

# ArcAD

# ARCMaster V1.0

## User Guide

AC Power System Arc Flash Hazard Analysis and Labeling Software

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### About the Program

ARCMaster V1.0 is a powerful and easy to use Windows-based program specifically developed to assist in performing arc flash and shock hazard analysis in single- and three-phase AC power systems.

### ARCMaster V1.0 Key Features & Capabilities

The program takes equipment class, fault type, system voltage, available short circuit fault current, system X/R ratio, conductor gap, working distance, protection device type and rating, or a preset arc duration value, and determines incident energy released by the arc flash, arc flash and shock protection boundaries and site-specific level of personal protective equipment (PPE). ARCMaster V1.0 is applicable for systems with voltages in the range of 50 to 30,000V AC, short circuit fault currents from 0.2 to 50kA, the X/R from 0 to 50.

Among various key capabilities, the ARCMaster V1.0 evaluates threshold incident energy for a second degree burn, performs analysis using metric or imperial units, saves input configurations and calculation results for future reference or printing. With ARCMaster V1.0, it is also easy to create arc flash warning labels in different electronic formats and languages, thus reducing the cost of obtaining compliance with NFPA 70E and Canadian CSA Z462 standards.

Visit us at [www.arcadvisor.com](http://www.arcadvisor.com) for more on-line resources, PC software programs and mobile apps for short circuit fault current, arc flash hazard analysis and labeling.

## Installing ARCMaster version 1.0

ARCMaster V1.0 package comes as a single executable file:

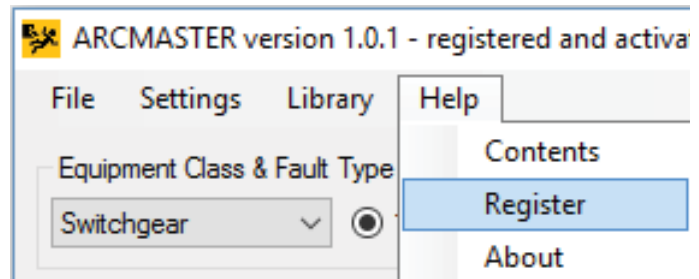
- Download the .EXE file to your PC or insert the installation disk into CD drive
- Double click the EXE file icon to launch the installation wizard
- Welcome screen will appear. Click [Next] button and follow the instructions to complete the installation

## Launching and registering the program

- Click on Windows START button
- Select ARCMaster V1.0 from Program Manager
- Click on the program icon to launch ARCMaster V1.0

The first time the program is launched, you will need to unlock the program features that have been deactivated in unregistered / demo version:

- Click on Help menu
- Select Register option



Registration screen will pop up; please enter your individual ARCMaster V1.0 registration credentials including your first and last name, company name and your individual license key exactly as they appear on the letter or email accompanying your ARCMaster V1.0 purchase.

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

## Options Menu

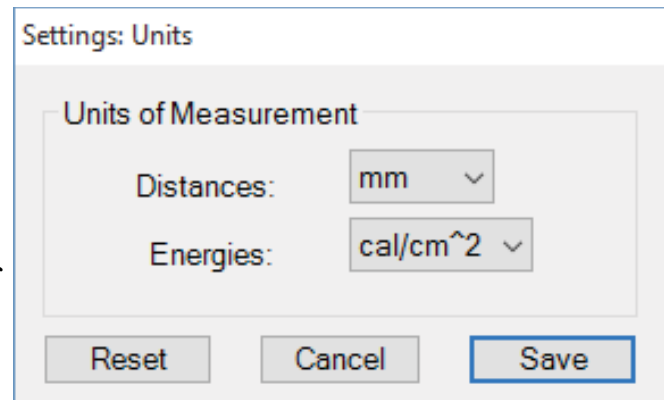
Use Options to manage units of measurement settings and protection device database.

### Units of measurement

- Click on Options 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 arc flash and shock protection boundaries, incident energy, working distance etc. The program would also automatically convert all relevant values to the new units of measurement including input, output data and label readings. The ARCMaster V1.0 software will memorize the selected units of measurement and apply them next time the program is launched.



## Populating Protection Device Database

- Click on Library menu and select Fuses or Circuit Breakers

The selected circuit protection device type maintenance screen will show up. The feature allows you to add new protection devices not published in ARCMaster V1.0 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 in the main program window.

Protection Device Library: Fuse Maintenance

| Source  | Make    | Series | Part # | Current, A | Volt, V DC | I.R., kA |   | More Info ... |
|---------|---------|--------|--------|------------|------------|----------|---|---------------|
| BuiltIn | FUSETEK | 2CC    | 2CC150 | 150        | 250        | 40       | ▲ | Add Fuse ...  |
| BuiltIn | FUSETEK | 2CC    | 2CC200 | 200        | 250        | 40       |   | Delete Fuse   |
| BuiltIn | FUSETEK | 2CC    | 2CC350 | 350        | 250        | 40       |   | Close         |
| BuiltIn | FUSETEK | 2CC    | 2CC400 | 400        | 250        | 40       |   |               |
| BuiltIn | FUSETEK | 2CC    | 2CC600 | 600        | 250        | 40       |   |               |
| BuiltIn | FUSETEK | 2CO    | 2CO40  | 40         | 250        | 40       | ▼ |               |

## Saving 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 will need a standard laser or ink jet printer to produce warning labels created using ARCMaster software.

## Saving Calculation Results

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

Calculation Results, Label Preview & Printing

Printing Saving

Program Settings  
Arc Duration Cut-Off: 2 sec  
Incident Energy @ AFB: evaluated at 0.4 cal/cm<sup>2</sup>


Label Layout and Language

| Size       | Header           | Info Color |
|------------|------------------|------------|
| 4.5x4.5in. | Warning (Orange) | Red        |
|            | Warning (White)  |            |
|            | Danger           |            |
| 6x 4 in.   | Warning (Orange) |            |
|            | Warning (White)  |            |
|            | Blank            |            |
|            | Danger           |            |
|            | Warning (Orange) | Black      |

English  
Deutsch  
Español  
Français

Customization  
 Current Date  Custom Date Jan 2016

Additional Line of Information:  
Title: Protection Device Value: A4BQ1400

 **Warning**

**Arc Flash and Shock Hazard Present**  
**Appropriate Electrical PPE Required**

|                                     |                          |
|-------------------------------------|--------------------------|
| Available Fault Current             | 19.048kA                 |
| Working Distance                    | 457 mm                   |
| Incident Energy at Working Distance | 0.83 cal/cm <sup>2</sup> |
| Arc Flash Boundary (AFB)            | 635 mm                   |
| Incident Energy at AFB              | 0.4 cal/cm <sup>2</sup>  |
| Site-specific Level of PPE          | 1                        |
| Shock Hazard - Cover Removed        | 256 V AC                 |
| Limited Approach Boundary           | 1068 mm                  |
| Restricted Approach Boundary        | Avoid Contact            |

Equipment Name: Calculation  
Protection Device: A4BQ1400  
Jan 2016

Close Save Results Print Label ... Save as Image Save as PDF

## Saving Equipment Configuration

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

The program will save your existing equipment configuration including equipment name, fault type, available short circuit current, system voltage and X/R ratio, gap between conductors, working distance, equipment class, upstream protection device and arc duration.

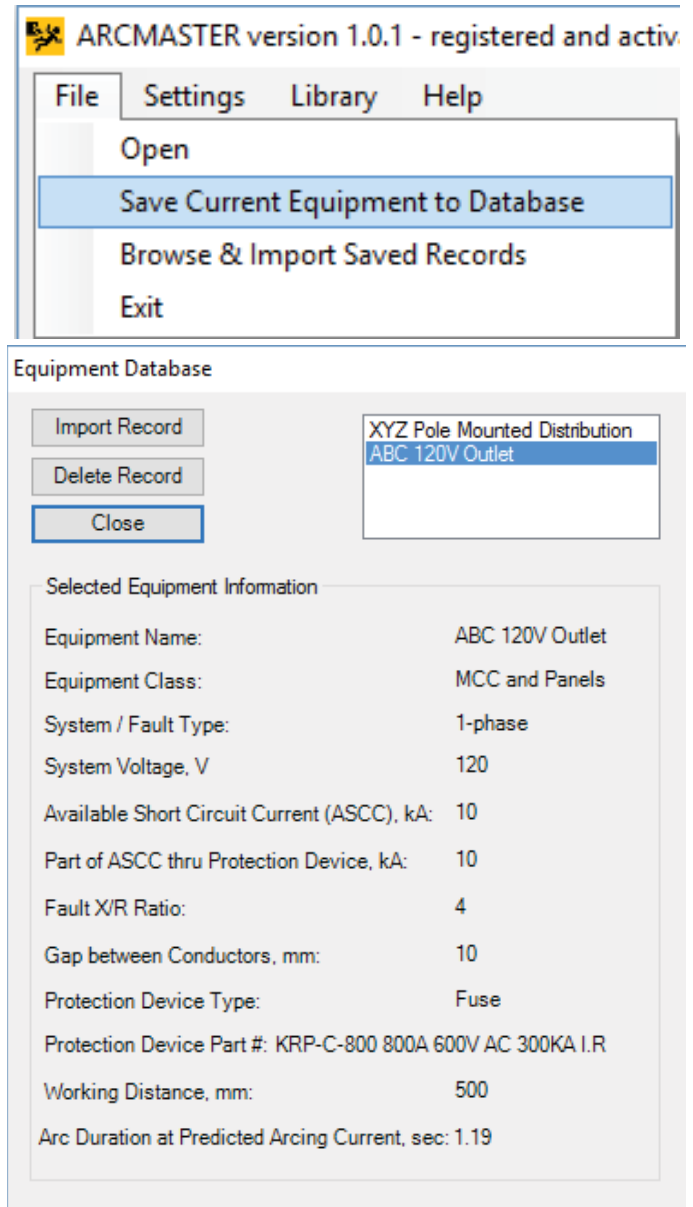
## Importing Equipment Configuration

- 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.

## Saving and Printing Labels

The program allows save arc flash & shock hazard warning labels in electronic JPG, GIF, TIF, BMP (BitMap), PDF formats. You can also select label size, type, layout and language and click on Print Label button to send the label to print. Click on Printing menu item, preview labels, make adjustment to page layout and printer settings setup prior to printing labels directly from the ARCMaster V1.0 program.



## Help With 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

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