

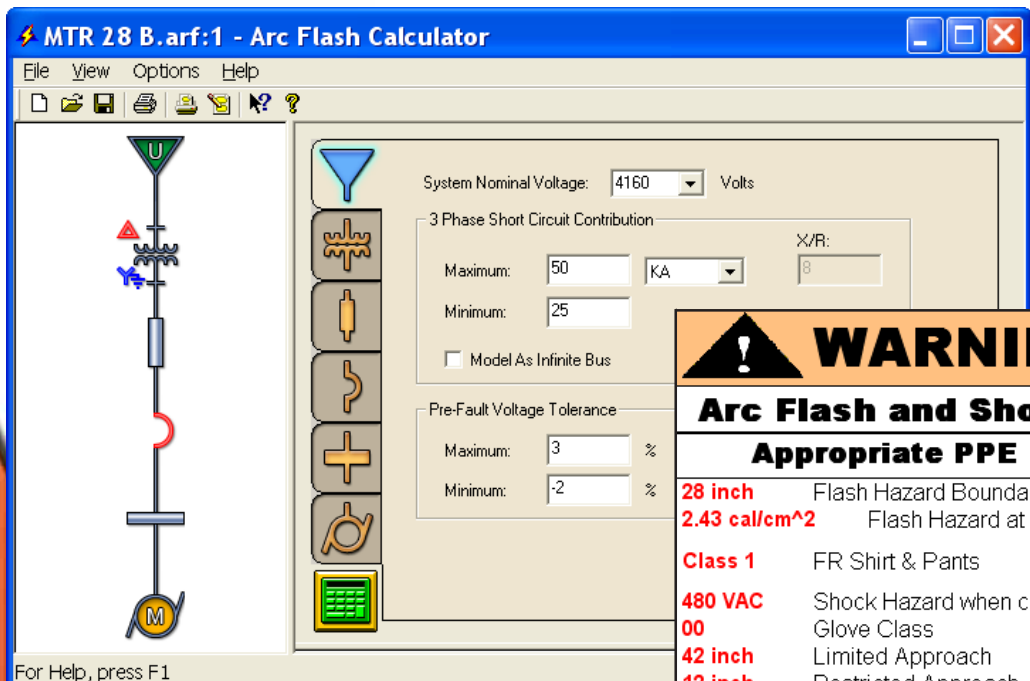
# ArcCalc

## Arc Flash Hazard Calculator

ArcCalc calculates the incident energy and arc flash boundary for any point in a power system. Minimum and maximum arcing short circuit currents are calculated using broad tolerances to provide conservative results with estimated system data. ArcCalc saves time by automatically determining trip times from the protective device settings. Incident energy, arc flash boundaries and PPE are calculated following the NFPA 70E and IEEE 1584 standards.

### Benefits

- Calculator-style interface makes complex calculations easy to understand.
- Provide a safer working environment by specifying the proper level of PPE. Wearing inadequate clothing is dangerous for obvious reasons, but wearing too much clothing is dangerous due to limited mobility and visibility.
- Design safer power systems while insuring compliance with NEC 110.16, OSHA, NFPA 70E and IEEE 1584 standards.
- Evaluate alternatives quickly and easily to understand the possible hazard.
- Improve safety margins with user-definable arcing fault tolerances.
- Improve safety margins with user-definable fault source and impedance tolerances.
- Save time by automatically generating arc flash labels and work permits.
- Avoid potential fines, lost productivity, and increased insurance and litigation costs.

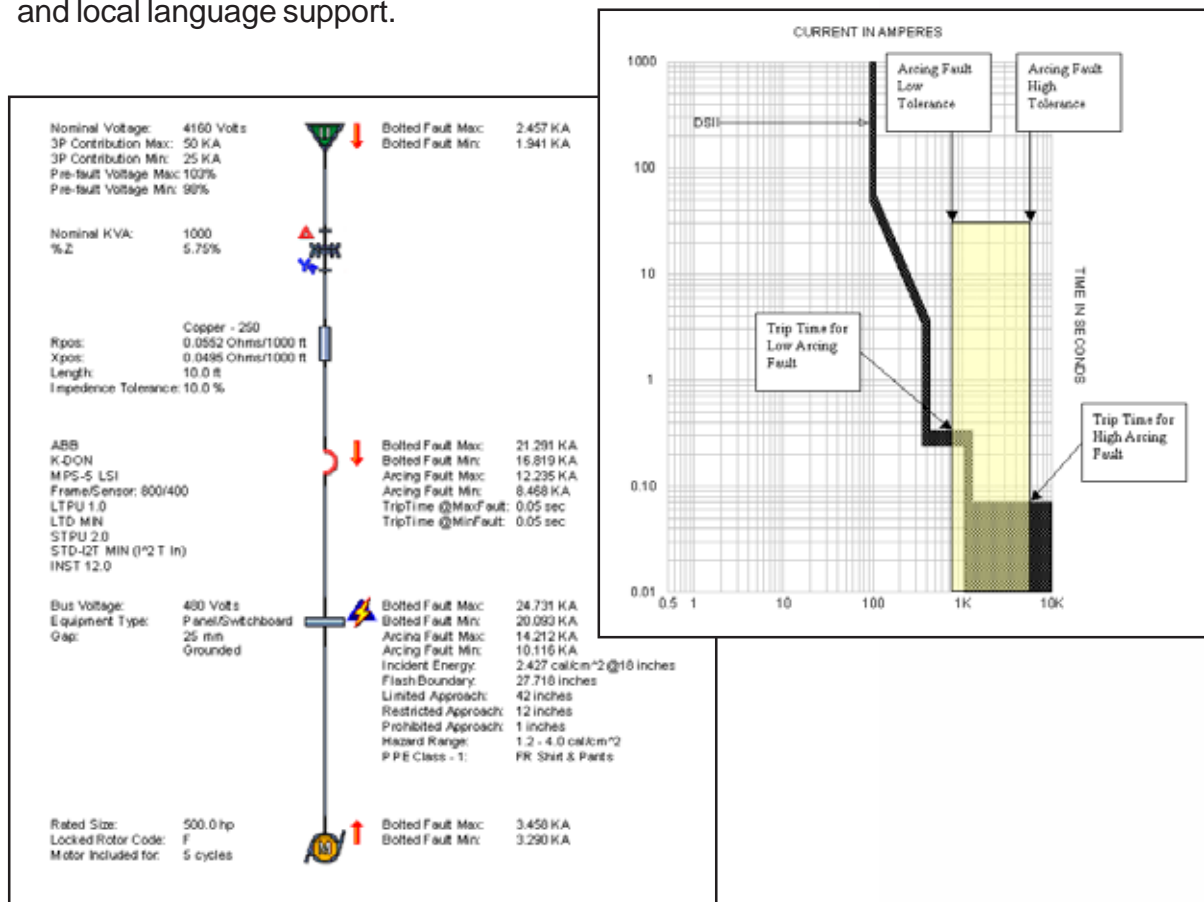


The screenshot shows the Arc Flash Calculator software interface. The window title is "MTR 28 B.arf:1 - Arc Flash Calculator". The interface includes a menu bar (File, View, Options, Help), a toolbar, and a main workspace. On the left, there is a schematic diagram of a power system with a busbar, a circuit breaker, and a motor. The main workspace contains several input fields and buttons. The "System Nominal Voltage" is set to 4160 Volts. The "3 Phase Short Circuit Contribution" section has "Maximum" set to 50 KA and "Minimum" set to 25. The "Pre-Fault Voltage Tolerance" section has "Maximum" set to 3% and "Minimum" set to -2%. A "WARNING" box is overlaid on the right side of the interface, providing the following information:

<b>WARNING</b>	
<b>Arc Flash and Shock Hazard</b>	
<b>Appropriate PPE Required</b>	
<b>28 inch</b>	Flash Hazard Boundary
<b>2.43 cal/cm<sup>2</sup></b>	Flash Hazard at <b>18 inches</b>
<b>Class 1</b>	FR Shirt & Pants
<b>480 VAC</b>	Shock Hazard when cover is removed
<b>00</b>	Glove Class
<b>42 inch</b>	Limited Approach
<b>12 inch</b>	Restricted Approach
<b>1 inch</b>	Prohibited Approach
<b>MCC 28A</b>	

## Interface Options

- Simple calculator-style interface.
- Network one-line includes user-definable fault source, cable, transformer and motor.
- Protection can be located anywhere on the one-line relative to the equipment bus.
- Intelligent default data for fault sources, transformers, cables and motors.
- Intelligent default data for arcing fault variables including bus gap and working distance.
- Comprehensive library with thousands of validated protective device trip characteristics.
- One-line display annotated with input data, short circuit values, trip times and flash hazard.
- Bus and branch arcing fault values are calculated, and trip times are automatically determined from the protective device settings.
- Arc Flash labels are automatically produced to comply with NEC 110.16 labeling requirements and can be printed in any size.
- Create custom labels in any size with user-defined logos, text, comments, field placement, and local language support.



## Study Options

- Option to follow the NFPA 70E or IEEE 1584 standards.
- Option to report in English or Metric units.
- Option to adjust arcing fault tolerance.
- Allows representation of differential, zone-interlocking, photo-sensing and other special instantaneous protection schemes.
- Induction motors can be included for a user-defined time.
- Maximum arc duration may be specified for situations with long trip times.