



Short CircuitAnalytic V1.0

User Guide

Short Circuit Analytic Version 1.0 (SCA V1.0) Software Program

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About the program

Short-CircuitAnalytic version 1.0 (SCA V1.0) is a powerful and easy to use Windows-based program specifically developed to assist in performing short circuit analysis in AC power systems.

SCA V1.0 Key Features & Capabilities

The SCA V1.0 software program performs available fault currents calculations in three-phase electric power systems you are working with. The program takes into consideration electrical parameters of the power supply as well as the power distribution system including utility, cables, bus ducts, transformers, generators, motors etc. SCA converts the entire system into a unique impedance unit from which the short circuit current at each and every point is calculated. The process is simple, efficient and will save you both money and time. SCA V1.0 key capabilities are:

- Calculate available 3-phase short circuit currents
- Compute contributions from generators and motors
- Print out multi-page single line diagrams
- Save calculation results and equipment data

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Installing Short Circuit Analytic version 1.0

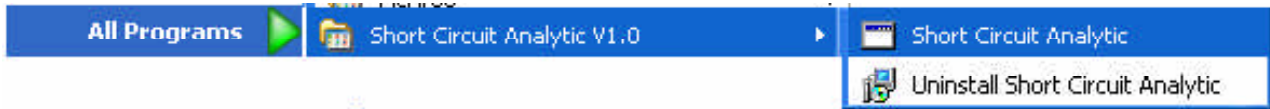
Short Circuit Analytic version 1.0 (SCA V1.0) package comes as a single executable file:

- 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 instructions to complete the installation



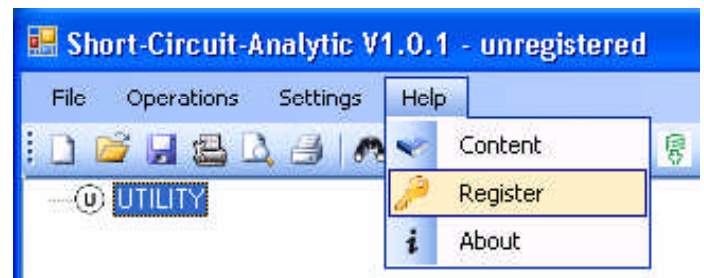
Launching and registering the program

- Click on Windows START button
- Select SHORT-CIRCUIT-ANALYTIC-V1.0 from Program Manager
- Click on the program icon to launch SCA V1.0



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

- Click on Help menu
- Select Register option

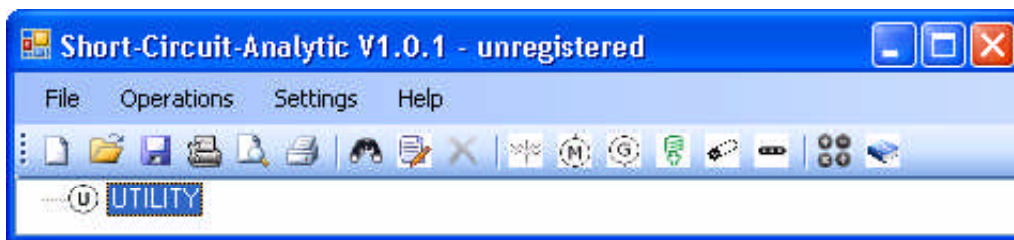


Registration screen will pop up; please enter your individual SCA V1.0 registration credentials including your first and last name, company name and your individual license key exactly as they appear on the letter or email accompanying your SCA V1.0 purchase.

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

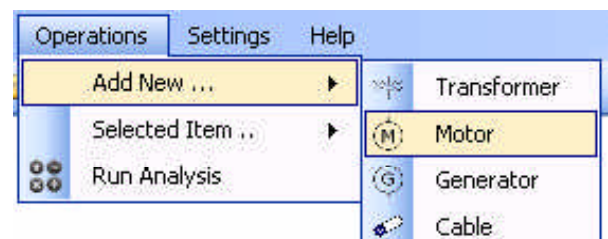
Creating & Saving Single Line Diagram using SCA V1.0

When you launch SCA V1.0, the program will create a new project for you and insert source node into input screen. The input screen is the screen with the one line diagram of the system.

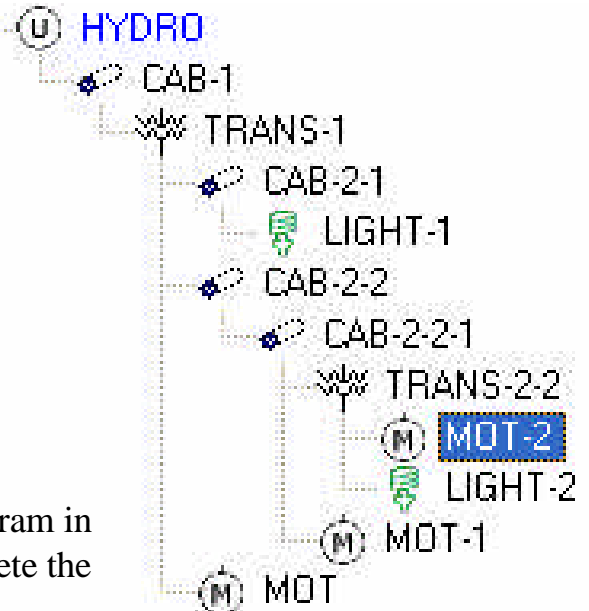


You can add transformers, motors, generators, lighting, resistance loads, cables and bus ducts one at a time. To add an equipment, select the bus the equipment is to be placed on and:

- Click on equipment buttons from tool strip, or
- Click on Operations -> Add New.. and select type of equipment to be added.



Data entry form for the selected equipment type will pop-up. **HYDRO**
 Complete the form and hit [OK] button.



The newly entered equipment will appear under single-line diagram in the input screen. Continue with the steps above until you complete the diagram.

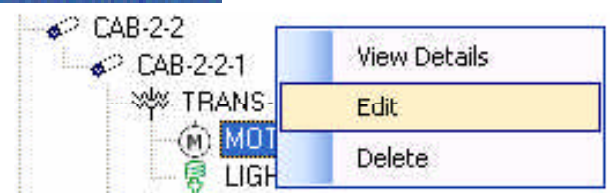
To delete an equipment, click to select it first and:

- Click on Delete button from tool strip, or
- Right-click the equipment icon and click on Delete button



To edit an equipment, select it first and:

- Click on Edit button from tool strip, or
- Right-click the equipment icon and click on Edit button, or
- Open Operations menu, click on Selected Item.. and choose the action



You can save data under a unique project name, start with a new project or open a previously saved project at any time. To save project, click on Save button from tool strip or select Save from File menu.

To open up previously saved diagram, click on Open button from tool strip or select Open from File menu.



Running Short Circuit Analysis using SCA V1.0

To run the analysis:

- Click on Run Analysis button from tool strip, or
- Open Operations menu and select Run Analysis option

Calculation Results screen will open up in a new window.

ID	Equipment Label	Line V-LL, V	Line SCA, KA	Line X/R	Load V-LL, V	Load SCA, KA	Load X/R	Bus
1	HYDRO	N/A	N/A	N/A	13800	20.09	11.9	N/A
2	CAB-1	13800	20.09	11.9		19.48	9.5	[HYDRO]
3	TRANS-1		19.48	9.5	600	11.96	7.6	[CAB-1]
4	CAB-2-1	600	11.96	7.6		10.09	4.0	[TRANS-1]
5	CAB-2-2		11.96	7.6		4.25	0.9	
6	LIGHT-1		10.09	4.0	N/A	N/A	N/A	[CAB-2-1]
7	CAB-2-2-1		4.25	0.9	600	3.79	5.4	[CAB-2-2]
8	TRANS-2-2		3.79	5.4	240	4.65	8.9	[CAB-2-2-1]
9	MOT-2	240	4.65	8.9	N/A	N/A	N/A	[TRANS-2-2]
10	LIGHT-2		4.65	8.9		N/A	N/A	
11	MOT 1	600	3.79	5.4		N/A	N/A	[CAB 2 2 1]
12	MOT		11.96	7.6		N/A	N/A	[TRANS-1]

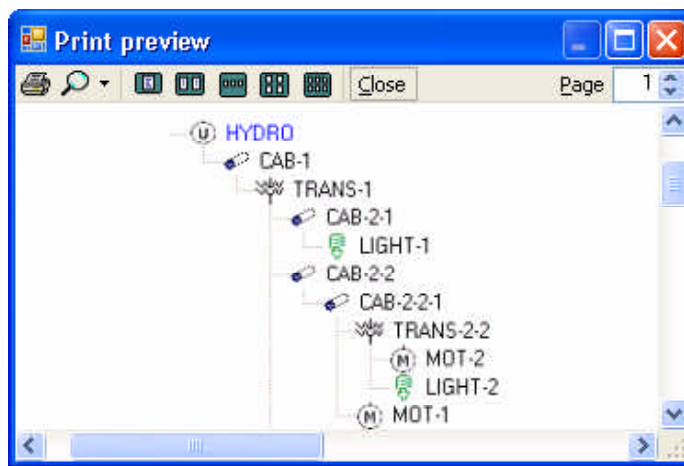
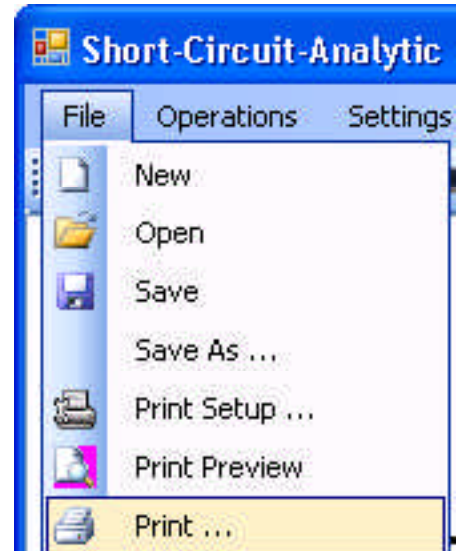
Click on column headers to sort the information by the column title. Click on [Save] button to save calculation results in the text format on your disk. Check the box on top of the screen to save equipment description in the report file. The program will save the results including equipment labels, voltage ratings, available 3-phase short circuit currents, power factors in tabulated text file format. You can import the file into your favorite text manipulation processor (MS Word for example) and do what you need to do.

Printing Out Single Line Diagram

To print out the diagram:

- Click on Print button from tool strip, or
- Open File menu and select Print option

Prior to sending a single-line diagram to print, you may adjust print settings by clicking on Page Setup and Print Preview options from File menu, or by clicking on the respective buttons from the tool strip.



Help With the Program

If you have any questions or problems with installation, running the program, or performing short circuit analysis using the program tool, please check the program Help or contact us.

Contact Information

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