type	Width	Dimensions
	AEB_MODEL_F 0x2830x29/AE B/BRAKE_PED AL_FORCE_and _DIAGNOSTIC_ CHECKS/BRAK E_PEDAL_FOR CE_CALCULATI ON/COMPARIN G_THE_BOTH_ BRAKING_DEC CELERATION_ VALUES/REACT ION_TIME/Mod el/OFF Delay/E dge Detector/M odel/NEGATIV E Edge/IN		boolean	1	1x1
	AEB_MODEL_F 0x2830x29/AE B/BRAKE_PED AL_FORCE_and _DIAGNOSTIC_ CHECKS/BRAK E_PEDAL_FOR CE_CALCULATI ON/COMPARIN G_THE_BOTH_ BRAKING_DEC CELERATION_ VALUES/REACT ION_TIME/Mod el/OFF Delay/E dge Detector/M odel/NEGATIV E Edge/IN prev ious		boolean	1	1x1

Output Signals

The following tables describe the signals output by this system. The name of the output signal is the name of the signal's parent block, i.e., the block that computes the signal. The number in angle brackets is the number of the port that emits the signal.

Table 3.403. Output Signals

Signal Name	Block	Description	Data Type	Width	Dimensions
	AEB_MODEL_F 0x2830x29/AE B/BRAKE_PED AL_FORCE_and _DIAGNOSTIC_ CHECKS/BRAK E_PEDAL_FOR CE_CALCULATI ON/COMPARIN G_THE_BOTH_ BRAKING_DEC CELERATION_ VALUES/REACT ION_TIME/Mod el/OFF Delay/E dge Detector/M odel/NEGATIV E Edge/Relatio nal Operator1		boolean	1	1x1

Blocks

Parameters

"Enable" (EnablePort)

Table 3.404. "Enable" Parameters

Parameter	Value
States when enabling	held
Propagate sizes of variable-size signals	During execution
Show output port	off
Enable zero-crossing detection	on
Port dimensions	1
Sample time	-1
Minimum	[]
Maximum	[]
Data type	double
Interpolate data	on

"IN" (Inport)

Table 3.405. "IN" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"IN previous" (Inport)

Table 3.406. "IN previous" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"OUT" (Outport)

Table 3.407. "OUT" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit

Parameter	Value
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
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

"Relational Operator1" (RelationalOperator)

Table 3.408. "Relational Operator1" Parameters

Parameter	Value
Relational operator	>
Require all inputs to have the same data type	on
Output data type	boolean
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Integer rounding mode	Nearest

Block Execution Order

1. Relational Operator1 (RelationalOperator)

OFF Delay

Checksum: 2950833770 3187241392 366698084 2664734775

**Figure 3.37.
AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION/**

COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/ Model/OFF Delay
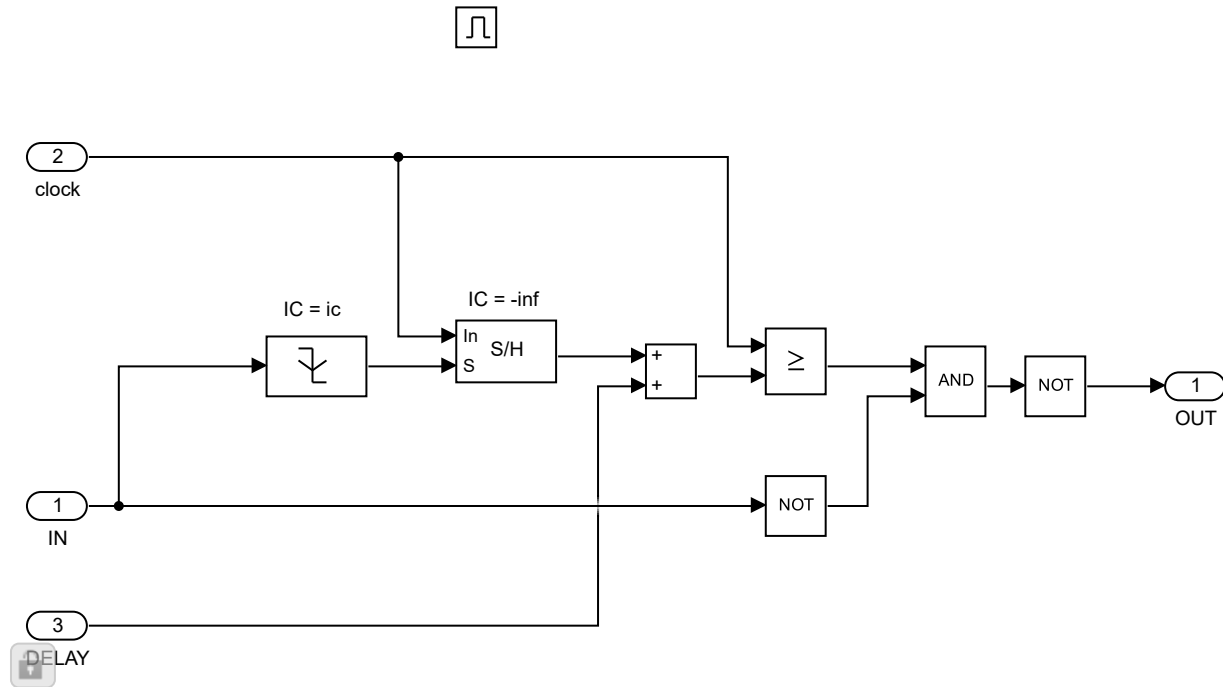
Interface

Input Signals

The following tables describe external signals used to compute the subsystem's inputs.The name of the input signal is the name of the input port that accepts the signal. The number in angle brackets is the number of the input port. A dimension of [1 1] indicates a scalar signal.

Table 3.409. Input Signals

Signal Name	Block	Description	Data Type	Width	Dimensions
	AEB_MODEL_F 0x2830x29/AE B/BRAKE_PED AL_FORCE_and _DIAGNOSTIC_ CHECKS/BRAK E_PEDAL_FOR CE_CALCULATI ON/COMPARIN G_THE_BOTH_ BRAKING_DEC CELERATION_		double	1	1x1

Signal Name	Block	Description	Data Type	Width	Dimensions
	VALUES/REACTION_TIME/Model/OFF Delay/DELAY				
	AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/BRAKE_PEDAL_FORCE_CALCULATION/COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/Model/OFF Delay/IN		boolean	1	1x1
	AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/BRAKE_PEDAL_FORCE_CALCULATION/COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/Model/OFF Delay/clock		double	1	1x1

Output Signals

The following tables describe the signals output by this system. The name of the output signal is the name of the signal's parent block, i.e., the block that computes the signal. The number in angle brackets is the number of the port that emits the signal.

Table 3.410. Output Signals

Signal Name	Block	Description	Data Type	Width	Dimensions
	AEB_MODEL_F0x2830x29/AE		boolean	1	1x1

Signal Name	Block	Description	Data Type	Width	Dimensions
	B/BRAKE_PED AL_FORCE_and _DIAGNOSTIC_ CHECKS/BRAK E_PEDAL_FOR CE_CALCULATI ON/COMPARIN G_THE_BOTH_ BRAKING_DEC CELERATION_ VALUES/REACT ION_TIME/Mod el/OFF Delay/L ogical Operator2				

Blocks

Parameters

"clock" (Inport)

Table 3.411. "clock" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"DELAY" (Inport)

Table 3.412. "DELAY" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]

Parameter	Value
Data type	Inherit: auto

"Edge Detector" (SubSystem)

Table 3.413. "Edge Detector" Parameters

Parameter	Value
Edge detection	Falling
Initial condition of previous input	ic
Sample time (-1 for inherited)	0

"Enable" (EnablePort)

Table 3.414. "Enable" Parameters

Parameter	Value
States when enabling	held
Propagate sizes of variable-size signals	During execution
Show output port	off
Enable zero-crossing detection	on
Port dimensions	1
Sample time	-1
Minimum	[]
Maximum	[]
Data type	double
Interpolate data	on

"IN" (Inport)

Table 3.415. "IN" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Logical Operator" (Logic)

Table 3.416. "Logical Operator" Parameters

Parameter	Value
Operator	NOT
Number of input ports	1
Icon shape	rectangular
Require all inputs and output to have the same data type	on
Output data type	Inherit: Logical (see Configuration Parameters: Optimization)
Sample time (-1 for inherited)	-1

"Logical Operator1" (Logic)

Table 3.417. "Logical Operator1" Parameters

Parameter	Value
Operator	AND
Number of input ports	2
Icon shape	rectangular
Require all inputs and output to have the same data type	on
Output data type	boolean
Sample time (-1 for inherited)	-1

"Logical Operator2" (Logic)

Table 3.418. "Logical Operator2" Parameters

Parameter	Value
Operator	NOT
Number of input ports	1
Icon shape	rectangular
Require all inputs and output to have the same data type	on
Output data type	Inherit: Logical (see Configuration Parameters: Optimization)
Sample time (-1 for inherited)	-1

"OUT" (Outport)

Table 3.419. "OUT" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Relational Operator" (RelationalOperator)

Table 3.420. "Relational Operator" Parameters

Parameter	Value
Relational operator	>=
Require all inputs to have the same data type	on
Output data type	boolean
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1

Parameter	Value
Integer rounding mode	Nearest

"Sample and Hold" (SubSystem)

Table 3.421. "Sample and Hold" Parameters

Parameter	Value
Initial condition	-1e99
Sample time	0

"Sum" (Sum)

Table 3.422. "Sum" Parameters

Parameter	Value
Icon shape	rectangular
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

Block Execution Order

1. Constant (Constant)
2. Constant1 (Constant)
3. pos. edge (Constant)
4. neg. edge (Constant)
5. either edge (Constant)
6. Multiport Switch (MultiPortSwitch)
7. Clock (Clock)
8. Memory (Memory)

9. *POSITIVE Edge*
    1. Relational Operator1 (RelationalOperator)
10. *NEGATIVE Edge*
    1. Relational Operator1 (RelationalOperator)
11. Logical Operator1 (Logic)
12. *Triggered Subsystem*
    1. In1 (SignalConversion)
13. Sum (Sum)
14. Relational Operator (RelationalOperator)
15. Logical Operator (Logic)
16. Data Type Conversion (DataTypeConversion)
17. IC=ic (Memory)
18. Switch (Switch)
19. Sum (Sum)
20. Relational Operator (RelationalOperator)
21. Logical Operator1 (Logic)
22. Logical Operator2 (Logic)

ON Delay

Checksum: 960890326 2422840432 1244144707 3906917197

Figure 3.38. AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/ BRAKE_PEDAL_FORCE_CALCULATION/ COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/ Model/ON Delay
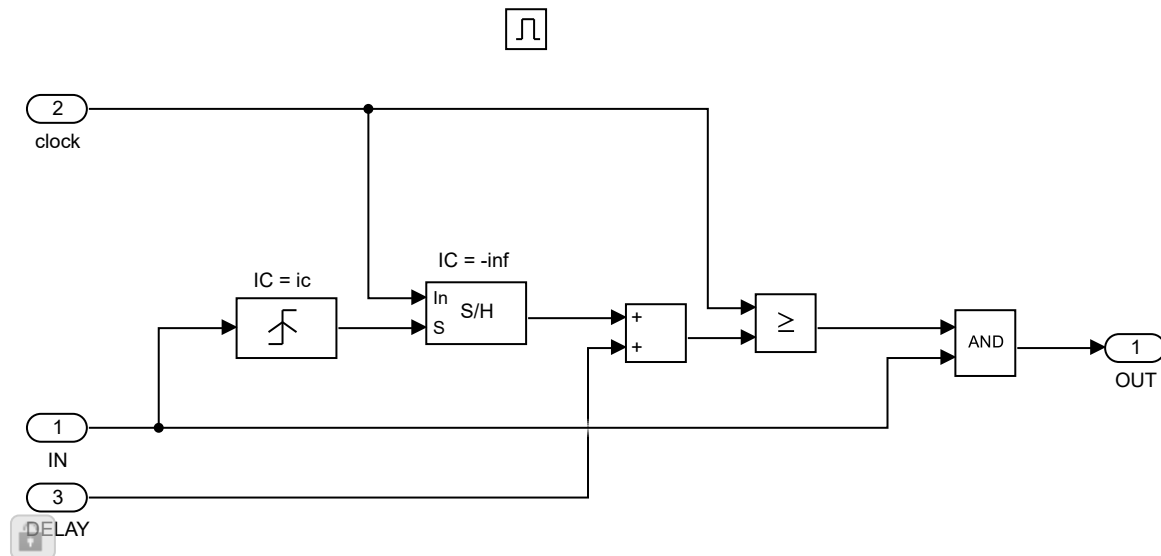
Interface

Input Signals

The following tables describe external signals used to compute the subsystem's inputs.The name of the input signal is the name of the input port that accepts the signal. The number in angle brackets is the number of the input port. A dimension of [1 1] indicates a scalar signal.

Table 3.423. Input Signals

Signal Name	Block	Description	Data Type	Width	Dimensions
	AEB_MODEL_F 0x2830x29/AE B/BRAKE_PED AL_FORCE_and _DIAGNOSTIC_ CHECKS/BRAK E_PEDAL_FOR CE_CALCULATI ON/COMPARIN G_THE_BOTH_ BRAKING_DEC CELERATION_ VALUES/REACT ION_TIME/Mod el/ON Delay/DE LAY		double	1	1x1
	AEB_MODEL_F 0x2830x29/AE B/BRAKE_PED AL_FORCE_and _DIAGNOSTIC_ CHECKS/BRAK E_PEDAL_FOR CE_CALCULATI ON/COMPARIN G_THE_BOTH_ BRAKING_DEC CELERATION_ VALUES/REACT ION_TIME/Mod el/ON Delay/IN		boolean	1	1x1
	AEB_MODEL_F 0x2830x29/AE B/BRAKE_PED AL_FORCE_and _DIAGNOSTIC_ CHECKS/BRAK		double	1	1x1

Signal Name	Block	Description	Data Type	Width	Dimensions
	E_PEDAL_FORCE_CALCULATION/COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/Model/ON Delay/clock				

Output Signals

The following tables describe the signals output by this system. The name of the output signal is the name of the signal's parent block, i.e., the block that computes the signal. The number in angle brackets is the number of the port that emits the signal.

Table 3.424. Output Signals

Signal Name	Block	Description	Data Type	Width	Dimensions
	AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/BRAKE_PEDAL_FORCE_CALCULATION/COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/Model/ON Delay/Logical Operator2		boolean	1	1x1

Blocks

Parameters

"clock" (Inport)

Table 3.425. "clock" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"DELAY" (Inport)

Table 3.426. "DELAY" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Edge Detector" (SubSystem)

Table 3.427. "Edge Detector" Parameters

Parameter	Value
Edge detection	Rising
Initial condition of previous input	ic
Sample time (-1 for inherited)	0

"Enable" (EnablePort)

Table 3.428. "Enable" Parameters

Parameter	Value
States when enabling	held

Parameter	Value
Propagate sizes of variable-size signals	During execution
Show output port	off
Enable zero-crossing detection	on
Port dimensions	1
Sample time	-1
Minimum	[]
Maximum	[]
Data type	double
Interpolate data	on

"IN" (Inport)

Table 3.429. "IN" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Logical Operator2" (Logic)

Table 3.430. "Logical Operator2" Parameters

Parameter	Value
Operator	AND
Number of input ports	2
Icon shape	rectangular
Require all inputs and output to have the same data type	on
Output data type	Inherit: Logical (see Configuration Parameters: Optimization)
Sample time (-1 for inherited)	-1

"OUT" (Outport)

Table 3.431. "OUT" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Relational Operator" (RelationalOperator)

Table 3.432. "Relational Operator" Parameters

Parameter	Value
Relational operator	>=
Require all inputs to have the same data type	on
Output data type	boolean
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1

Parameter	Value
Integer rounding mode	Nearest

"Sample and Hold" (SubSystem)

Table 3.433. "Sample and Hold" Parameters

Parameter	Value
Initial condition	-1e99
Sample time	0

"Sum" (Sum)

Table 3.434. "Sum" Parameters

Parameter	Value
Icon shape	rectangular
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

Block Execution Order

1. Constant (Constant)
2. Constant1 (Constant)
3. pos. edge (Constant)
4. neg. edge (Constant)
5. either edge (Constant)
6. Multiport Switch (MultiPortSwitch)
7. Clock (Clock)
8. Memory (Memory)

9. *POSITIVE Edge*
    1. Relational Operator1 (RelationalOperator)
10. *NEGATIVE Edge*
    1. Relational Operator1 (RelationalOperator)
11. Logical Operator1 (Logic)
12. *Triggered Subsystem*
    1. In1 (SignalConversion)
13. Sum (Sum)
14. Relational Operator (RelationalOperator)
15. Data Type Conversion (DataTypeConversion)
16. IC=ic (Memory)
17. Switch (Switch)
18. Sum (Sum)
19. Relational Operator (RelationalOperator)
20. Logical Operator2 (Logic)

PARTIAL_BRAKE

Figure 3.39. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE
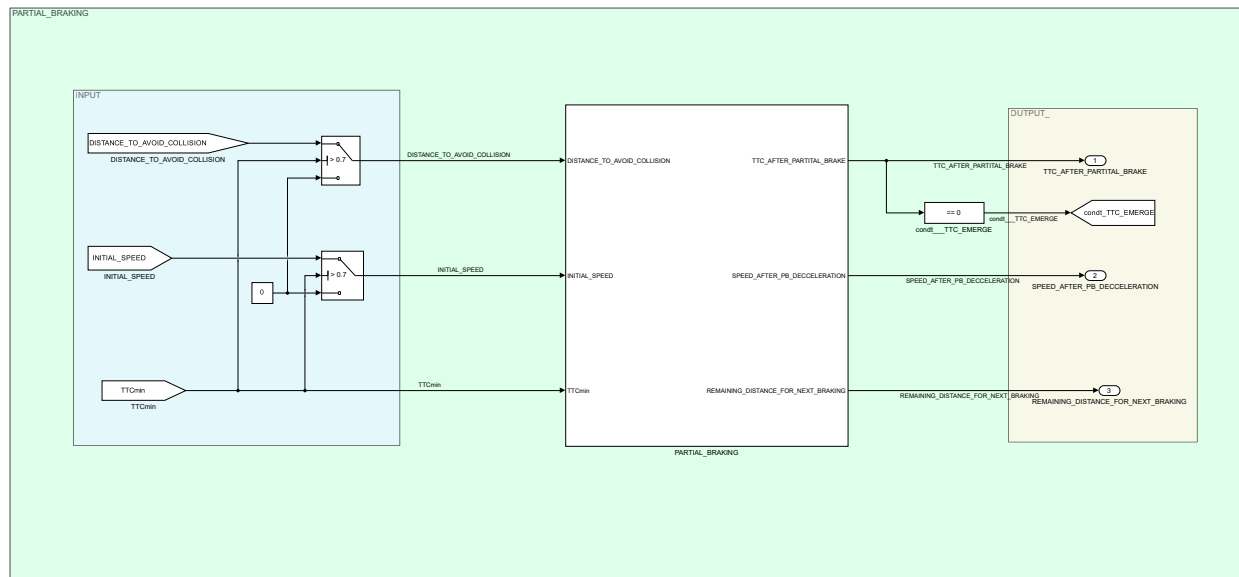
Blocks

Parameters

"condt__TTC_EMERGE" (SubSystem)

Table 3.435. "condt__TTC_EMERGE" Parameters

Parameter	Value
SimulinkmasksOperator_MP	==
SimulinkmasksConstantValue_MP	0
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.436. "Constant" Parameters

Parameter	Value
Constant value	0
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

"DISTANCE_TO_AVOID_COLLISION" (From)

Table 3.437. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Goto tag	DISTANCE_TO_AVOID_COLLISION
Icon display	Tag

"Goto" (Goto)

Table 3.438. "Goto" Parameters

Parameter	Value
Tag	condt_TTC_EMERGE
Icon display	Tag

Parameter	Value
Tag visibility	global

"INITIAL_SPEED" (From)

Table 3.439. "INITIAL_SPEED" Parameters

Parameter	Value
Goto tag	INITIAL_SPEED
Icon display	Tag

"REMAINING_DISTANCE_FOR_NEXT_BRAKING" (Outport)

Table 3.440. "REMAINING_DISTANCE_FOR_NEXT_BRAKING" Parameters

Parameter	Value
Port number	3
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"SPEED_AFTER_PB_DECCELERATION" (Outport)

Table 3.441. "SPEED_AFTER_PB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Switch" (Switch)

Table 3.442. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	MIN_THRESHOLD_FOR_T TCmin
Require all data port inputs to have the same data type	off
Output minimum	[]

Parameter	Value
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch2" (Switch)

Table 3.443. "Switch2" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	MIN_THRESHOLD_FOR_TTCmin
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_AFTER_PARTITAL_BRAKE" (Outport)

Table 3.444. "TTC_AFTER_PARTITAL_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off

Parameter	Value
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
Bus virtuality	inherit
Data mode	inherit
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
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

"TTCmin" (From)

Table 3.445. "TTCmin" Parameters

Parameter	Value
Goto tag	TTCmin
Icon display	Tag

PARTIAL_BRAKING

Figure 3.40. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING

Blocks

Parameters

"DISTANCE_TO_AVOID_COLLISION" (Inport)

Table 3.446. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"INITIAL_SPEED" (Inport)

Table 3.447. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1

Parameter	Value
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"REMAINING_DISTANCE_FOR_NEXT_BRAKING" (Outport)

Table 3.448. "REMAINING_DISTANCE_FOR_NEXT_BRAKING" Parameters

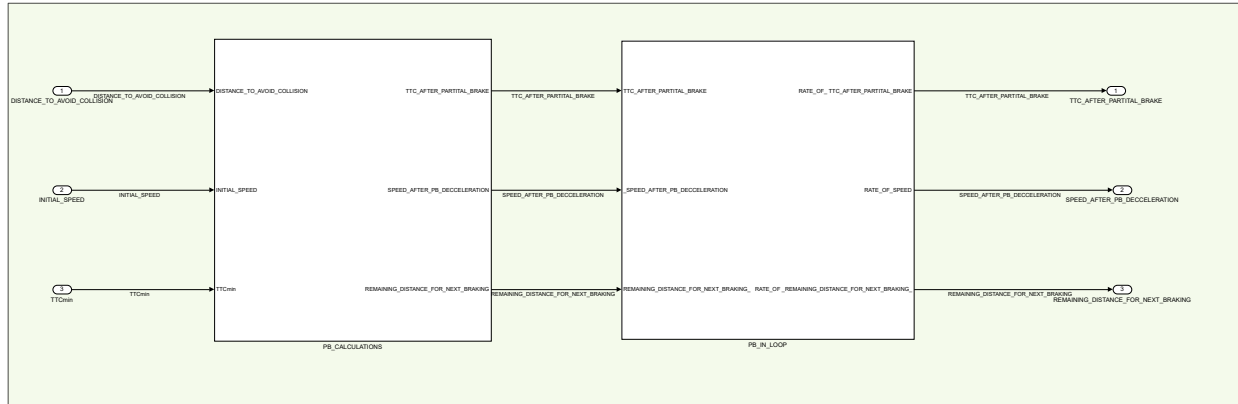| Parameter	Value
Port number	3
Icon display	Port number
Output function call	off
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off
Bus virtuality	inherit
Data mode	inherit
Unit (e.g., 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
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

"SPEED_AFTER_PB_DECCELERATION" (Outport)

Table 3.449. "SPEED_AFTER_PB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"TTC_AFTER_PARTITAL_BRAKE" (Outport)

Table 3.450. "TTC_AFTER_PARTITAL_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
Minimum	[]
Maximum	[]

Parameter	Value
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
Bus virtuality	inherit
Data mode	inherit
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
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

"TTCmin" (Inport)

Table 3.451. "TTCmin" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

PB_CALCULATIONS

Figure 3.41. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_CALCULATIONS
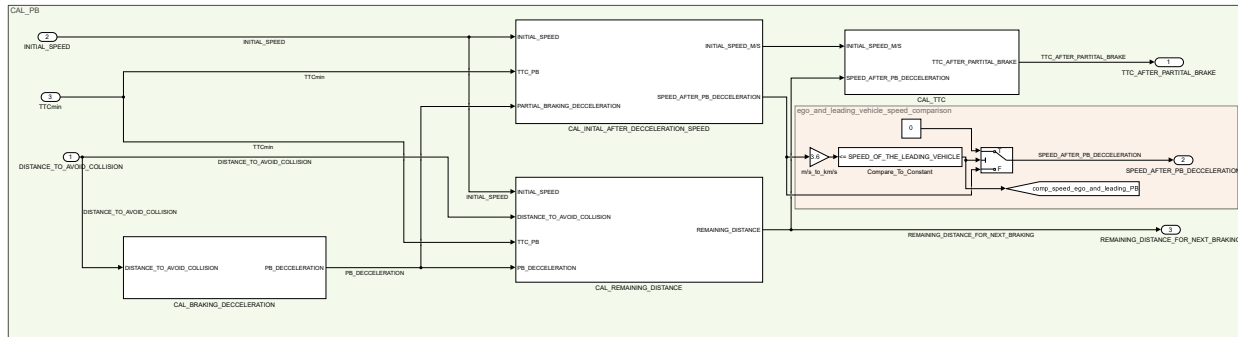
Blocks

Parameters

"Compare_To_Constant" (SubSystem)

Table 3.452. "Compare_To_Constant" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	SPEED_OF_THE_LEADING_VEHICLE
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.453. "Constant" Parameters

Parameter	Value
Constant value	0
Interpret vector parameters as 1-D	on
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit from 'Constant value'

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

"DISTANCE_TO_AVOID_COLLISION" (Inport)

Table 3.454. "DISTANCE_TO_AVOID_COLLISION" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Goto" (Goto)

Table 3.455. "Goto" Parameters

Parameter	Value
Tag	comp_speed_ego_and_leading_PB
Icon display	Tag
Tag visibility	global

"INITIAL_SPEED" (Inport)

Table 3.456. "INITIAL_SPEED" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"m/s_to_km/s" (Gain)

Table 3.457. "m/s_to_km/s" Parameters

Parameter	Value
Gain	3.6
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

"REMAINING_DISTANCE_FOR_NEXT_BRAKING" (Outport)

Table 3.458. "REMAINING_DISTANCE_FOR_NEXT_BRAKING" Parameters

Parameter	Value
Port number	3
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
Unit (e.g., m, m/s^2, N*m)	inherit
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit

Parameter	Value
Sample time (-1 for inherited)	-1
Ensure outport is virtual	off
Source of initial output value	Dialog
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

"SPEED_AFTER_PB_DECCELERATION" (Outport)

Table 3.459. "SPEED_AFTER_PB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held
Initial output	[]
MustResolveToSignalObject	off
Specify output when source is unconnected	off
Constant value	0

Parameter	Value
Interpret vector parameters as 1-D	on

"Switch" (Switch)

Table 3.460. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_AFTER_PARTITAL_BRAKE" (Outport)

Table 3.461. "TTC_AFTER_PARTITAL_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
Unit (e.g., m, m/s^2, N*m)	inherit

Parameter	Value
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
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

"TTCmin" (Inport)

Table 3.462. "TTCmin" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

PB_IN_LOOP

Figure 3.42. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_IN_LOOP

Blocks

Parameters

"_SPEED_AFTER_PB_DECCELERATION" (Inport)

Table 3.463. "_SPEED_AFTER_PB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Constant" (Constant)

Table 3.464. "Constant" Parameters

Parameter	Value
Constant value	0
Interpret vector parameters as 1-D	on

Parameter	Value
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

"From" (From)

Table 3.465. "From" Parameters

Parameter	Value
Goto tag	DISTANCE_TO_AVOID_COLLISION
Icon display	Tag

"RATE_OF _REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Outport)

Table 3.466. "RATE_OF _REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	3
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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

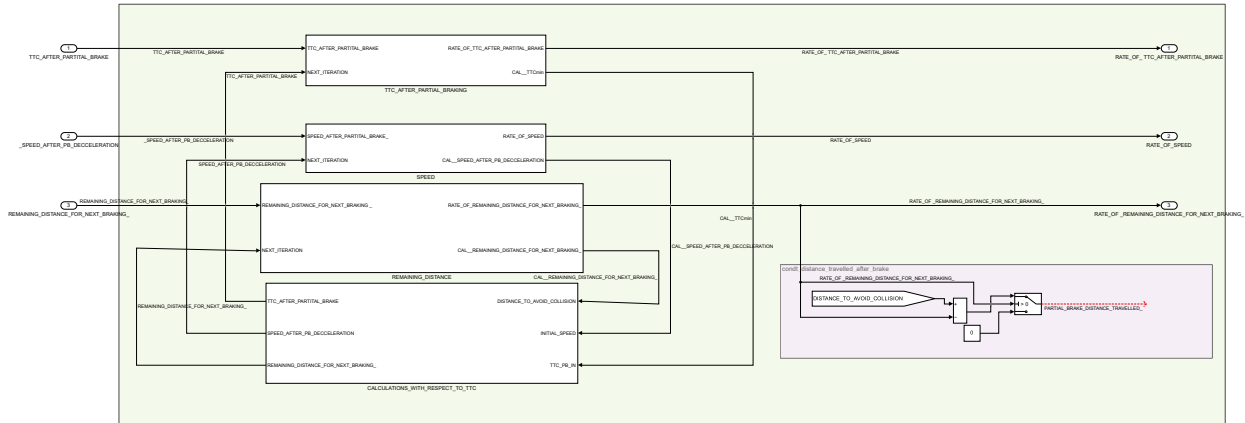| Parameter	Value
Source of initial output value	Dialog
Output when disabled	held
Initial output	[]
MustResolveToSignalObject	off
Specify output when source is unconnected	off
Constant value	0
Interpret vector parameters as 1-D	on

"RATE_OF_ TTC_AFTER_PARTITAL_BRAKE" (Outport)

Table 3.467. "RATE_OF_ TTC_AFTER_PARTITAL_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"RATE_OF_SPEED" (Outport)

Table 3.468. "RATE_OF_SPEED" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Inport)

Table 3.469. "REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	3
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]

Parameter	Value
Data type	Inherit: auto

"Subtract" (Sum)

Table 3.470. "Subtract" 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

"Switch" (Switch)

Table 3.471. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on

Parameter	Value
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_AFTER_PARTITAL_BRAKE" (Inport)

**Table 3.472. "TTC_AFTER_PARTITAL_BRAKE" Parameters**

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

POSITIVE Edge

Checksum: 1199785828 4172318944 4081921514 1985547587

Figure 3.43.
**AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION/
COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/
Model/OFF Delay/Edge Detector/Model/POSITIVE Edge**
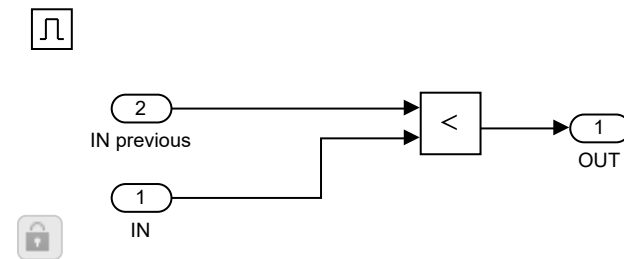
Interface

Input Signals

The following tables describe external signals used to compute the subsystem's inputs.The name of the input signal is the name of the input port that accepts the signal. The number in angle brackets is the number of the input port. A dimension of [1 1] indicates a scalar signal.

Table 3.473. Input Signals

Signal Name	Block	Description	Data Type	Width	Dimensions
	AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/BRAKE_PEDAL_FORCE_CALCULATION/COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/Model/OFF Delay/Edge Detector/Model/POSITIVE Edge/IN		boolean	1	1x1
	AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/BRAKE_PEDAL_FORCE_CALCULATION/COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/Model/OFF Delay/Edge Detector/Model/POSITIVE Edge/IN previous		boolean	1	1x1

Output Signals

The following tables describe the signals output by this system. The name of the output signal is the name of the signal's parent block, i.e., the block that computes the signal. The number in angle brackets is the number of the port that emits the signal.

Table 3.474. Output Signals

Signal Name	Block	Description	Data Type	Width	Dimensions
	AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/BRAKE_PEDAL_FORCE_CALCULATION/COMPARING_THE_BOTH_BRAKING_DECELERATION_VALUES/REACTION_TIME/Model/OFF Delay/Edge Detector/Model/POSITIVE Edge/Relational Operator1		boolean	1	1x1

Blocks

Parameters

"Enable" (EnablePort)

Table 3.475. "Enable" Parameters

Parameter	Value
States when enabling	held
Propagate sizes of variable-size signals	During execution
Show output port	off
Enable zero-crossing detection	on
Port dimensions	1
Sample time	-1
Minimum	[]
Maximum	[]
Data type	double
Interpolate data	on

"IN" (Inport)

Table 3.476. "IN" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"IN previous" (Inport)

Table 3.477. "IN previous" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"OUT" (Outport)

Table 3.478. "OUT" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit

Parameter	Value
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
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

"Relational Operator1" (RelationalOperator)

Table 3.479. "Relational Operator1" Parameters

Parameter	Value
Relational operator	<
Require all inputs to have the same data type	on
Output data type	boolean
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Integer rounding mode	Nearest

Block Execution Order

1. [Relational Operator1](#) (RelationalOperator)

REACTION_TIME

Figure 3.44. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/ condt_TIME_PHASE_PARITAL_BRAKING/REACTION_TIME
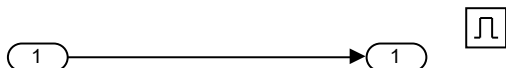
Blocks

Parameters

"Enable" (EnablePort)

Table 3.480. "Enable" Parameters

Parameter	Value
States when enabling	held
Propagate sizes of variable-size signals	Only when enabling
Show output port	off
Enable zero-crossing detection	on
Port dimensions	1
Sample time	-1
Minimum	[]
Maximum	[]
Data type	double
Interpolate data	on

"In1" (Inport)

Table 3.481. "In1" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Out1" (Outport)

Table 3.482. "Out1" Parameters

Parameter	Value
Port number	1
Icon display	Port number

Parameter	Value
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

REMAINING_DISTANCE

**Figure 3.45. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/
FB_SYSTEM_IN_LOOP/REMAINING_DISTANCE**
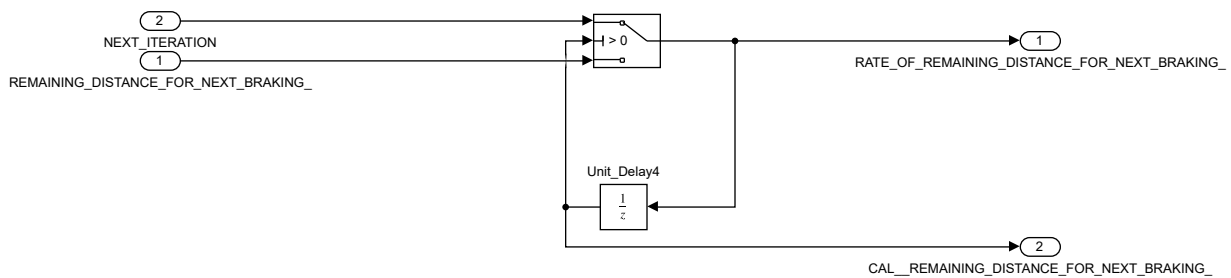
Blocks

Parameters

"CAL__REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Outport)

Table 3.483. "CAL__REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"NEXT_ITERATION" (Inport)

Table 3.484. "NEXT_ITERATION" Parameters

Parameter	Value
Port number	2

Parameter	Value
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"RATE_OF_REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Outport)

Table 3.485. "RATE_OF_REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Inport)

Table 3.486. "REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Switch4" (Switch)

Table 3.487. "Switch4" Parameters

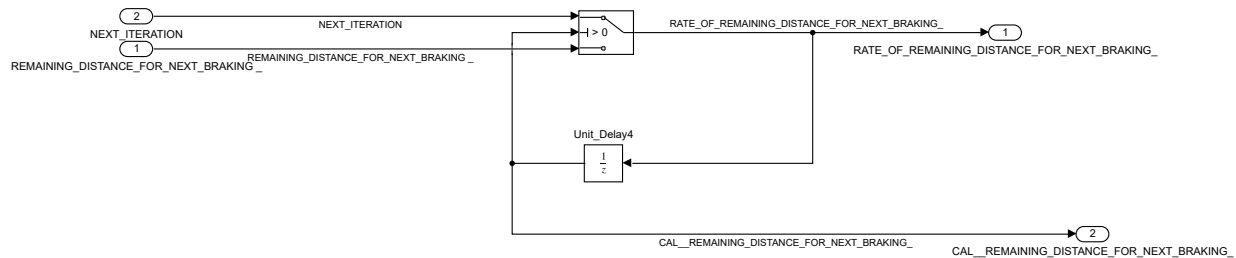| Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
Output minimum	[]
Output maximum	[]
Output data type	Inherit: Inherit via internal rule
Lock output data type setting against changes by the fixed-point tools	off
Integer rounding mode	Floor
Saturate on integer overflow	off
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Unit_Delay4" (UnitDelay)

Table 3.488. "Unit_Delay4" Parameters

Parameter	Value
Initial condition	0
Input processing	Elements as channels (sample based)
Sample time (-1 for inherited)	-1

Parameter	Value
State name must resolve to Simulink signal object	off

REMAINING_DISTANCE

Figure 3.46. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_IN_LOOP/REMAINING_DISTANCE

Blocks

Parameters

"CAL__REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Outport)

Table 3.489. "CAL__REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
Unit (e.g., m, m/s^2, N*m)	inherit
Port dimensions (-1 for inherited)	-1
Variable-size signal	Inherit

Parameter	Value
Sample time (-1 for inherited)	-1
Ensure outport is virtual	off
Source of initial output value	Dialog
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

"NEXT_ITERATION" (Inport)

Table 3.490. "NEXT_ITERATION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"RATE_OF_REMAINING_DISTANCE_FOR_NEXT_BRAKING_" (Outport)

Table 3.491. "RATE_OF_REMAINING_DISTANCE_FOR_NEXT_BRAKING_" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit

Parameter	Value
Data mode	inherit
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
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

"REMAINING_DISTANCE_FOR_NEXT_BRAKING _" (Inport)

Table 3.492. "REMAINING_DISTANCE_FOR_NEXT_BRAKING _" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Switch4" (Switch)

Table 3.493. "Switch4" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
Output minimum	[]
Output maximum	[]

Parameter	Value
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Unit_Delay4" (UnitDelay)

Table 3.494. "Unit_Delay4" Parameters

Parameter	Value
Initial condition	0
Input processing	Elements as channels (sample based)
Sample time (-1 for inherited)	-1
State name must resolve to Simulink signal object	off

SPEED

Figure 3.47. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/ FB_SYSTEM_IN_LOOP/SPEED
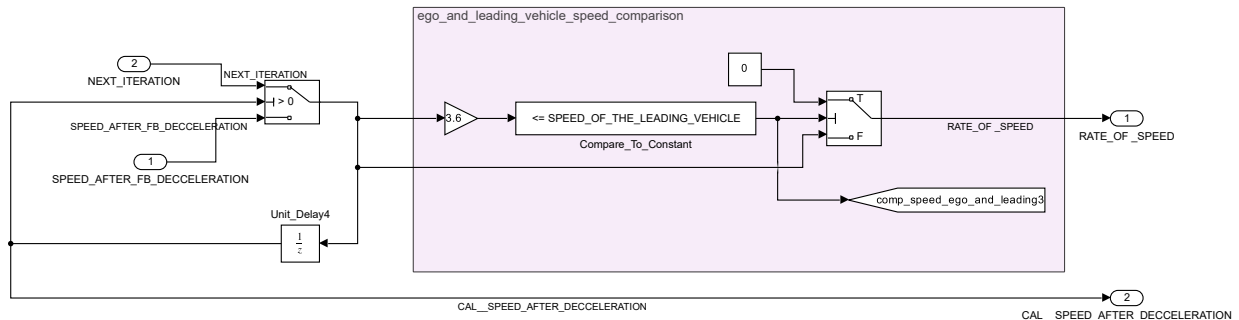
Blocks

Parameters

"CAL__SPEED_AFTER_DECCELERATION" (Outport)

Table 3.495. "CAL__SPEED_AFTER_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"Compare_To_Constant" (SubSystem)

Table 3.496. "Compare_To_Constant" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	SPEED_OF_THE_LEADING_VEHICLE
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.497. "Constant" Parameters

Parameter	Value
Constant value	0
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

"Goto" (Goto)

Table 3.498. "Goto" Parameters

Parameter	Value
Tag	comp_speed_ego_and_leading3
Icon display	Tag
Tag visibility	global

"Multiply" (Gain)

Table 3.499. "Multiply" Parameters

Parameter	Value
Gain	3.6
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

Parameter	Value
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

"NEXT_ITERATION" (Inport)

Table 3.500. "NEXT_ITERATION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"RATE_OF _SPEED" (Outport)

Table 3.501. "RATE_OF _SPEED" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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

Parameter	Value
Ensure outport is virtual	off
Source of initial output value	Dialog
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

"SPEED_AFTER_FB_DECCELERATION" (Inport)

Table 3.502. "SPEED_AFTER_FB_DECCELERATION" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Switch" (Switch)

Table 3.503. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on

Parameter	Value
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

## "Switch4" (Switch)

Table 3.504. "Switch4" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Unit_Delay4" (UnitDelay)

Table 3.505. "Unit_Delay4" Parameters

Parameter	Value
Initial condition	0
Input processing	Elements as channels (sample based)
Sample time (-1 for inherited)	-1
State name must resolve to Simulink signal object	off

SPEED

Figure 3.48. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_IN_LOOP/SPEED
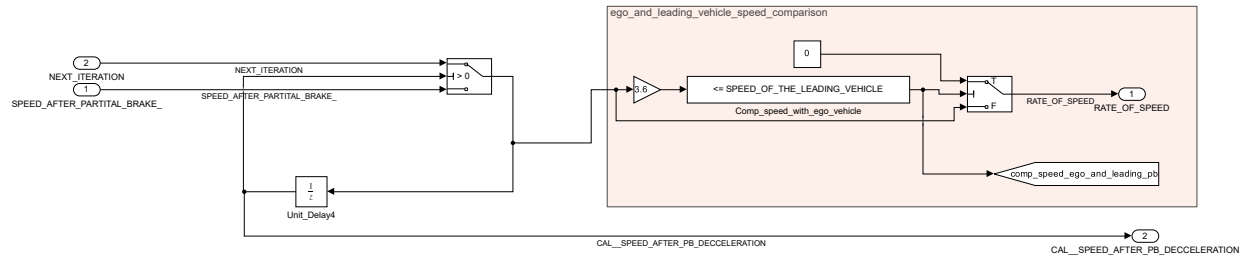
Blocks

Parameters

"CAL__SPEED_AFTER_PB_DECCELERATION" (Outport)

Table 3.506. "CAL__SPEED_AFTER_PB_DECCELERATION" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held

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

"Comp_speed_with_ego_vehicle" (SubSystem)

Table 3.507. "Comp_speed_with_ego_vehicle" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	SPEED_OF_THE_LEADING_VEHICLE
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.508. "Constant" Parameters

Parameter	Value
Constant value	0
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

"Goto" (Goto)

Table 3.509. "Goto" Parameters

Parameter	Value
Tag	comp_speed_ego_and_leading_pb
Icon display	Tag

Parameter	Value
Tag visibility	global

"Multiply" (Gain)

Table 3.510. "Multiply" Parameters

Parameter	Value
Gain	3.6
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

"NEXT_ITERATION" (Inport)

Table 3.511. "NEXT_ITERATION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"RATE_OF_SPEED" (Outport)

Table 3.512. "RATE_OF_SPEED" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"SPEED_AFTER_PARTITAL_BRAKE_" (Inport)

Table 3.513. "SPEED_AFTER_PARTITAL_BRAKE_" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]

Parameter	Value
Data type	Inherit: auto

"Switch" (Switch)

Table 3.514. "Switch" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch4" (Switch)

Table 3.515. "Switch4" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on

Parameter	Value
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Unit_Delay4" (UnitDelay)

Table 3.516. "Unit_Delay4" Parameters

Parameter	Value
Initial condition	0
Input processing	Elements as channels (sample based)
Sample time (-1 for inherited)	-1
State name must resolve to Simulink signal object	off

Subsystem4

Figure 3.49. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/ FB_SYSTEM_IN_LOOP/CALCULATIONS_WITH_RESPECT_TO_TTC/Subsystem4
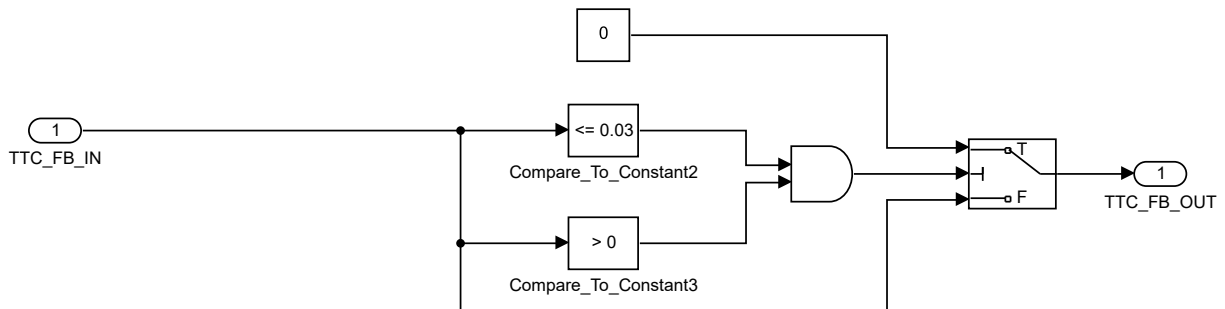
Blocks

Parameters

"AND1" (Logic)

Table 3.517. "AND1" Parameters

Parameter	Value
Operator	AND
Number of input ports	2

Parameter	Value
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"Compare_To_Constant2" (SubSystem)

Table 3.518. "Compare_To_Constant2" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	0.03
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_Constant3" (SubSystem)

Table 3.519. "Compare_To_Constant3" Parameters

Parameter	Value
SimulinkmasksOperator_MP	>
SimulinkmasksConstantValue_MP	0
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.520. "Constant" Parameters

Parameter	Value
Constant value	0
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

Parameter	Value
Frame period	inf

"Switch1" (Switch)

Table 3.521. "Switch1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_FB_IN" (Inport)

Table 3.522. "TTC_FB_IN" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"TTC_FB_OUT" (Outport)

Table 3.523. "TTC_FB_OUT" Parameters

| Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

Triggered Subsystem

Checksum: 2429476585 1851984089 4003254214 1731764064

**Figure 3.50.
AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION/
COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/REACTION_TIME/**

**Model/OFF Delay/Edge Detector/
Model/Internal dirac generator/Triggered Subsystem**
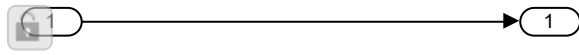
Interface

Input Signals

The following tables describe external signals used to compute the subsystem's inputs.The name of the input signal is the name of the input port that accepts the signal. The number in angle brackets is the number of the input port. A dimension of [1 1] indicates a scalar signal.

Table 3.524. Input Signals

Signal Name	Block	Description	Data Type	Width	Dimensions
	AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/BRAKE_PEDAL_FORCE_CALCULATION/COMPARING_THE_BOTH_BRAKING_DECELERATION_VALUES/REACTION_TIME/Model/OFF Delay/Edge Detector/Model/Internal dirac generator/Triggered Subsystem/In1		double	1	1x1

Output Signals

The following tables describe the signals output by this system. The name of the output signal is the name of the signal's parent block, i.e., the block that computes the signal. The number in angle brackets is the number of the port that emits the signal.

Table 3.525. Output Signals

Signal Name	Block	Description	Data Type	Width	Dimensions
	AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/BRAKE_PEDAL_FORCE_CALCULATION/COMPARING_THE_BOTH_BRAKING_DECELERATION_VALUES/REACTION_TIME/Model/OFF Delay/Edge Detector/Model/Internal dirac generator/Triggered Subsystem/In1		double	1	1x1

Blocks

Parameters

"In1" (Inport)

Table 3.526. "In1" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Out1" (Outport)

Table 3.527. "Out1" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
Output when disabled	held
Initial output	-1e6
MustResolveToSignalObject	off
Specify output when source is unconnected	off
Constant value	0
Interpret vector parameters as 1-D	on

"Trigger" (TriggerPort)

Table 3.528. "Trigger" Parameters

Parameter	Value
Trigger type	rising
Trigger time	on message available
Schedule as aperiodic partition	on
Treat as Simulink function	off
Execute function call asynchronously	off

Parameter	Value
Function visibility	global
Enable variant condition	off
Variant control	(inherit)
Generate preprocessor conditionals	off
States when enabling	held
Propagate sizes of variable-size signals	During execution
Show output port	off
Sample time type	triggered
Sample time	1
Enable zero-crossing detection	on
Initial trigger signal state	compatibility (no trigger on first evaluation)
Port dimensions	-1
Trigger signal sample time	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Interpolate data	on
FunctionPrototype	f()

Block Execution Order

1. In1 (SignalConversion)

TTC_AFTER_FULL_BRAKING

Figure 3.51. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/ FB_SYSTEM_IN_LOOP/TTC_AFTER_FULL_BRAKING
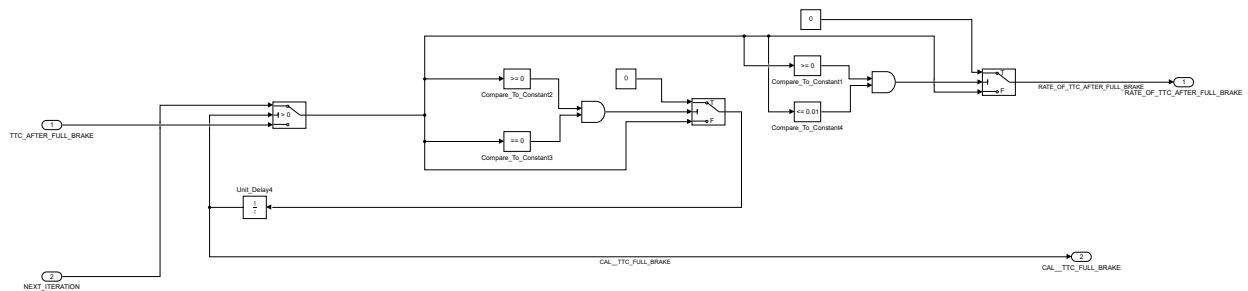
Blocks

Parameters

"AND1" (Logic)

Table 3.529. "AND1" Parameters

Parameter	Value
Operator	AND
Number of input ports	2
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"AND2" (Logic)

Table 3.530. "AND2" Parameters

Parameter	Value
Operator	AND
Number of input ports	2
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"CAL__TTC_FULL_BRAKE" (Outport)

Table 3.531. "CAL__TTC_FULL_BRAKE" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
Minimum	[]
Maximum	[]
Data type	Inherit: auto

Parameter	Value
Lock output data type setting against changes by the fixed-point tools	off
Output as nonvirtual bus in parent model	off
Bus virtuality	inherit
Data mode	inherit
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
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

"Compare_To_Constant1" (SubSystem)

Table 3.532. "Compare_To_Constant1" Parameters

Parameter	Value
SimulinkmasksOperator_MP	>=
SimulinkmasksConstantValue_MP	0
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_Constant2" (SubSystem)

Table 3.533. "Compare_To_Constant2" Parameters

Parameter	Value
SimulinkmasksOperator_MP	>=
SimulinkmasksConstantValue_MP	0
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_Constant3" (SubSystem)

Table 3.534. "Compare_To_Constant3" Parameters

Parameter	Value
SimulinkmasksOperator_MP	==
SimulinkmasksConstantValue_MP	0
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_Constant4" (SubSystem)

Table 3.535. "Compare_To_Constant4" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	0.01
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.536. "Constant" Parameters

Parameter	Value
Constant value	0
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

"Constant1" (Constant)

Table 3.537. "Constant1" Parameters

Parameter	Value
Constant value	0
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

"NEXT_ITERATION" (Inport)

Table 3.538. "NEXT_ITERATION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"RATE_OF_TTC_AFTER_FULL_BRAKE" (Outport)

Table 3.539. "RATE_OF_TTC_AFTER_FULL_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off

Parameter	Value
Output as nonvirtual bus in parent model	off
Bus virtuality	inherit
Data mode	inherit
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
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

"Switch1" (Switch)

Table 3.540. "Switch1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch2" (Switch)

Table 3.541. "Switch2" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch4" (Switch)

Table 3.542. "Switch4" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_AFTER_FULL_BRAKE" (Inport)

Table 3.543. "TTC_AFTER_FULL_BRAKE" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Unit_Delay4" (UnitDelay)

Table 3.544. "Unit_Delay4" Parameters

Parameter	Value
Initial condition	0
Input processing	Elements as channels (sample based)
Sample time (-1 for inherited)	-1
State name must resolve to Simulink signal object	off

TTC_AFTER_PARTIAL_BRAKING

Figure 3.52. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_IN_LOOP/TTC_AFTER_PARTIAL_BRAKING
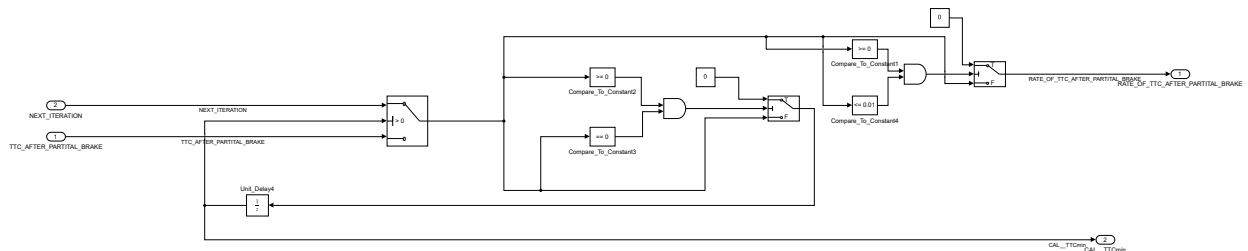
Blocks

Parameters

"AND1" (Logic)

Table 3.545. "AND1" Parameters

Parameter	Value
Operator	AND
Number of input ports	2
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"AND2" (Logic)

Table 3.546. "AND2" Parameters

Parameter	Value
Operator	AND
Number of input ports	2
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"CAL__TTCmin" (Outport)

Table 3.547. "CAL__TTCmin" Parameters

Parameter	Value
Port number	2
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit

Parameter	Value
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
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

"Compare_To_Constant1" (SubSystem)

Table 3.548. "Compare_To_Constant1" Parameters

Parameter	Value
SimulinkmasksOperator_MP	>=
SimulinkmasksConstantValue_MP	0
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_Constant2" (SubSystem)

Table 3.549. "Compare_To_Constant2" Parameters

Parameter	Value
SimulinkmasksOperator_MP	>=
SimulinkmasksConstantValue_MP	0
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_Constant3" (SubSystem)

Table 3.550. "Compare_To_Constant3" Parameters

Parameter	Value
SimulinkmasksOperator_MP	==
SimulinkmasksConstantValue_MP	0
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_Constant4" (SubSystem)

Table 3.551. "Compare_To_Constant4" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	0.01
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.552. "Constant" Parameters

Parameter	Value
Constant value	0
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

"Constant1" (Constant)

Table 3.553. "Constant1" Parameters

Parameter	Value
Constant value	0
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

"NEXT_ITERATION" (Inport)

Table 3.554. "NEXT_ITERATION" Parameters

Parameter	Value
Port number	2
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"RATE_OF_TTC_AFTER_PARTITAL_BRAKE" (Outport)

Table 3.555. "RATE_OF_TTC_AFTER_PARTITAL_BRAKE" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
Minimum	[]
Maximum	[]
Data type	Inherit: auto
Lock output data type setting against changes by the fixed-point tools	off

Parameter	Value
Output as nonvirtual bus in parent model	off
Bus virtuality	inherit
Data mode	inherit
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
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

"Switch1" (Switch)

Table 3.556. "Switch1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch2" (Switch)

Table 3.557. "Switch2" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"Switch4" (Switch)

Table 3.558. "Switch4" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_AFTER_PARTITAL_BRAKE" (Inport)

Table 3.559. "TTC_AFTER_PARTITAL_BRAKE" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]
Data type	Inherit: auto

"Unit_Delay4" (UnitDelay)

Table 3.560. "Unit_Delay4" Parameters

Parameter	Value
Initial condition	0
Input processing	Elements as channels (sample based)
Sample time (-1 for inherited)	-1
State name must resolve to Simulink signal object	off

TTC_LIMIT

Figure 3.53. AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/ PARTIAL_BRAKING/PB_IN_LOOP/CALCULATIONS_WITH_RESPECT_TO_TTC/ TTC_LIMIT
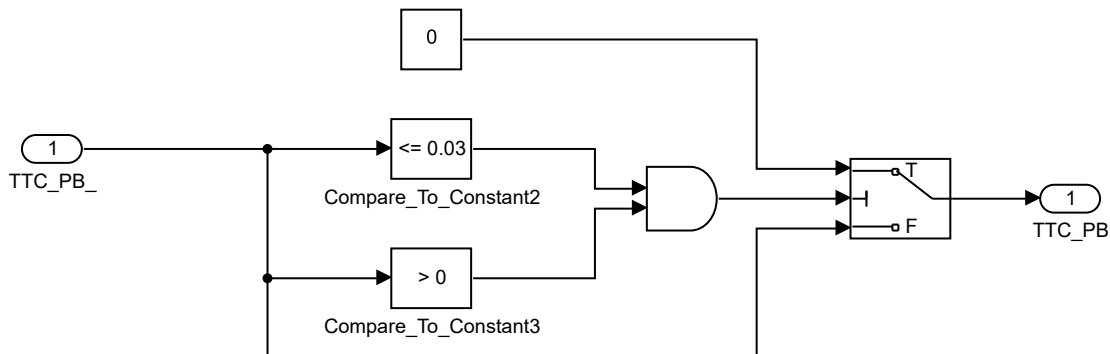
Blocks

Parameters

"AND1" (Logic)

Table 3.561. "AND1" Parameters

Parameter	Value
Operator	AND
Number of input ports	2
Icon shape	distinctive
Require all inputs and output to have the same data type	off
Output data type	boolean
Sample time (-1 for inherited)	-1

"Compare_To_Constant2" (SubSystem)

Table 3.562. "Compare_To_Constant2" Parameters

Parameter	Value
SimulinkmasksOperator_MP	<=
SimulinkmasksConstantValue_MP	0.03
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Compare_To_Constant3" (SubSystem)

Table 3.563. "Compare_To_Constant3" Parameters

Parameter	Value
SimulinkmasksOperator_MP	>
SimulinkmasksConstantValue_MP	0
SimulinkmasksOutputDataType_MP	boolean
SimulinkmasksEnableZerocrossingDetection_MP	on

"Constant" (Constant)

Table 3.564. "Constant" Parameters

Parameter	Value
Constant value	0
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

"Switch1" (Switch)

Table 3.565. "Switch1" Parameters

Parameter	Value
Criteria for passing first input	u2 > Threshold
Threshold	0
Require all data port inputs to have the same data type	off
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
Enable zero-crossing detection	on
Sample time (-1 for inherited)	-1
Allow different data input sizes (Results in variable-size output signal)	off

"TTC_PB" (Outport)

Table 3.566. "TTC_PB" Parameters

Parameter	Value
Port number	1
Icon display	Port number
Output function call	off
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
Bus virtuality	inherit
Data mode	inherit
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
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

"TTC_PB_" (Inport)

Table 3.567. "TTC_PB_" Parameters

Parameter	Value
Port number	1
Port dimensions (-1 for inherited)	-1
Sample time (-1 for inherited)	-1
Minimum	[]
Maximum	[]

Parameter	Value
Data type	Inherit: auto

Chapter 4. System Design Variables

Design Variable Summary

Table 4.1. Design Variables

Variable Name	Parent Blocks	Size	Bytes	Class	Value
DISTANCE	CAL_TTC CAL_TTC1 CAL_TTC CAL_TTC CAL_TTC CAL_TTC CAL_TTC CAL_TTC CAL_TTC1 CAL_TTC Constant1 CAL_TTC CAL_TTC CAL_TTC CAL_TTC DISTANCE	1x1	8	double	100
MASS_OF_THE_VEHICLE	Constant2 Constant2 Constant2 Constant2 Constant5 MASS_OF_THE_VEHICLE	1x1	8	double	1500
MIN_THRESHOLD_FOR_TTCmin	Compare_To_Constant5 Compare_To_EM_MI Compare_To_PB_TTC Compare_To_PB_TTCM Switch2 Switch3 Compare_To_Constant1 Compare_To_TTCE_M Compare_To_TTC_EM Compare_To_TTC_PB_M Switch Switch2 Compare_To_EM_MI Compare_To_Constant1 Compare_To_TTCE_M Compare_To_TTC_EM	1x1	8	double	0.7000

Variable Name	Parent Blocks	Size	Bytes	Class	Value
SPEED_OF_THE_EGO_VEHICLE	CAL_TTC CAL_TTC1 CAL_TTC CAL_TTC CAL_TTC CAL_TTC CAL_TTC Condt_SPEED_OF_THE_EGO_VEHICLE CAL_TTC CAL_TTC1 CAL_TTC CAL_TTC CAL_TTC CAL_TTC CAL_TTC Condt_SPEED_OF_THE_EGO_VEHICLE _ SPEED_OF_EGO_VEHICLE _	1x1	8	double	80
SPEED_OF_THE_LEADING_VEHICLE	CAL_TTC CAL_TTC1 CAL_TTC CAL_TTC CAL_TTC CAL_TTC CAL_TTC _ CAL_TTC CAL_TTC1 CAL_TTC Compare_To_Constant Compare_To_Constant CAL_TTC Compare_To_Constant Comp_speed_with_ego_vehicle CAL_TTC CAL_TTC CAL_TTC _	1x1	8	double	0
TTC_EMERGE	Compare_To_EM_MI Compare_To_Constant1 Compare_To_TTCE_M Compare_To_TTC_EM Add_Constant Compare_To_EM_MI Constant2	1x1	8	double	2

Variable Name	Parent Blocks	Size	Bytes	Class	Value
	TTC_EMERGE TTC_EMERGE Add_Constant Compare_To_Constant1 Compare_To_TTCE_M Compare_To_TTC_EM TTC_EMERG				

Design Variable Details

DISTANCE. 100

Used by Blocks:

- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/CAL_TTC1
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/
condt_TIME_PHASE_PARITAL_BRAKING/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/FB_SYSTEM_IN_LOOP/Constant1
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION/
COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/CAL.KM//Hr_TO_M//
Hr_and_DISTANCE_TO_AVOID_COLLISION/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION/
COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/CAL_TTC
- AEB_MODEL_F0x2830x29/DISTANCE

Resolved in: model workspace (AEB_MODEL_F0x2830x29)

MASS_OF_THE_VEHICLE. 1500

Used by Blocks:

- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/FB_CALCULATIONS/
CAL_BRAKING_DECCELERATION/Constant2
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/FB_SYSTEM_IN_LOOP/
CALCULATIONS_WITH_RESPECT_TO_TTC/CAL_BRAKING_DECCELERATION/Constant2
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/PARTIAL_BRAKING/
PB_CALCULATIONS/CAL_BRAKING_DECCELERATION/Constant2
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/PARTIAL_BRAKING/
PB_IN_LOOP/CALCULATIONS_WITH_RESPECT_TO_TTC/CAL_BRAKING_DECCELERATION/
Constant2
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/
BRAKE_PEDAL_FORCE_CALCULATION/
COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/Constant5

- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/ BRAKE_PEDAL_FORCE_CALCULATION/MASS_OF_THE_VEHICLE

Resolved in: model workspace (AEB_MODEL_F0x2830x29)

MIN_THRESHOLD_FOR_TTCmin. 0.7000

Used by Blocks:

- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/Compare_To_Constant5
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/Compare_To_EM_MI
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/Compare_To_PB_TTC
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/Compare_To_PB_TTCM
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/Switch2
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/Switch3
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/ Compare_To_Constant1
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/ Compare_To_TTCE_M
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/ Compare_To_TTC_EM
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/ Compare_To_TTC_PB_M
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/Switch
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/Switch2

Resolved in: model workspace (AEB_MODEL_F0x2830x29)

SPEED_OF_THE_EGO_VEHICLE. 80

Used by Blocks:

- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/CAL_TTC1
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/ condt_TIME_PHASE_PARITAL_BRAKING/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/ BRAKE_PEDAL_FORCE_CALCULATION/ COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/CAL.KM//Hr_TO_M// Hr_and_DISTANCE_TO_AVOID_COLLISION/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/ BRAKE_PEDAL_FORCE_CALCULATION/ COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/ Condt_SPEED_OF_THE_EGO_VEHICLE
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/_
- AEB_MODEL_F0x2830x29/SPEED_OF_EGO_VEHICLE

Resolved in: model workspace (AEB_MODEL_F0x2830x29)

SPEED_OF_THE_LEADING_VEHICLE. 0

Used by Blocks:

- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/CAL_TTC1
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/ condt_TIME_PHASE_PARITAL_BRAKING/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/FB_CALCULATIONS/ Compare_To_Constant
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/FULL_BRAKE/FB_SYSTEM_IN_LOOP/SPEED/ Compare_To_Constant
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/PARTIAL_BRAKING/ PB_CALCULATIONS/Compare_To_Constant
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/PARTIAL_BRAKE/PARTIAL_BRAKING/ PB_IN_LOOP/SPEED/Comp_speed_with_ego_vehicle
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/ BRAKE_PEDAL_FORCE_CALCULATION/ COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/CAL.KM//Hr_TO_M// Hr_and_DISTANCE_TO_AVOID_COLLISION/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/ BRAKE_PEDAL_FORCE_CALCULATION/ COMPARING_THE_BOTH_BRAKING_DECCELERATION_VALUES/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/CAL_TTC
- AEB_MODEL_F0x2830x29/AEB/BRAKE_PEDAL_FORCE_and_DIAGNOSTIC_CHECKS/

Resolved in: model workspace (AEB_MODEL_F0x2830x29)

TTC_EMERGE. 2

Used by Blocks:

- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/Add_Constant
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/Compare_To_EM_MI
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/Constant2
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/TTC_EMERGE
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/CAL_TTC/ condt_TIME_PHASE_PARITAL_BRAKING/TTC_EMERGE
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/ Add_Constant
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/ Compare_To_Constant1
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/ Compare_To_TTCE_M
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/ Compare_To_TTC_EM
- AEB_MODEL_F0x2830x29/AEB/AEB_SYSTEM/INPUT_CONDITION_FOR_FULLBRAKE/ TTC_EMERG

Resolved in: model workspace (AEB_MODEL_F0x2830x29)

Chapter 5. Requirements

AEB_MODEL_F0x2830x29 does not contain requirements traceability links.

Chapter 6. System Model Configuration

Source: Model

Source Name: AEB_MODEL_F0x2830x29

Table 6.1. AEB_MODEL_F0x2830x29 Configuration Set

Property	Value
Description	
Components	[AEB_MODEL_F0x2830x29 Configuration Set.Components(1), AEB_MODEL_F0x2830x29 Configuration Set.Components(2), AEB_MODEL_F0x2830x29 Configuration Set.Components(3), AEB_MODEL_F0x2830x29 Configuration Set.Components(4), AEB_MODEL_F0x2830x29 Configuration Set.Components(5), AEB_MODEL_F0x2830x29 Configuration Set.Components(6), AEB_MODEL_F0x2830x29 Configuration Set.Components(7), AEB_MODEL_F0x2830x29 Configuration Set.Components(8), AEB_MODEL_F0x2830x29 Configuration Set.Components(9), AEB_MODEL_F0x2830x29 Configuration Set.Components(10), AEB_MODEL_F0x2830x29 Configuration Set.Components(11)]
Name	Configuration

Table 6.2. AEB_MODEL_F0x2830x29 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
AllowMultiTaskInputOutput	off
ConcurrentTasks	off
SolverName	VariableStepAuto
SolverType	Variable-step
SolverJacobianMethodControl	auto
DaesscMode	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
EnableFixedStepZeroCrossing	off
MaxZcPerStep	2
MaxZcBracketingIterations	10

Table 6.3. <u>AEB_MODEL_F0x2830x29 Configuration Set.Components</u>(2)

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
StreamToWks	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 6.4. <u>AEB_MODEL_F0x2830x29 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
InheritOutputTypeSmallerThanSingle	off
DefaultUnderspecifiedDataType	double
UseSpecifiedMinMax	off
InlineInvariantSignals	off
OptimizeBlockIOStorage	on
BufferReuse	on
ReuseModelBlockBuffer	off
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
ClockResolution	-1
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 6.5. AEB_MODEL_F0x2830x29 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
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	none
UnconnectedOutputMsg	none
UnconnectedLineMsg	none
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
ModelReferenceNoExplicitFinalValueMsg	none
ModelReferenceSymbolNameMessage	warning
ModelReferenceExtraNoncontSigs	error
StateNameClashWarn	none
OperatingPointInterfaceChecksumMismatchMsg	warning
NonCurrentReleaseOperatingPointMsg	error
PregeneratedLibrarySubsystemCodeDiagnostic	warning
SubsystemReferenceDiagnosticForUnitTest	error
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
IntegerSaturationMsg	warning
AllowedUnitSystems	all
UnitsInconsistencyMsg	warning
AllowAutomaticUnitConversions	on
RCSCRenamedMsg	warning
RCSCObservableMsg	warning
ForceCombineOutputUpdateInSim	off
UnderSpecifiedDimensionMsg	none
DebugExecutionForFMUViaOutOfProcess	off
ArithmeticOperatorsInVariantConditions	error
VariantConditionMismatch	none
InheritVATfromSVC	warning
VariantConfigNotUsedByTopModel	warning
ParamWriterValidationControl	UseLocalSettings

Table 6.6. <u>AEB_MODEL_F0x2830x29 Configuration Set.Components</u>(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 6.7. <u>AEB_MODEL_F0x2830x29 Configuration Set.Components</u>(6)

Property	Value

Name	Model Referencing
Description	
Components	
UpdateModelReferenceTargets	IfOutOfDateOrStructuralChange
EnableRefExpFcnMdlSchedulingChecks	off
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
UseModelRefSolver	off

Table 6.8. AEB_MODEL_F0x2830x29 Configuration Set.Components(7)

Property	Value
Name	Simulation Target
Description	
Components	
SimCustomSourceCode	
SimCustomHeaderCode	
SimCustomInitializer	
SimCustomTerminator	
SimReservedNameArray	
SimUserSources	
SimUserIncludeDirs	
SimUserLibraries	
SimUserDefines	
SimCustomCompilerFlags	
SimCustomLinkerFlags	
SFSimEnableDebug	off
SFSimEcho	on

SimCtrlC	on
SimIntegrity	on
SimUseLocalCustomCode	on
SimParseCustomCode	on
SimAnalyzeCustomCode	off
SimDebugExecutionForCustomCode	off
SimGenImportedTypeDefs	off
CompileTimeRecursionLimit	50
EnableRuntimeRecursion	on
EnableImplicitExpansion	on
MATLABDynamicMemAlloc	on
MATLABDynamicMemAllocThreshold	65536
LegacyBehaviorForPersistentVarInContinuousTime	off
CustomCodeFunctionArrayLayout	
DefaultCustomCodeFunctionArrayLayout	NotSpecified
CustomCodeUndefinedFunction	FilterOut
CustomCodeGlobalsAsFunctionIO	off
DefaultCustomCodeDeterministicFunctions	None
CustomCodeDeterministicFunctions	
SimHardwareAcceleration	generic
SimTargetLang	C
GPUAcceleration	off
SimGPUMallocThreshold	200
SimGPUStackLimitPerThread	1024
SimGPUErrorChecks	off
SimGPUCustomComputeCapability	
SimGPUCompilerFlags	
SimDLTargetLibrary	mkl-dnn
SimDLAutoTuning	on

Table 6.9. AEB_MODEL_F0x2830x29 Configuration Set.Components(8)

Property	Value
Name	Code Generation
Description	Generic Real-Time Target
SystemTargetFile	grt.tlc
EmbeddedCoderDictionary	

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
BuiltinFFTWCallback	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
CodeStackProfiling	off
CodeStackProfileVariable	stackProfile
CodeCoverageSettings	AEB_MODEL_F0x2830x29 Configuration Set.Components(8).CodeCoverageSettings
SILPILDebugging	off
DataTypeReplacement	CoderTypedefs
CoderTypedefsCompatibility	off
TargetLang	C
GenerateGPUCode	None
IncludeERTFirstTime	off
GenerateTraceInfo	off
GenerateTraceReport	off
GenerateTraceReportSl	off
GenerateTraceReportSf	off
GenerateTraceReportEml	off
GenerateWebview	off
GenerateCodeMetricsReport	off
GenerateCodeReplacementReport	off
RTWCompilerOptimization	off
ObjectivePriorities	
RTWCustomCompilerOptimizations	
CheckMdlBeforeBuild	Off
GPUKernelNamePrefix	
GPUDeviceID	-1
GPUMallocMode	discrete
GPUMallocThreshold	200
GPUEnableMemoryManager	off
GPUStackLimitPerThread	1024
GPUcuBLAS	on

GPUcuSOLVER	on
GPUcuFFT	on
GPUErrorChecks	off
GPUComputeCapability	3.5
GPUCustomComputeCapability	
GPUCompilerFlags	
GPUMaximumBlocksPerKernel	0
DLTargetLibrary	none
DLAutoTuning	on
DLArmComputeVersion	20.02.1
DLArmComputeArch	unspecified
Components	[AEB_MODEL_F0x2830x29 Configuration Set.Components(8).Components(1), AEB_MODEL_F0x2830x29 Configuration Set.Components(8).Components(2)]

Table 6.10. AEB_MODEL_F0x2830x29 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
CovForceBlockReductionOff	on
CovEnableCumulative	on
CovSaveCumulativeToWorkspaceVar	off
CovSaveSingleToWorkspaceVar	off
CovCumulativeVarName	covCumulativeData

CovCumulativeReport	off
CovSaveOutputData	on
CovOutputDir	slcov_output/$ModelName$
CovDataFileName	$ModelName$_cvdata
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
CovMcdcMode	Masking
CovExcludeInactiveVariants	off

Table 6.11. <u>AEB_MODEL_F0x2830x29 Configuration Set.Components</u>(10)

Property	Value
Description	HDL Coder custom configuration component
Components	
Name	HDL Coder

Table 6.12. <u>AEB_MODEL_F0x2830x29 Configuration Set.Components</u>(11)

Property	Value
Description	

Components	[AEB_MODEL_F0x2830x29 Configuration Set.Components(11). Components](#)
Name	Simscape
EditingMode	Full
ExplicitSolverDiagnosticOptions	warning
GlobalZcOffDiagnosticOptions	warning
SimscapeNormalizeSystem	on
SimscapeNominalValues	[{"value":"1","unit":"A"},{"value":"1","unit":"bar"},{"value":"1","unit":"cm^2"},{"value":"1","unit":"cm^3/s"},{"value":"1","unit":"kJ/kg"},{"value":"1","unit":"kW"},{"value":"1","unit":"l"},{"value":"1","unit":"N"},{"value":"1","unit":"N*m"},{"value":"1","unit":"V"}]
SimscapeLogType	none
SimscapeLogSimulationStatistics	off
SimscapeLogToSDI	off
SimscapeLogOpenViewer	off
SimscapeLogName	simlog
SimscapeLogDecimation	1
SimscapeLogLimitData	on
SimscapeLogDataHistory	5000
SimscapeUseOperatingPoints	off
SimscapeOperatingPoint	
SimscapeCompileComponentReuse	off
SelectedTab	
Version	1.0
ComponentsAttached	true
someListenersNotInstalled	false

Table 6.13. AEB_MODEL_F0x2830x29 Configuration Set.Components(8).CodeCoverageSettings

Property	Value
TopModelCoverage	off
ReferencedModelCoverage	off
CoverageTool	None

Table 6.14. AEB_MODEL_F0x2830x29 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 6.15. AEB_MODEL_F0x2830x29 Configuration Set.Components(8).Components(2)

Property	Value
Name	Target
Description	
Components	
IsERTTarget	off
TargetLibSuffix	
TargetPreCompLibLocation	
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
InstructionSetExtensions	{SSE2}
OptimizeReductions	off
IsSLRTTarget	off
ExtMode	off
ExtModeStaticAlloc	off
ExtModeTesting	off
ExtModeAutomaticAllocSize	on
ExtModeMaxTrigDuration	10
ExtModeStaticAllocSize	1000000
ExtModeTransport	0
ExtModeMexFile	ext_comm
ExtModeMexArgs	
ExtModeIntrfLevel	Level1
RTWCAPISignals	off
RTWCAPIParams	off
RTWCAPIStates	off
RTWCAPIRootIO	off
MultiInstanceErrorCode	Error

Table 6.16. AEB_MODEL_F0x2830x29 Configuration Set.Components(11).Components

Property	Value
Description	Simscape Multibody
Components	[AEB_MODEL_F0x2830x29 Configuration Set.Components(11).Components.Components(1), AEB_MODEL_F0x2830x29 Configuration Set.Components(11).Components.Components(2)]
Name	SimscapeMultibody

Table 6.17. AEB_MODEL_F0x2830x29 Configuration Set.Components(11).Components.Components(1)

Property	Value
Description	Diagnostics
Components	

Name	DiagnosticsConfigSet
SimMechanicsInvalidVisualProperty	warning
SimMechanicsCrossSectionNullEdge	warning
SimMechanicsUnconnectedFramePorts	warning
SimMechanicsUnconnectedGeometryPorts	warning
SimMechanicsRedundantBlock	warning
SimMechanicsConflictingReferenceFrames	warning
SimMechanicsRigidlyBoundBlock	error
SimMechanicsUnsatisfiedHighPriorityTargets	warning
SimMechanicsJointTargetOverSpecification	error

Table 6.18. AEB_MODEL_F0x2830x29 Configuration Set.Components(11).Components.Components(2)

Property	Value
Description	Explorer
Components	
Name	ExplorerConfigSet
SimMechanicsOpenEditorOnUpdate	on
InternalSimMechanicsExplorerSettings	

Table 6.19. HDL Coder

Property	Value
HDLSubsystem	AEB_MODEL_F0x2830x29
Workflow	Generic ASIC/FPGA
TargetPlatform	
ReferenceDesign	
ReferenceDesignPath	
CoeffPrefix	coeff
InputType	std_logic_vector
OutputType	Same as input type
ScalarizePorts	off
ScalarizedPortIndexing	Zero-based
SamplesPerCycle	1
InputFIFOSize	10
OutputFIFOSize	10

DelaySizeThreshold	100000000
CoeffMultipliers	Multiplier
ResetType	Asynchronous
FIRAdderStyle	linear
MultiplierInputPipeline	0
MultiplierOutputPipeline	0
FoldingFactor	1
NumMultipliers	-1
OptimizeForHDL	off
TimingControllerPostfix	_tc
OptimizeTimingController	on
TimingControllerArch	default
CastBeforeSum	on
TCCounterLimitCompOp	>=
CheckHDL	off
EnablePrefix	enb
ClockEnableInputPort	clk_enable
ClockEnableOutputPort	ce_out
ClockInputPort	clk
ClockEdge	Rising
ResetInputPort	reset
SimulatorFlags	
HDLCompileFilePostfix	_compile.do
HDLCompileInit	vlib %s\n
HDLCompileTerm	
HDLCompileVerilogCmd	vlog %s %s\n
HDLCompileVHDLCmd	vcom %s %s\n
EnableForGenerateLoops	on
HDLMapFilePostfix	_map.txt
HDLMapSeparator	
HDLSimCmd	vsim -voptargs=+acc %s.%s\n
HDLSimFilePostfix	_sim.do
HDLSimProjectFilePostfix	_init.do
HDLSimInit	onbreak resume\nonerror resume\n
HDLSimProjectCmd	project addfile %s\n
HDLSimProjectTerm	project compileall\n

HDLSimProjectInit	project new . %s work\n
HDLSimTerm	run -all\n
HDLSimViewWaveCmd	add wave sim:%s\n
HDLSynthTool	None
HDLSynthCmd	
HDLSynthFilePostfix	
HDLSynthInit	
HDLSynthLibCmd	
HDLSynthLibSpec	
HDLSynthTerm	
ReservedWordPostfix	_rsvd
BlockGenerateLabel	_gen
VHDLLibraryName	work
UseSingleLibrary	off
VHDLArchitectureName	rtl
ClockProcessPostfix	_process
ComplexImagPostfix	_im
ComplexRealPostfix	_re
EntityConflictPostfix	_block
InstancePrefix	u_
InstancePostfix	
InstanceGenerateLabel	_gen
OutputGenerateLabel	outputgen
PackagePostfix	_pkg
SplitEntityArch	off
SplitMooreChartStateUpdate	on
SplitEntityFilePostfix	_entity
SplitArchFilePostfix	_arch
VectorPrefix	vector_of_
ClockInputs	Single
TriggerAsClock	off
AsyncResetPort	off
ConditionalizePipeline	off
InferControlPorts	off
UseRisingEdge	off
TargetDirectory	hdlsrc

TargetSubdirectory	Model
EDAScriptGeneration	on
AddInputRegister	on
AddOutputRegister	on
AddPipelineRegisters	off
PipelinePostfix	_pipe
InputPort	filter_in
OutputPort	filter_out
FracDelayPort	filter_fd
Name	filter
RemoveResetFrom	None
ResetAssertedLevel	Active-high
ReuseAccum	off
ScaleWarnBits	3
SerialPartition	-1
DALUTPartition	-1
DARadix	2
CoefficientSource	Internal
CoefficientMemory	Registers
InputComplex	off
AddRatePort	off
InputDataType	
GenerateHDLCode	on
GenerateModel	on
GenerateTB	off
GenerateCEGenModel	off
ObfuscateGeneratedHDLCode	off
GenerateRecordType	off
Traceability	off
RuntimeReport	off
ResourceReport	off
OptimizationReport	off
ErrorCheckReport	on
HDLGenerateWebview	off
IPCoreReport	off
Recommendations	off

RequirementComments	on
EnableComments	on
Backannotation	off
HierarchicalDistPipelining	off
PreserveDesignDelays	off
AcquireDesignDelaysForEMLOptimizations	off
ClockRatePipelining	on
CRPWithoutFlattening	on
CRPDelayBalancingIterLimit	10
AdaptivePipelining	off
LUTMapToRAM	on
CloneModules	on
MinDelaysRequiredAtLocalMultirateOutput	1
ClockRatePipelineOutputPorts	off
BalanceClockRateOutputPorts	off
CriticalPathEstimation	off
TimingDatabaseDirectory	
StaticLatencyPathAnalysis	off
optimizeserializer	on
shareequalwl	on
sharedmulsign	Signed
MultiplierPromotionThreshold	0
RoutingFudgeFactor	0.5000
OptimizationCompatibilityCheck	off
NumCriticalPathsEstimated	1
CriticalPathEstimationFile	criticalPathEstimated
SLPAFile	staticLatPathAnalysis
SLPALoopsFile	staticLatLoops
SLPABackEdgeFile	staticLatLoopBackEdge
SLPAGMMapMATFile	staticLatGMMap
HardwarePipeliningCharacterizationFile	

HardwarePipeliningParam Warning	0
HighlightFeedbackLoops	on
HighlightFeedbackLoopsFile	highlightFeedbackLoop
HighlightClockRatePipelinin gDiagnostic	on
HighlightClockRatePipelinin gFile	highlightClockRatePipelining
HighlightRemovedDeadBloc ks	on
DistributedPipeliningBarrie rs	on
DistributedPipeliningBarrie rsFile	highlightDistributedPipeliningBarri ers
HighlightLUTPipeliningDiag nostic	on
HighlightLUTPipeliningDiag nosticFile	highlightLUTPipeliningDiagnostic
SetLUTPipeliningOffScriptFi le	setLUTPipelineOffScript
BlocksWithNoCharacterizati onFile	highlightCriticalPathEstimationOffe ndingBlocks
AXIStreamingTransformFea tureControl	off
AXIInterface512BitDataPort FeatureControl	off
SerializerRatioThreshold	8192
RetimingCP	off
RetimingCPFile	highlightRetimingCP
ClearHighlightingFile	clearhighlighting
FunctionallyEquivalentReti ming	on
DistributedPipeliningPrecisi on	-1
DistributedPipelining	off
UseSynthesisEstimatesForDi stributedPipelining	off
DistributedPipeliningPriorit y	Numerical Integrity
RetimingDetails	on
CriticalPathDetails	off

SignalNamesMangling	off
GuidedRetiming	off
LatencyConstraint	0
ReduceMatchingDelays	on
OptimizeBusDelayBalancing	off
OptimizationData	
CPGuidanceFile	
CPAnnotationFile	
OptimizeMdlGen	on
MulticyclePathInfo	off
MulticyclePathConstraints	off
FloatingPointTargetConfiguration	
GenerateTargetComps	on
NativeFloatingPoint	off
FPToleranceValue	1.0000e-07
FPToleranceStrategy	DEFAULT
nfpLatency	DEFAULT
nfpDenormals	DEFAULT
UseFloatingPoint	off
sschdlMatrixProductSumCustomLatency	-1
AlteraBackwardIncompatibleSinCosPipeline	off
FamilyDevicePackageSpeed	
ToolName	
SynthesisToolChipFamily	
SynthesisToolDeviceName	
SynthesisToolPackageName	
SynthesisToolSpeedValue	
SynthesisTool	
SynthesisProjectAdditionalFiles	
SimulationLibPath	
XilinxSimulatorLibPath	
AdderSharingMinimumBitwidth	0

MultiplierSharingMinimum Bitwidth	0
MultiplyAddSharingMinimu mBitwidth	0
ShareAdders	off
ShareMultipliers	on
ShareMultiplyAdds	on
ShareMATLABBlocks	on
ShareAtomicSubsystems	on
ShareCounterSerDes	off
UniqueGlobalSchedulingCo unters	on
ShareFloatingPointIPs	on
PipelinedSharing	on
EnableFPGAWorkflow	off
FPGAWorkflowParameters	
GainMultipliers	Multiplier
ProductOfElementsStyle	linear
UserComment	
CustomFileHeaderComment	
CustomFileFooterComment	
DateComment	on
SafeZeroConcat	on
SumOfElementsStyle	linear
TargetLanguage	VHDL
TreatRatesAsClockRates	off
Oversampling	1
Verbosity	1
TestBenchName	filter_tb
MultifileTestBench	off
IgnoreDataChecking	0
TestBenchPostfix	_tb
TestBenchDataPostfix	_data
TestBenchStimulus	
TestBenchUserStimulus	
TestBenchFracDelayStimulu s	
TestBenchCoeffStimulus	

TestBenchRateStimulus	
ForceClockEnable	on
MinimizeClockEnables	off
MinimizeGlobalResets	off
MinimizeTimingControllers	off
NoResetInitializationMode	InsideModule
NoResetInitScript	noresetinitscript.tcl
ComplexMulElaboration	MultiplyAddBlock
FlattenBus	off
TestBenchClockEnableDelay	1
ForceClock	on
ClockHighTime	5
ClockLowTime	5
HoldTime	2
InputDataInterval	0
ForceReset	on
ErrorMargin	4
HoldInputDataBetweenSamples	on
InitializeTestBenchInputs	off
ResetLength	2
TestBenchReferencePostFix	_ref
GenerateValidationModel	off
RAMMappingThreshold	256
IOThreshold	5000
TreatIOThresholdAs	Error
MapPipelineDelaysToRAM	off
RemoveRedundantCounters	on
ReplaceUnitDelayWithIntegerDelay	on
ConcatenateDelays	on
MergeDelaysOnFanouts	on
FoldDelaysToConstant	on
RAMArchitecture	WithClockEnable
RAMStyleAttributeName	
UseMatrixTypesInEML	on
InlineMATLABBlockCode	off

SubsystemReuse	Atomic only
InlineHDLCode	off
MaskParameterAsGeneric	off
InlineSubsystems	on
StringTypeSupport	off
DeleteUnusedBlocks	on
DeleteUnusedBlocksUnderMask	off
DeleteUnusedPorts	on
BalanceDelays	on
BalanceDelaysControlsFeedbackLoops	on
DelayAbsorption	on
TargetFrequency	0
ExtraEffortMargin	1
MaxOversampling	Inf
MaxComputationLatency	1
MultiplierPartitioningThreshold	Inf
TreatDelayBalancingFailureAs	Error
TransformDelaysWithControlLogic	on
TransformNonZeroInitValDelay	on
DelayElaborationLimit	20
TapDelayNoElab	on
GenerateCoSimBlock	off
HDLCodeCoverage	off
GenerateHDLTestBench	on
GenerateCoSimModel	None
GenerateSVDPITestBench	None
SimulationTool	Mentor Graphics Modelsim
CoSimModelSetup	CosimBlockAndDut
SynthesisOnDirective	
SynthesisOffDirective	
LoopUnrolling	off
InlineConfigurations	on

UseAggregatesForConst	off
UseVerilogTimescale	on
Timescale	`timescale 1 ns / 1 ns
VerilogFileExtension	.v
SystemVerilogFileExtension	.sv
VHDLFileExtension	.vhd
CodeGenerationOutput	GenerateHDLCode
GeneratedModelName	
GeneratedModelNamePrefix	gm_
ValidationModelNameSuffix	_vnl
LayoutStyle	Default
UseDotLayout	off
ShowCodeGenPIR	off
SerializeModel	0
SerializeIO	0
AutoRoute	on
AutoPlace	on
InterBlkHorzScale	1.7000
InterBlkVertScale	1.2000
CustomDotPath	
HighlightAncestors	on
HighlightColor	cyan
InitializeBlockRAM	on
InitializeRealPort	off
MapVectorPortToStream	off
UseFileIOInTestBench	on
TurnkeyWorkflow	off
AlteraWorkflow	off
GenerateFILBlock	off
CoSimLibPostfix	_cosim
TestBenchInitializeInputs	off
MinimizeIntermediateSignals	off
GenerateCodeInfo	off
GatewayoutWithDTC	off
IncrementalCodeGenForTop Model	off

HDLWFSmartbuild	on
HDLCodingStandard	None
HDLCodingStandardCustomizations	
ReferenceDesignParameter	
HDLLintTool	None
HDLLintInit	
HDLLintTerm	
HDLLintCmd	
ModulePrefix	
DetectBlackBoxNameCollision	Warning
PIRTC	on
UsePipelinedToolboxFunctions	on
savepirtoscript	off
ConcatenateHDLModules	off
ML2PIR	off
OptimBetweenMATLABAndSimulink	off
EnableTestpoints	off
BalanceDelaysForTestpoints	on
GenDUTPortForTunableParam	on
BalanceDelaysForTunableParam	on
TraceabilityStyle	Line Level
TraceabilityProcessing	off
TreatRealsInGeneratedCodeAs	Error
TreatBalanceDelaysOffAs	Error
EnumEncodingScheme	default
CompileStrategy	CompileAll
BuildToProtectModel	off
OptimizeConstants	on
OptimizeFixedPointConstants	off
FrameToSampleConversion	off
InputProcessingOrder	RowMajor

HDLDTO	off
UseArrangeSystem	off
TriggerAsClockWithoutSync Registers	on
CompactSwitch	off
SimIndexCheck	off

Chapter 7. 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 8. About this Report

Report Overview

This report describes the design of the AEB 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.

Requirements. Shows design requirements associated with elements of the design model. This section appears only if the design model contains requirements links.

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.