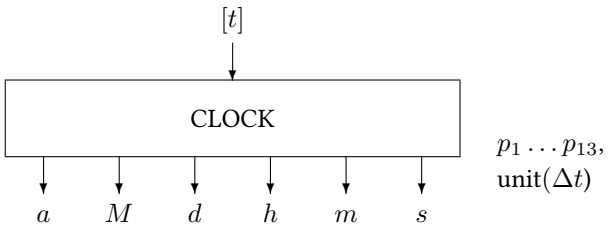
Block CLOCK

The CLOCK block generates date and time of the actual simulation time step with constant increment.





Name	CLOCK
Function	fb0024
Inputs	0 . . . [1]
Outputs	6
Parameters	13
Strings	1
Group	T

Inputs

1 Output t of a predecessor (optional). Should the block defining the t signal be executed again after CLOCK has finished its operation, the CLOCK block performs a reset and starts again.

Outputs

1 Year a
2 Month M
3 Day d
4 Hour h
5 Minute m
6 Second s

Parameters

1 Start on year a_1
2 Start on month M_1
3 Start on day d_1
4 Start on hour h_1
5 Start on minute m_1

6 Start on second s_1
7 Stop on year a_2
8 Stop on month M_2
9 Stop on day d_2
10 Stop on hour h_2
11 Stop on minute m_2
12 Stop on second s_2
13 Increment Δt

Strings

1 Unit of the increment Δt, case sensitive, ie 'm' $\neq$ 'M', for example
'a' Years
'M' Months
'd' Days
'h' Hours
'm' Minutes
's' Seconds

---

clock.vseit



The CLOCK block runs through two hours with a time step of 20 minutes. It starts on the February 28 at 23 o'clock and ends on Februray 29 at 1 o'clock. The result (year a, month M, day d, hour h, minute m and second s) is shown by a SCREEN block.

```
2012.    2.   28.   23.    0.    0.
2012.    2.   28.   23.   20.    0.
2012.    2.   28.   23.   40.    0.
2012.    2.   29.    0.    0.    0.
2012.    2.   29.    0.   20.    0.
2012.    2.   29.    0.   40.    0.
```

Remarks (1) Please note how the CLOCK block handles the time variables. The time, which is an output of the CLOCK block, remains constant during the whole time step, and is set to the start value of each time interval. The stop time 01:00:00 is given as a block parameter. The simulation time given by the start and stop time parameters is two hours in total. With a time step of 20 minutes this parameter setting results in six time steps, so that the CLOCK block starts at 23:00:00 and ends at 00:40:00—six time steps later.

(2) Please observe that the stop time at 1 o'clock does not appear as output, since this would indicate a seventh time step and this would be wrong!

(3) The CLOCK block handles midnight of a day—28 February 2000, for instance—as time 00:00:00 of the following day.

See also Blocks GREGOR, JULIAN, DOW.