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| Model Name: Example Listing | | |
| Name and affiliation of author or POC:  Chris Smith, MIT Lincoln Laboratory | Model Symbol: | Accreditation (TRL?):  IEEE type 3 regulator |
| Date of Publication:  6/14/2016 |
| Version Information:  1.0 |
| Model accessibility (open source, license, …):  HIL Members Only |
| Model Description and Theory of Operation:  This model provides a simple representation of a generator. It models the swing equation and associated dynamics as well as a simple first order approximation of governor and fuel delivery.  List of References:   * IEEE Recommended Practice for Power System Analysis (IEEE Brown Book)," in *ANSI/IEEE Std 399-1980* , vol., no., pp.1-223, Nov. 24 1980 doi: 10.1109/IEEESTD.1980.119230 | | |
| Model Specifications:  Assumptions and Limitations   * The model does not represent any AVR behavior, voltage, or current. Real power loads are the only type that should be used. * The grid frequency is assumed to be within 10% of nominal | | |
| Interfacing Information (platform, input requirements, possible outputs):  Inputs:  Total load in kW  On or off signal (1 = on, 0 = off)  Outputs:  Grid frequency in PU  Generated power in kW  Parameters:  Inertia (s)  Time constant of machine (s) | | |
| Diagrammatic Representation of Model Internals: | | |
| Model Validation (technique used, evidence): | | |
| Simulation Platform, Solvers:  Matlab 2015b with Simscape. A discrete solver with 1us time step was used in previous work. | | |
| Known Issues:  The model seems to be numerically unstable with a non-linear load. | | |
| Models which use this block:  Path\to\BigMicroGrid rev 2.slx | | |