

PTW IEC_FAULT

IEC909 Fault Analysis

IEC_FAULT calculates short-circuit currents using the equivalent voltage source as required by the IEC 60909 standard. With IEC_FAULT, three-phase and unbalanced fault duties for electrical power systems are calculated in compliance with the IEC 60909 standards for low, medium, and high voltage systems.

Benefits

- Design safer systems utilizing IEC-rated equipment by complying with IEC 909 standards for short circuit current determination.
- Improve accuracy by using load flow results or voltage factor table to assign system pre-fault voltages.
- Eliminate duplicate entry by sharing the same project database and one-line diagrams with other PTW study modules.
- Communicate effectively with one-line datablocks and tabular reports.

*FAULT BUS: 013-DS SWG2 Voltage: 4.000 kV Eq. Volt. Source: 1.10 p.u. Sk": 132706 kVA Sk: 67667 kVA Ib asym: 16.287 kA					
	Ik" (kA)	1DC (kA)	1p (kA)	Ib (kA)	Ik (kA)
Total Fault Current	19.154	2.281	46.892	16.127	9.767
GROUP CONTRIBUTIONS -----	referred to 4.000 kV				
C7	15.358	0.390	36.654	14.306	9.767
INDIVIDUAL CONTRIBUTIONS:					
M4	3.810	1.891	10.274	1.828	0.000

Features

- Three phase, single-line to earth, double-line to earth, and line to line faults.
- Earth return current for double line to earth faults.
- Options to use load flow results or voltage factor table for assigning system pre-fault voltages.
- Models transformer and generator earthing impedances.
- Models transformer taps in all three sequence networks.
- Complete representation of the positive, negative, and zero sequence networks.
- Calculates near/far and meshed/non-meshed status for each source.
- Reports positive, negative, and zero sequence Thevenin impedance at each bus.

Features (Contd.)

- Reports total initial symmetrical apparent power S''_k .
- Reports total asymmetrical breaking current, I_b at user defined T_{minimum} .
- Reports total steady state apparent power S_k .
- Reports total initial symmetrical current I''_k .
- Reports total aperiodic component of short circuit current, i_{dc} at T_{minimum} .
- Reports total peak current, i_p .
- Reports symmetrical breaking current, I_b at user defined T_{minimum} .
- Reports steady state symmetrical current, I_k .
- Reports system branch flows to each fault location.

