## Model Name

Synchronizer mechanism

## Revision History (Date/Author/Changes made)

## Model Hierarchy

Central  
> Event Generator

*and*

Electrical system  
> GensetACx  
>> Genset  
>>> power calculation

*and*

Electrical system  
> GensetACx  
>> Genset  
>>> AVR

*and*

Electrical system  
> GensetACx  
>> Genset  
>>> Governor

## Description

The connected gensets are specified by a binary vector. The connected/disconnected state is forwarded to several subsystems:

* In power calculation, the active (p) and reactive (q) power are set to zero for a disconnected generator, thus adjusting the governor and AVR for the genset to take no load.
* Thevenin bus
* Power management system

The standard setup includes an event where the connected genset vector is instantly altered at a given switching time. This simulates the connection or disconnection of gensets.

## Parameters (include parameter identification)

## Input

Initially connected gensets (binary vector) ConnectedGensets

Connected gensets after switch (binary vector) ConnectedGensetsAfter

Switch time ConnectedGensetsSwitchTime

## Output

Connected or disconnected status of gensets Connected

## Limitation (include some comments of possibility to increase/decrease fidelity)

The model does not include startup procedures and phase synchronization as such. The switching time is assumed to include these aspects and the gensets are assumed to be fully synchronized at the switching instant.

## Validation

## Comments

## Reference