

Load Characteristic MOTOR_CMP

Two-cage or One-cage Induction Machine Load Model MOTOR_CMP

MOTOR_CMP is similar to MOTORW, with the following exceptions

The MVABase for this model is equal to $MVABase = \frac{P_{initial}}{L_{fm}}$

Etrq is the exponent for the torque equation. Thus if Etrq = 0 that represents constant torque, but would be equivalent to a MOTORW D parameter of 1.

Reminder: MOTOR_CMP again does not include the parameter LI (leakage reactance), so again its behavior is determined by the global option regarding how to handle MOTORW models

There are 2 stages of under-voltage load tripping and restarting defined with this model. The motor will be reduced by a fraction of Ftr1 if the terminal voltage falls below Vtr1 for Ttr1 seconds. This portion of the load will reconnect however if the voltage subsequently got above Vrc1 for Ttrc1 seconds.

Similar process is done for the Vtr2, Ttr2, Ftr2, Vrc2, and Trc2 parameters.

Note however that this tripping and reconnected is not modeling the dynamics of different portions of the loads slowing down and restarting. There is only one rotor speed state for this entire load model which is an approximation of 1000s of individual motors. The fractions of load that trip and then reconnect will not exhibit the restarting torques seen with an individual motor model.

This model is used inside the CMPLDW and CMLD composite models