

Simulink Library Browser

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Library: SimPowerSystems/Machines | Search Results: (none)

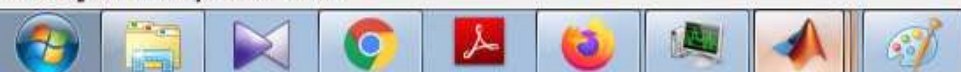
	Asynchronous Machine SI U...		Asynchronous Machine pu U...		DC Machine		Discrete DC Machine		Excitation System		Generic Power System Stabili...
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	Single Phase Asynchronous...		Steam Turbine and Governor		Stepper Motor		Switched Reluctance Motor		Synchronous Machine SI Fun...		Synchronous Machine pu Fun...
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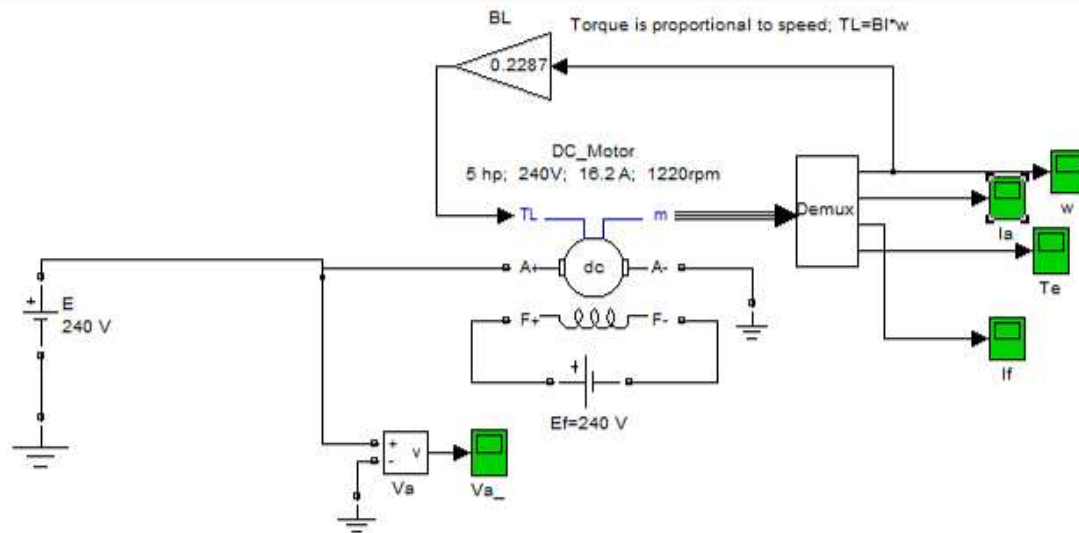
Block Description



SimPowerSystems/Machines/DC Machine: Implements a separately excited DC machine. Access is provided to the field connections so that the machine can be used as a shunt-connected or a series-connected DC machine.

Showing: SimPowerSystems/Machines





Continuous

Starting a DC Motr

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DC Machine :: Blocks (SimPowerSystems™)

Inputs and Outputs

TL
The block input is the mechanical load torque, in N.m.

w
The alternative block input (depending on the value of the **Mechanical input** parameter) is the machine speed, in rad/s.

m
The output of the block is a vector containing four signals. You can demultiplex these signals by using the Bus Selector block provided in the Simulink library.

Signal	Definition	Units
1	Speed w_m	rad/s
2	Armature current i_a	A
3	Field current i_f	A
4	Electrical torque T_e	N.m

Example

The [power_dcmotor](#) demo illustrates the starting of a 5 HP 240 V DC machine with a three-step resistance starter.

BL Torque is proportional to speed; $T_L = B I^* w$

matlab:power_dcmotor



