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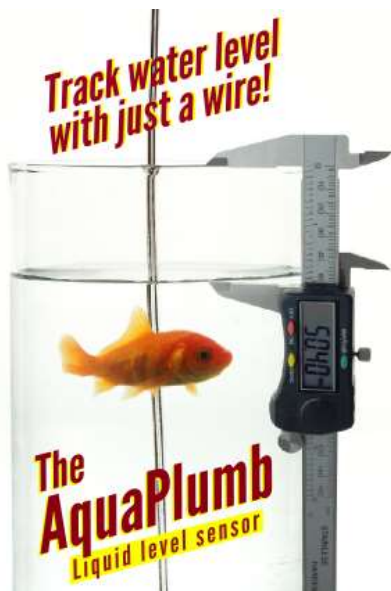
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Coil Physical Properties Calculator

See our other [Electronics Calculators](#).

Both inductors and electromagnets consist of wires wound around a bobbin or core form. In designing and constructing the coil it becomes necessary to estimate the cross sectional area, and resistance of the coil.

This calculator estimates the physical properties of a coil such as resistance, total length of wire needed and number of windings, give the wire diameter, and bobbin length. The calculator assumes copper wire for resistance and voltage calculations.



Coil Parameters Calculator			
Wire Diameter	0.723	(mm) (See Gauge Table)	
Number Turns	1000	(turns)	
Bobbin Length	47	(mm)	
Bobbin Diameter	12	(mm)	
Rated DC Current (Optional)	4	(A)	
Results			
Compute			
Turns/Winding	65.007	(Turns/Winding)	
Number of Windings	15.383	(Windings)	
Coil Diameter	34.244	(mm)	1.348 (in)
Cross sectional Area	419.891	(mm ²)	0.651 (in ²)
Total Length of Wire in Coil	72.640	(m)	
Resistance/meter	0.042	(ohms/m)	
Resistance	3.051	(ohms)	
Voltage at Rated Current	12.204	(V)	
Power at Rated Current	48.817	(W)	



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Salt Lake City, UT, USA

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