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Introduction To Modern Electronics – Lesson 5: The Inductor

FORMULAS

The following formulas and information are meant to go with the online lesson found here:
http://www.pyroelectro.com/edu/basics/inductor/

INDUCTANCE FORUMLA

In this lesson we learned about inductors and an inductor's inductance is related to electrical voltage and current with the following formula:

$$Voltage = Inductance * (\frac{change\ in\ current}{change\ in\ time})$$

$$\boldsymbol{V = L\frac{di}{dt}}$$

In this equation, electrical voltage is represented by the capitol letter **V**, current by the lowercase **i**, inductance by the uppercase **L** and time by the lowercase **t**.

The $\boldsymbol{\frac{di}{dt}}$ formation included in this formula means that it is a differential equation. Don't sweat it if you have never used then or even heard of differential equations, just be aware of this formula and don't worry so much about using it, *yet*.

INDUCTANCE VALUES

Inductance also follows the rules of the metric system. Below is a simple chart that shows you how to convert 1 Henry or 1 H between the different multipliers.

micro-Henry	milli-Henry	Henry	kilo-Henry	mega-Henry
100,000 µH =	1000 mH =	1 H =	0.001 kH =	0.000001 MH

Just like meters, liters and grams, the Henry follows the metric system making it very easy to translate between milli-Henry and kilo-Henrys or any other multiplier for that matter.

ADDITIONAL INFORMATION

If you have any questions about the formulas or information found in this document, please feel free to head on over to the forums and ask us some questions!
http://www.pyroelectro.com/forums/viewforum.php?f=22