**aperiodika**

*Function of calculation of aperiodic link of the 1st order.*

**Syntax:**

u1 = **aperiodika**(u, time, T);

u1 = **aperiodika** (u, T);

**Arguments:**

*u* – input value,

*time* – current modeling time,

*T* – link time constant.

**Description:**

*aperiodika*(*u, time, T*) – function of calculation of aperiodic link of the 1st order of input value *u* with link time constant *T* and current modeling time *time*.

*aperiodika*(*u, T*) – function of calculation of aperiodic link of the 1st order of input value *u* with link time constant *T*.

Aperiodic link of the first order is single-capacitive relaxation link that can be described by the differential equation:

*Ty’(t)* + *y(t) = kx(t),*

where:

*y(t)*is output value;

*x(t)*is input value;

*k* – link amplification factor;

*T* – time constant that constitutes the characteristics of the link relaxation. The more the link time constant is, the longer the transient process lasts.

When this function is used the value of synchronization step shall be considered.

**Result:**

*u1* – output value.