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| Model Name: Fault | | |
| Name and affiliation of author or POC:  Reynaldo Salcedo, MIT Lincoln Laboratory | Model Symbol: | Accreditation (TRL?):  SimPowerSystems standard |
| Date of Publication:  3/15/2017 |
| Version Information:  1.0 |
| Model accessibility (open source, license, …):  Open source |
| Model Description and Theory of Operation:  The three phase fault block can be used to create short-circuits between phases and the ground reference. You can define the ground and fault resistance. The fault is active when the "On/Off" input receives a HI; fault duration is determined by the duration of the HI signal.  List of References:   * See SimPowerSystems documentation | | |
| Model Specifications:  The three phase fault block is implemented using four single phase breaker with their corresponding resistance for fault and ground. Currently, one signal activates the fault.  The connectivity convention adopted for this block is as follows: ABC indicates the “entry-point”.  Assumptions and Limitations   * Only three phase faults, but can be easily revised for multiple fault configurations | | |
| Interfacing Information (platform, input requirements, possible outputs):   1. Inputs:   “On/Off” signal to close the fault switches   1. Outputs: 2. Electrical connections:   A, B, C phase connections.   1. Parameters:   Fault resistance (ohm)  Ground resistance (ohm)  Snubber resistance (ohm) | | |
| Diagrammatic Representation of Model Internals: | | |
| Model Validation (technique used, evidence):  N/A | | |
| Simulation Platform, Solvers:  Matlab 2013a with Simscape. A discrete Tustin solver with 100us time step was used. | | |
| Known Issues:  Only three phase faults | | |
| Models which use this block:  Basic element for numerous distribution systems. | | |