

# FormulaPro Overview

## What is FormulaPro ?

FormulaPro is a TI-Nspire application (within a .tns document) for OSes  $\geq 3.0$ , originally created by Jim Bauwens and Adrien Bertrand ("Adriweb"), from/for TI-Planet.

It is 99% created in Lua, which is the only *proper* way to achieve on the Nspire platform what FormulaPro needs : an intuitive GUI, "complex" math calculations made easy, variable linking...

FormulaPro is also free and open-source (<https://github.com/adriweb/EEPro-for-Nspire/>), under the LGPL license. ("EEProNspire" was the temporary name when yet unreleased)

## What does FormulaPro do ?

Exactly like the famous "EEPro" and "MEPro" applications bundled with the TI-89 and TI-92, FormulaPro is a complete engineering solution mostly based around equation solving.

TI describes EE/ME-Pro like this : "This application solves the problems of electrical engineering. It is composed of three modules: Analysis, Equations (700 equations grouped into 16 subjects) and Reference". This description is also valid for FormulaPro, on the Reference and Equations part. Indeed, *analysis* isn't [yet] implemented (as of version 1.4).

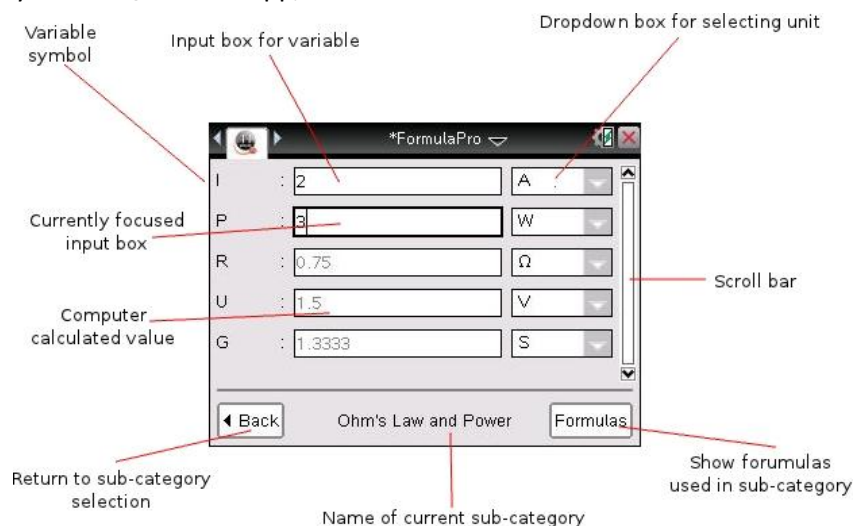
To sum up, FormulaPro is a **complete and powerful application based around equation solving**, and which the bundled equations database is about Electrical Engineering. FormulaPro was made with the goal to recreate the experience of the 89's EEPro app, but better in many ways. Indeed, it benefits from the higher performance of the Nspire over the 89 (high-definition screen and color on the CX, dynamic adaptation, like resizing and input methods, depending on the platform it's running on (handheld, computer, tablet...)), and has more features : e.g. customizable equations database thanks to an online editor (<http://education.bwns.be/FormulaPro/>), evolving into an on-device editor in version 2.0 (not yet released as of this day), etc....

## How does it work ?

FormulaPro relies on a complete and powerful GUI framework, called "ETK" (*EEPro ToolKit*).

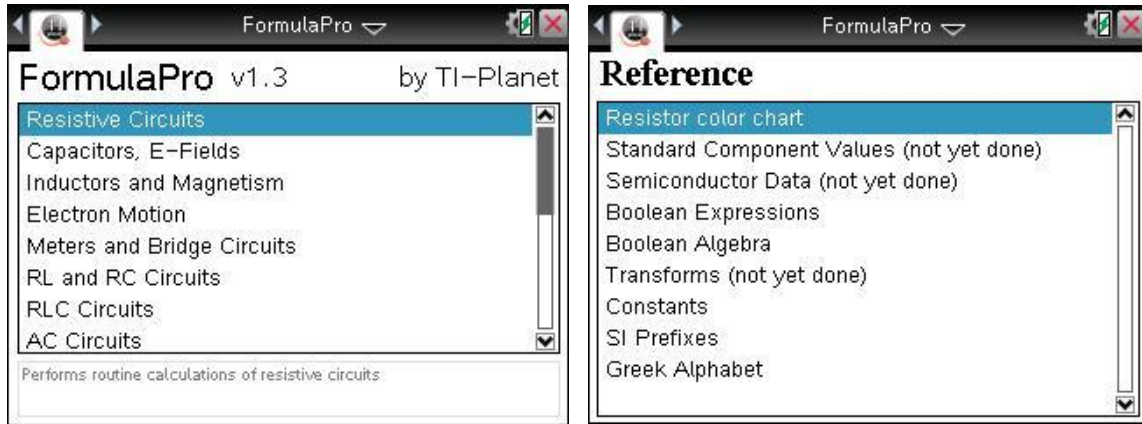
FormulaPro's main feature being the equation-solving core, a lot of work has been put into it, which resulted in an easy way for the user to solve many equations in a matter of seconds : when a category and subcategory has been selected, contrary to the 89's EEPro app, where the user had to select what equations had to be used, in FormulaPro the user only has to enter *whatever he knows*, and FormulaPro will automatically solve any possible equations.

FormulaPro can very easily let you chose the unit/subunit you want to enter your data in (for example Hz/kHz/MHz, °C/°F/°K etc.), and can show any formula in a "MathPrint" (*natural*) style.



## What does FormulaPro look like ?

Here is the category selection screen and the reference screen :



## What's next (version 2.0 and later) ?

- ✓ On-device database editing (in the works...)
- ✓ An even more powerful solving core (partially done)
- ✓ *Smart Search* (Don't browse in the categories : just enter the units you have and it will try to figure out which equations to use directly)
- ✓ Pictures associated with categories (circuits explanations etc.)
- ✓ Inputing data directly into the solver using Vernier sensors
- ✓ Multi-language support (partially done)
- ✓ Ability to graph results (partially done)
- ✓ Complete tablet support (almost done)
- ✓ ...

FormulaPro Download: <https://raw.githubusercontent.com/adriweb/EEPro-for-Nspire/master/FormulaPro.tns>

User Manual: <https://raw.githubusercontent.com/adriweb/EEPro-for-Nspire/master/FormulaPro%20Manual.pdf>