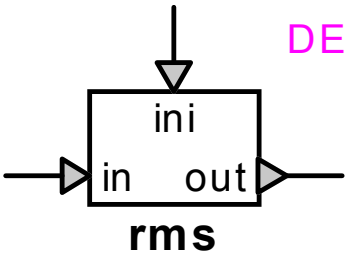
# Meter : RMS with i.c.






## 1 Description

This device calculates the RMS value of the input signal over a sliding time window of period equal to *1/freq* .

### 1.1 Pins

This meter has three pins:

| *pin* | *type* | *description* | *units* |
|---|---|---|---|
| in | input pin | input signal | any |
| ini | input pin | initial output value at t=0 | same as input |
| out | output pin | RMS over past period | same as input |

### 1.2 Parameters

The following parameter must be defined:

| *parameter* | *description* | *units* |
|---|---|---|
| freq | base frequency of the probed signal | Hz |

### 1.3 Input

The input pin may be connected to any control signal.

### 1.4 Output

The value of the output is the RMS value of the input signal over a sliding time window of period equal to *1/freq* .

$$\mathrm{out}(t) = \sqrt{\frac{1}{\mathrm{period}} \cdot \int_{t-\mathrm{period}}^{t} \mathrm{in}^2(t) \cdot dt} \qquad (1)$$

The calculated value includes the contributions of all harmonics present in the input signal.
For *t*<*period*, the output is held at the initial value ini(0).