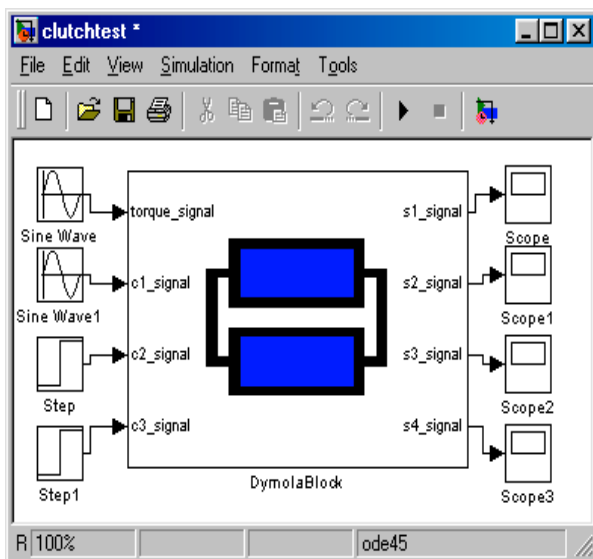


Dymola-Simulink Interface

Dymola provides an interface to Simulink. A Modelica model can be converted into a S-function block, a DymolaBlock. In Simulink you drag a DymolaBlock from the library browser, set the name of the model, click to compile it and then connect it to other blocks and simulate it in Simulink.

DymolaBlock

Simulink's library has been provided with a DymolaBlock.



Double clicking on the DymolaBlock opens a form to specify the name of the model and optionally the file name. The model is translated by clicking a "Compile Model" button on the form. The form is then rebuilt with slots for parameter values and start values for states. These slots are labeled with their Modelica names. A scrollbar is added if required by the numbers of parameters or states.

External inputs and outputs

A Dymola block is used as an ordinary building block in Simulink. It can be connected to other Simulink blocks, and also to other Dymola blocks.

External inputs to the Dymola block and external outputs from the Dymola block are accomplished by declaring variables as input or output in the top-level Modelica model as shown in the clutchtest model below. After compilation input and output ports are added to the DymolaBlock. These ports are given their corresponding Modelica names as illustrated in the figure above. These ports can be connected to other Simulink blocks.

Simulating

Simulation is made in the usual way setting suitable tolerances and integration algorithm in Simulink.

