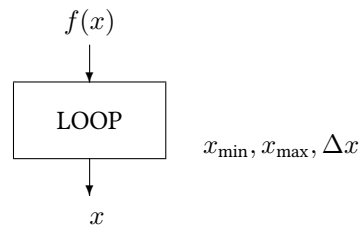


Block LOOP

The LOOP block runs through a sequence of values defined by parameters, restricted to a part of the simulation model.



Name	LOOP
Function	fb0055
Inputs	1
Outputs	1
Parameters	3
Strings	0
Group	L

Inputs

- 1 Any signal $y = f(x)$ within the loop

Outputs

- 1 Signal x which is varied in steps as defined through the parameters

Parameters

- 1 Minimum output signal $x_{\min}$
- 2 Maximum output signal $x_{\max}$
- 3 Increment of x per step Δx

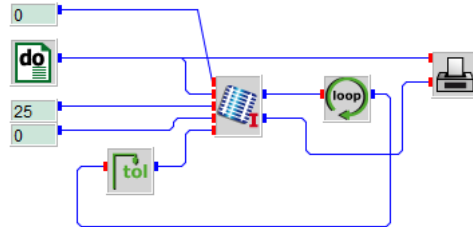
Strings

None

Description

The output signal of the **LOOP** block runs from $x_{\min}$ to $x_{\max}$ in steps of Δx . The function is very similar to that of the **DO** block with one difference: **DO** is a T-block, while **LOOP** is an L-block, which can set up a local loop.

`loop.vseit` This example shows how a **LOOP** block can be used in the calculation of steady-state PV module temperatures as a function of the global radiation.

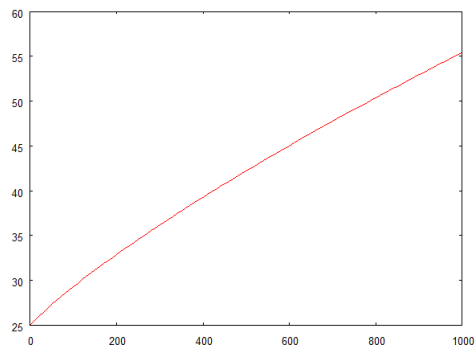


The global radiation is varied from 0 to 1000 Watt per square meter in steps of 10 by the **DO** block. The output of the **DO** block is used by a **PVI** block which calculates the current and module temperature in DEQ temperature mode. Ambient temperature and wind speed are set constant by **CONST** blocks.

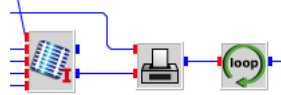
The **LOOP** block sets up a local loop. Since its output is used as time input of the **PVI** block the parameters are set to a start of 0, stop of 3600 and increment 60 seconds, i. e., the **LOOP** block simulates one hour during which the PV module can heat up. Since the voltage is set to zero the **PVI** block simulates short-circuit-current operation.

Please notice that the feedback connection between **LOOP** and **PVI** block does not set up an algebraic loop. This is a feature of L-blocks in combination with a **TOL** block.

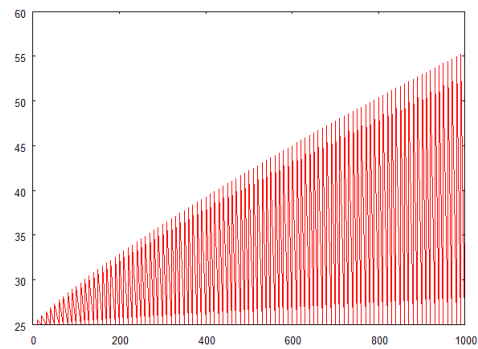
The **PLOT** block shows the final result.



The x coordinate is the solar radiation in Watt per square meter, the y coordinate the steady-state module temperature in degrees Celsius.



If the **PLOT** block is placed between the **PVI** block and the **LOOP** block the iteration process for each radiation value can be observed.



See also Block **DO**, block **MPP**, and block **NULL**, for instance.