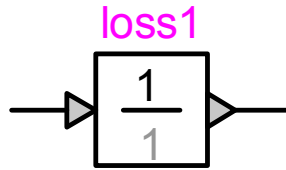


Control device : loss

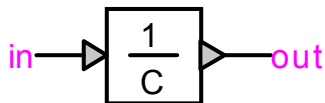


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1 Description

This control device applies a loss $1/C$ to the input signal. The loss coefficient is a user-defined parameter of constant value.

1.1 Pins



This device has two signal pins:

<i>pin</i>	<i>description</i>	<i>value when unconnected</i>
in	input	0
out	output	as calculated

1.2 Parameters

Selection options for the loss value:

<i>loss</i>	<i>output value</i>
1	$out(t) = in(t)$
constant value	$out(t) = in(t)/C$

1.3 History

No user-defined history is required.

1.4 Scopes

Setting the scope flag enables monitoring of the output signal during the simulation.

1.5 Output signal interpolation

During the simulation, the output value of the device is calculated at successive instants t at intervals Δt . Between these simulation instants, the output value can be set to vary in one of two modes, ramped or stepped:

<i>mode</i>	<i>output value between $t - \Delta t$ and t^-</i>	<i>value at t^-</i>	<i>value at t</i>
ramped	interpolated linearly between values $out(t - \Delta t)$ and $out(t^-)$	calculated at t^-	calculated at t
stepped	remains at $out(t - \Delta t)$	remains at $out(t - \Delta t)$	calculated at t

2 Time-domain representation

In the time-domain calculation at $t > 0$, the output value is calculated as follows:

$$out(t) = in(t)/C \quad (1)$$

3 Steady-state representation

In the steady-state calculation at $t = 0$, the output value is calculated as follows:

$$out(0) = in(0)/C \quad (2)$$

4 Netlist

4.1 Format

Netlist format:

```
_c_loss;name;2;2;out,in,  
loss,step/ramp,scope,
```

<i>field</i>	<i>description</i>	<i>value</i>
c_loss name 2 2	part name instance name pin count pin count	
out in	signal name of the output signal name of the input	
loss	loss coefficient	≠ 0
step/ramp	output interpolation	"S1" for stepped "S0" for ramped
scope	monitoring, optional	"?s" for enabled