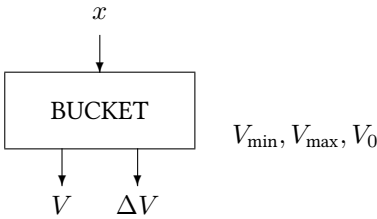


Block BUCKET

The BUCKET block cumulates its input signal within given limits.



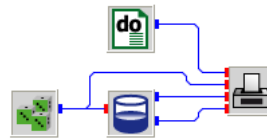
Name	BUCKET
Function	se0016
Inputs	1
Outputs	2
Parameters	3
Strings	0
Group	S

Inputs	1	Any signal x , which is cumulated unless the contents V reaches or exceeds a predefined threshold
Outputs	1	Actual contents of bucket V
	2	Actual overflow / deficit of bucket ΔV
Parameters	1	Minimum contents $V_{\min}$
	2	Maximum contents $V_{\max}$
	3	Initial contents V_0
Strings		None

Description The outputs $V_{t+\Delta t}$ and ΔV are calculated as

$$V_{t+\Delta t} = \begin{cases} V_{\min} & \text{if } V_t \leq V_{\min} \\ V_t + x; & \text{if } V_t + x < V_{\max} \\ V_{\max}; & \text{if } V_t + x > V_{\max} \end{cases}$$

bucket.vseit



A bucket is filled with normally distributed random numbers by a **GASDEV** block 200 times as specified in the **DO** block.

The random numbers (red), contents of the bucket (green) and overflow or deficite (blue) are plotted by a **PLOT** block.

