

ArcAD

Arc Flash Analytic v5.0 User Guide



Arc Flash Hazard Analysis and Label Making Without the Fuss



Table of Contents

- Installing Arc Flash Analytic version 5.0
 - AFA V5.0 Key Features
 - AFA V5.0 Key Capabilities
 - Registering the Program
 - Settings Menu
 - Units of Measurement
 - Managing Protection Device Data Base
 - Saving and Printing Labels
 - Saving Calculation Results
 - Opening Results Files
- Saving Equipment Configuration
- Importing Equipment Configuration
- Help About the Program & Contacts

Getting Started

Installing Arc Flash Analytic version 5.0

- *Download installation wizard to your PC or insert the installation CD into the CD drive. Arc Flash Analytic version 5.0 package comes in form of a single executable file.*
- *Double click the EXE file icon to launch the installation wizard.*

Welcome screen will appear.

- *Click Next button and follow instructions to complete the installation*



About the program

Arc-Flash-Analytic version 5.0 (AFA V5.0) is a powerful, easy to use Windows based program developed to assist in performing arc flash and shock hazard analysis in low and medium voltage power systems. With Arc-Flash-Analytic, it is also easy to create customized arc flash warning labels, reducing the cost of obtaining compliance with NFPA 70E and Canadian CSA Z462 standards.

AFA V5.0 Key Features

IEEE 1584 EMPIRICALLY DERIVED MODEL AND LEE METHOD

Applicable for systems with voltages in the range of 208V to 46kV, short circuit currents in the range of 700A to 106kA, switchgears, MCC, panels, cables and arc in open air.

AFA V5.0 has been extended to include circuit protection device drop down list. The program will populate the list with protection devices meeting the application's system voltage and interrupting rating requirements. AFA V5.0 comes accompanied with a built-in library of selected protection devices and the capability to extent the library with customer specific devices. The program will automatically determine arc duration based on the predicted arcing current value and the selected protective device type and rating.

Also, the new software version introduces evaluated threshold incident energy for a second degree burn at the arc flash boundary. The value was preset to industry standard 1.2 cal/cm^2 (5 J/cm^2) bare skin exposure to second degree burn in previous software editions. AFA V5.0 allows to enter different than the industry accepted value as well as let the program itself to evaluate onset incident energy for a 2nd degree burn to determine arc flash boundary at that incident energy.

AFA V5.0 Key Capabilities

1) Determine:

- √ Arcing current
- √ Incident energy
- √ Arc flash boundary
- √ Limited, restricted, prohibited shock approach boundaries
- √ Initial arc pressure
- √ Arc blast explosive TNT mass equivalent
- √ Site-specific level of personal protection equipment (PPE)
- √ Typical clothing system

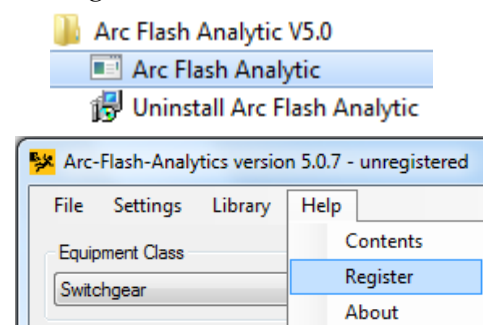
- 2) Save input configurations, calculation results for future reference or printing.
- 3) Generate arc flash warning labels in electronic *jpg, bmp, tif, gif, pdf* formats.
- 4) Save the labels on local drive or print them direct from Label Preview screen.
- 5) Perform analysis using metric, imperial units.
- 6) Create warning labels in English and a variety of international languages.

Launching and registering the program

- Click on Windows *START* button
- Select *ARC-FLASH-ANALYTIC V5.0* from Program Manager
- Click on program icon to launch the program

First time you launch the program, you will need to register it and unlock the program features inactivated in unregistered / demo version.

- Click on Help menu
- Select Register option



Registration screen will pop up. Enter your individual AFA V5.0 registration credentials including your first and last names, company name and your individual license key exactly as they appear on the letter or email accompanying your AFA V5.0 purchase.

NOTE

**Registration key comes with the purchase of the software.
Please contact us for your individual registration key.**

Settings Menu

Use *Settings* to manage units of measurement, arc duration cut-off, incident energy at arc flash boundary settings and site specific PPE recommendation settings.

Units of measurement

- Click on *Settings* menu and select *Units*.

The *Units* screen will pop up showing default units of measurement for input and output data.

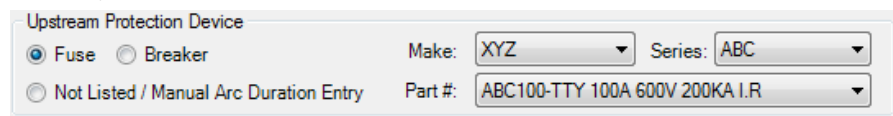
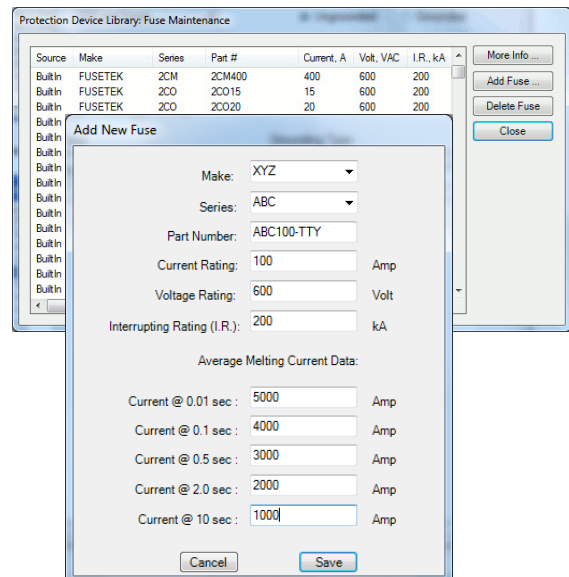
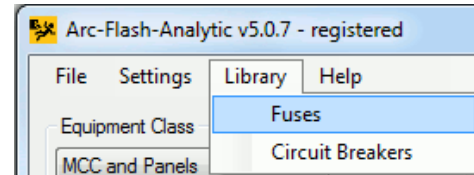
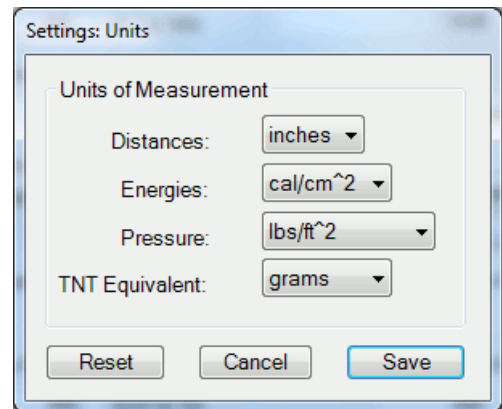
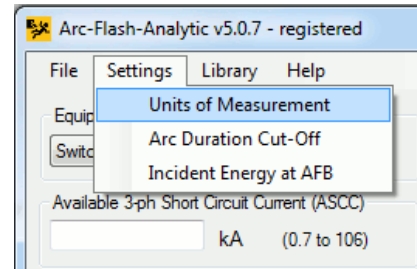
This feature allows you to switch units of measurement for a wide variety of input and output data including protection boundaries, incident energy, working distance, arc flash initial pressure and arc blast explosive equivalent. The program would also automatically convert all relevant values to the new units of measurement including input, output data and label readings.

The AFA V5.0 software will memorize the selected units of measurement as well as other program settings and apply them next time the program is launched.

Populating Protection Device Database

- Click on *Settings* menu and select *Fuses* or *Breakers*

Circuit Protection Device Maintenance dialog screen will show up. The feature allows you to add new protection devices not published in AFA V5.0 built-in circuit protection device database. You can specify manufacturer name, series, current rating, rated voltage, interrupting rating and the device clearing characteristics data for each one of the devices. When finished, close the form to return to the main program screen. You will notice newly entered devices listed under *Upstream Protection Device* drop down list. Click on *Not Listed* radio button if the device information is not available or if you'd like to enter arc duration manually.

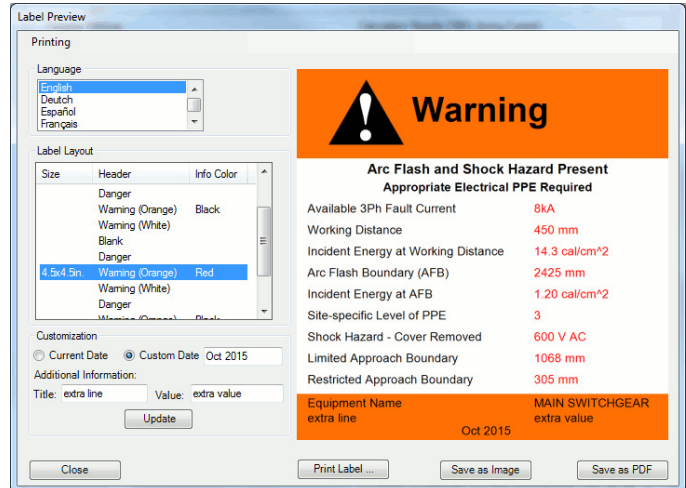


Saving and Printing Labels

From *Label Preview* window, click on *Save as Image* or *Save as PDF* buttons to save the label in any one of the available electronic formats.

You can also click on *Printing* to fine tune printer settings, preview and print labels.

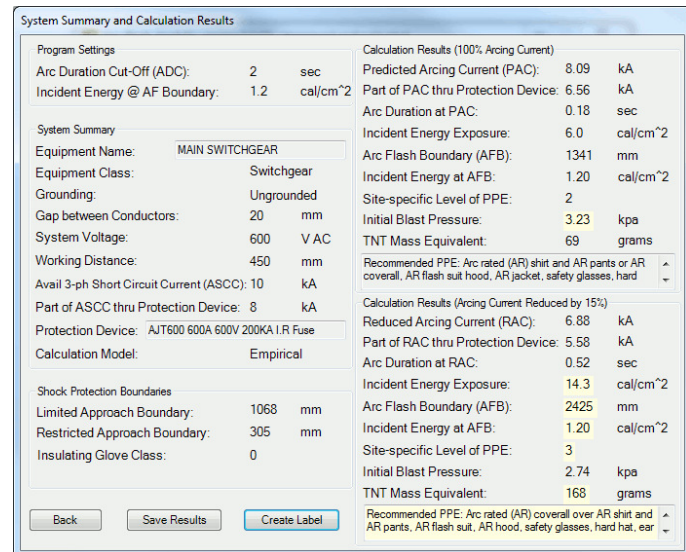
You will need standard laser or specialized label printer to produce warning labels created using Arc Flash Analytic software.



Note: We offer label printing services. Please visit www.arcadvisor.com website or contact us for more information.

Saving Calculation Results

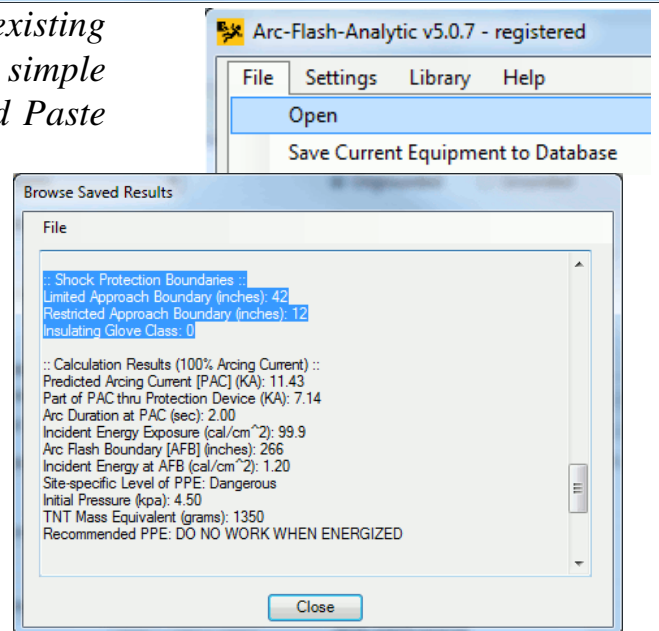
By pressing *Save Results* button from *System Summary and Calculation Results* screen, the results will be saved to new or an existing text file for future reference or printing.



Opening Results Files

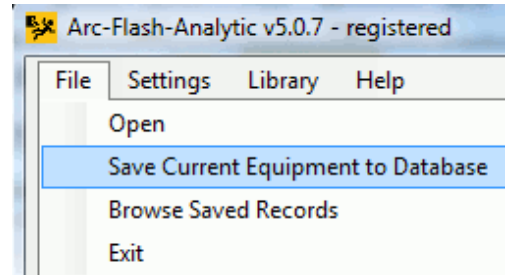
• Click on *Open* from *File* menu to open an existing results file, inspect its current content, do simple editing operations including *Cut*, *Copy* and *Paste* to and from the clipboard, *Save* and *Print*.

If you need more complex editing, import the file into your favorite text manipulation processor (MS Word for example) and do what you need to do.



Saving Equipment Configuration

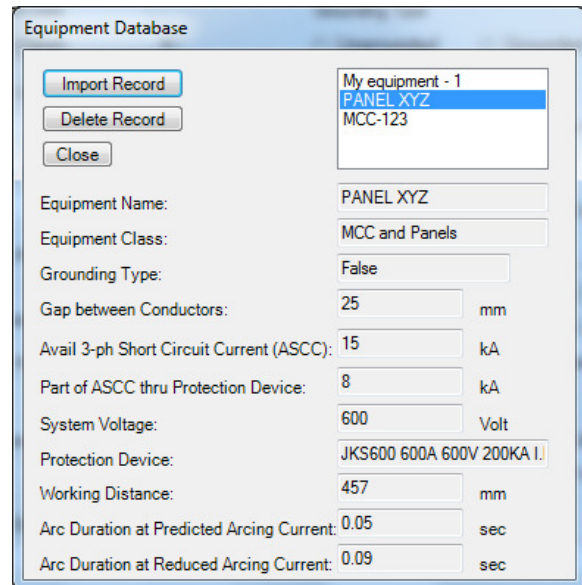
- Click on Save Current Equipment to Database from File menu to save the configuration.



Importing Equipment Configuration

- Click on Browse Saved Records from File menu to import previously saved equipment configuration.

Use navigation buttons to select a record and click on Import Record button to copy the data into the program main window.



Help About the Program

If you have any question or problems with installation, running the program, arc flash hazard analysis, or creating warning labels using the program tool, please check the program Help or contact us.

Contact Information

ARCAD INC.
1906 - 362 The East Mall
Toronto, ON M9B 6C4
Canada

Phone: 647-693-7715
Fax: 270-573-9840
Web: www.arcadvisor.com

