



EMF Calculator Desktop Express / Mobile Edition User Guide

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Introduction to the EMF Calculator Desktop Express / Mobile Edition

Overview

The MagShield EMF Calculator Desktop Express / Mobile Edition is an application that can calculate the electromagnetic field generated by a single symmetrical 3-phase electric circuit at two given measurement points.

The MagShield EMF Calculator Desktop Express Edition is a .NET 2.0 application that runs on any Microsoft Windows platform that supports the .NET 2.0 runtime. The .NET 2.0 runtime can be obtained from <http://www.microsoft.com/net>.

The MagShield EMF Calculator Mobile Edition is a .NET 1.0 Compact Framework application that runs on Microsoft Windows Mobile for Pocket PC and requires the .NET CF 1.0 runtime.

The calculator was built for MagShield Products International P/L by Madhouse Development. For more complex scenarios, such as multiple 3-phase circuits, induced current in earth wires and wider measurement areas, the EMF Calculator Web Edition is available online at <http://www.emfcalculator.com>.

Terms and Conditions

See <http://emfcalculator.com/about/termsandconditions.aspx> for the Terms and Conditions of use of the software. The Desktop Express and Mobile Editions are licensed only for the company or organisation noted in the start up screen of the application. To obtain a copy of the software

Acronyms

The following is a list of acronyms and abbreviations that are used through this document and within the EMF Calculator.

Term	Definition
EMF Calculator EMF Calculator Web Edition	The web based EMF calculation tool at http://www.emfcalculator.com
EMF Calculator Mobile Edition	The version of the EMF Calculator targeted at Microsoft Windows Mobile for Pocket PCs
EMF Calculator Desktop Express Edition	The version of the EMF Calculator targeted at Microsoft Windows 98, 2000 and XP operating systems
Magshield	Magshield Products International Pty Ltd
model	
calculation	

Contact Us

To enquire about access to the calculator, to report issues encountered during use, or to pass on any feedback please contact Garry Melik from Magshield.



Garry Melik
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Getting Started

Installing

Desktop Express Edition

Run the supplied “MagFieldCalculatorDesktopExpressSetup.msi” install package and follow the prompts.

Mobile Edition

Copy the supplied “EmfCalculatorMobileEditionCF10Setup.CAB” CAB installation file to a directory on your mobile device. Run the file from your mobile device to install.

Running a calculation

You can create a new model by selecting the **New** option from the **File** menu.

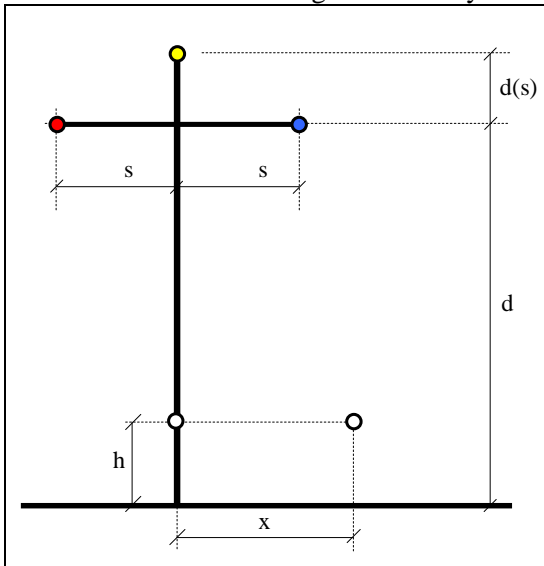
Creating a model

In the General information section, enter the following information :

- **Reference** is the title of the model, such as ‘100 Station Street’ or ‘Project 123’,
- **I** is the current in Amps
- **h** is the height above (+) or below (-) the ground of the measurement points, in metres
- **x** is the horizontal location of the second measurement point (with the first point being at $x = 0$) , in metres
- **d** is the height of the middle wire of the 3-phase circuit
- **ds** is the difference in height between the middle wire and the outer wires of the circuit, in metres
- **s** is the horizontal offset of the outer wires from the middle wires, in metres



These values are show diagrammatically below.



Once you are happy with the values, click **Calculate**.

Results

The results of the calculator show the vertical (B_v), horizontal (B_h) and resultant (B_r) field levels in mG for the measurement point at $(0, h)$ and the resultant $*B_r$ field at the secondary measurement point at (x, h) . There is also a visual representation of your model to aid understanding.

EMF Calculator Desktop Edition

File Help

Reference: My model

I 1000 A h 1.5 m x 1.2 m

d 3.5 A ds .7 m s .8 m

Calculate

B_v 597.26

B_h -121.33

B_r 609.46
at (0,1.5)

B_r 494.30
at (1.2,1.5)

The interface includes a diagram of the model with a red dot, a blue dot, and a yellow dot, and a secondary measurement point at (x, h) .



Additional functionality

Saving models

Once you have calculated the results for a model, the **Save** function is available in the **File** menu. On clicking **Save** you will be prompted to specify the location to save the model. Save files can be shared between the Desktop Express and Mobile Editions, but not the Web Edition.

Opening and editing a saved model

The **Open** function in the **File** menu allows you to open a previously saved model.



Troubleshooting

Error whilst creating a model or running a calculation

To report an error with the EMF Calculator, see the Contact Us section or use the **Feedback** section of the site.