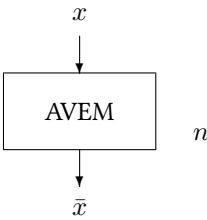


Block AVEM

The AVEM block calculates a moving average of its input signal over a given number of steps.

$\bar{x}_m$



Name	AVEM
Function	fb0042
Inputs	1
Outputs	1
Parameters	1
Strings	0
Group	S

Inputs

- 1
- Any signal x

Outputs

- 1
- Moving average $\bar{x}$ of the input signal over n steps

Parameters

- 1
- Number n of steps over which the moving average is calculated

Strings

None

Description The output of this block is given by

$$\bar{x}_j = \frac{1}{\min\{n, j\}} \left(\sum_{i=\max\{1, j-n+1\}}^j x_i \right)$$

where

j Actual timestep

n Number of time steps over which the average is calculated

Thus the average is always calculated over the last n steps.

avem.vseit



In a **DO** block numbers are counted from 1 to 6. The **AVEM** block with its parameter set to 4 calculates the moving average and finally the results are displayed by the **SCREEN** block.

1.	1.00
2.	1.50
3.	2.00
4.	2.50
5.	3.50
6.	4.50

Please observe that the successors of the **AVEM** block are executed in every time step (in contrast to the **AVE** block, for instance).

See also Blocks **AVE**, **AVEC**, **AVEP**.