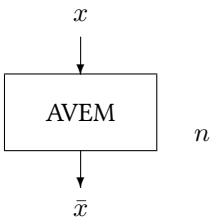
Block AVEM

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





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.