



CYMFAULT - Short Circuit Analysis

The CYME power engineering software features CYMFAULT, a short circuit analysis module dedicated to calculating short-circuit currents in three-phase electric power systems. User-friendly data entry, a multitude of reports and flexibility in applying all industry-accepted standards are features that make CYMFAULT an indispensable tool for these very common and important system studies.

Program Features

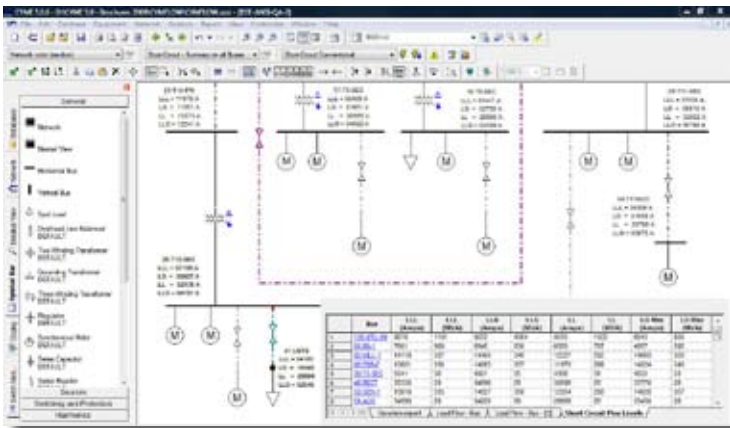
CYMFAULT adheres to International IEC-60909© guidelines and North American ANSI© C37.5, ANSI© C37.010, ANSI© C37.13 standards. It also supports conventional short-circuit studies without reference to any particular standards.

The program interfaces with:

- CYMFLOW, for fault studies taking into account pre-fault system loading.
- CYMSTAB to communicate the data required for unbalanced fault simulations.
- CYMTCC for protective device coordination settings.
- ARC Flash Hazard for electrical safety criteria.

Analytical Capabilities

- Three-phase, line to ground, line to line and double line to ground shunt faults
- Selection of the impedance for the modeling of the synchronous generator under short-circuit conditions (X_d , $X'd$ or $X''d$)
- Modeling of cable and line suseptance to account for the charging current contributions to the fault
- Separate reduction of the [R] and [X] matrices of the network to determine the X/R ratio based on the ANSI© method
- Arcing faults through user-defined fault impedance
- Three-winding transformers modeling in positive and zero sequence
- Phase shifts in Δ -Y transformer banks
- Protection device adequacy evaluation
- Automated sliding fault option on an overhead line and/or cable
- System wide voltage profile, and machine current contribution reports (phase and sequence values)



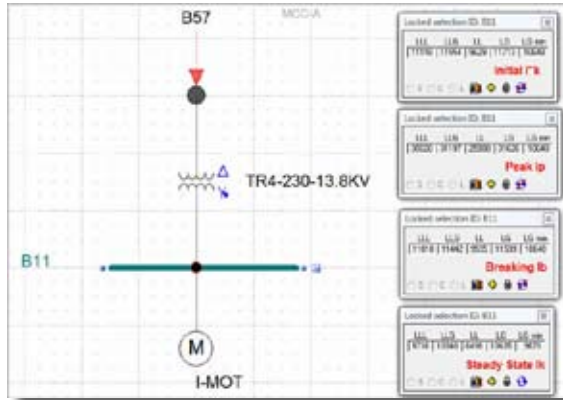
CYMFAULT - Short Circuit Analysis

Calculate short-circuit currents in three-phase electric power systems.

IEC Short-Circuit Studies

CYMFAULT adheres to the international IEC-60909© guidelines and supports all four types of fault currents relevant to industrial networks.

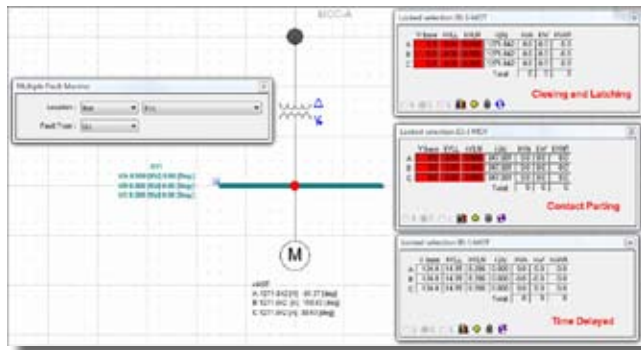
- Initial short-circuit current (I''^k)
- Maximum asymmetrical fault or peak current (I_p)
- Breaking fault current (I_b)
- Steady state fault current (I_k)
- Voltage factors based on IEC-60909©, or user-defined
- Transformer, generator, network feeders and power station units impedance correction factors
- Report of typical R/X ratios for generators, motors and network feeders



ANSI® Short-Circuit Studies

CYMFAULT adheres to North American ANSI® C37.5, ANSI® C37.010, ANSI® C37.13 relevant to short-circuit studies on industrial networks:

- Time delayed
- Contact parting
- Closing / latching
- Low voltage circuit breaker
- Automatic selection of multipliers applied to motor sub-transient reactance as dictated by the standard

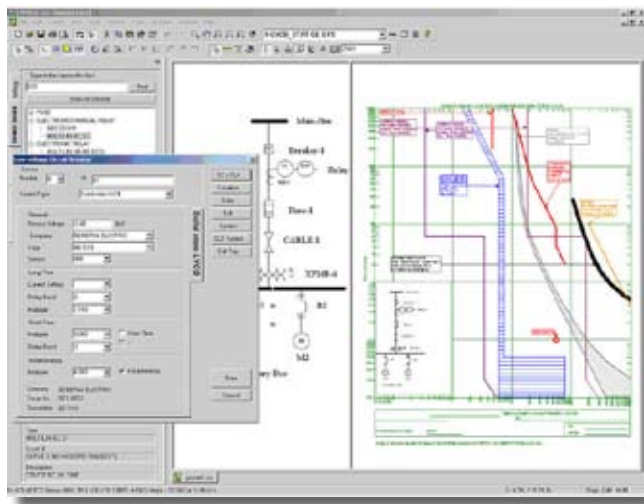


CYMFAULT / CYMTCC Interface

CYMFAULT includes an interface module to our Protective Device Coordination program CYMTCC.

This interface provides CYMFAULT users with full access to the complete library of over 15000 protective devices available in the CYMTCC program. The user simply has to define the coordination path of the feeder on the one-line diagram of CYME and export to CYMTCC.

CYMTCC will automatically generate the device time / current curves for the protection devices specified on a selected feeder, along with the feeder one-line diagram, for any device setting adjustment.



CYME International (part of Cooper Power Systems)

1485 Roberval, Suite 104
St-Bruno, QC Canada J3V 3P8
P: 450.461.3655
F: 450.461.0966
P: 800.361.3627 (Canada and USA)

www.cyme.com | www.cooperpowereas.com
info@cyme.com