|  |  |  |
| --- | --- | --- |
| Model Name: Example Listing | | |
| Name and affiliation of author or POC:  Chris Smith, MIT Lincoln Laboratory | Model Symbol: | Accreditation (TRL?):  SimPowerSystems standard |
| Date of Publication:  3/13/2017 |
| Version Information:  1.0 |
| Model accessibility (open source, license, …):  Open source |
| Model Description and Theory of Operation:  Three phase cable which has positive and zero sequence R and L components. The mutual impedance is modeled.  List of References:   * IEEE 141-1993 Table 4A-7b * For mutual impedance cables see SimPowerSystems documentation for Three-Phase Mutual Inductance Z1-Z0. | | |
| Model Specifications:  The length and parallel sets effect the impedance for the given cable cross sectional area. Different cross sectional areas are available in different blocks.  Assumptions and Limitations   * Nominal frequency is assumed to be 60Hz * 75 deg C nominal temperature * Capacitance of the lines is negligible | | |
| Interfacing Information (platform, input requirements, possible outputs):   1. Inputs: none 2. Outputs: none 3. Electrical connections:   A, B, C phase connections are the left hand side.  a, b, c phase connections are the right hand side.   1. Parameters:   Length (ft) – cable length from start to end  No of parallel sets- Cable sections used in parallel to form one conductor  Z0 / Z1 Impedance Ratio- zero to positive sequence ratio for calculating the mutual impedance | | |
| Diagrammatic Representation of Model Internals: | | |
| Model Validation (technique used, evidence):  The model is not validated against actual cable hardware, but it based on typical values found in literature. | | |
| Simulation Platform, Solvers:  Matlab 2013a with Simscape. A discrete Tustin solver with 100us time step was used. | | |
| Known Issues:  None | | |
| Models which use this block:  Basic element for numerous distribution systems. | | |