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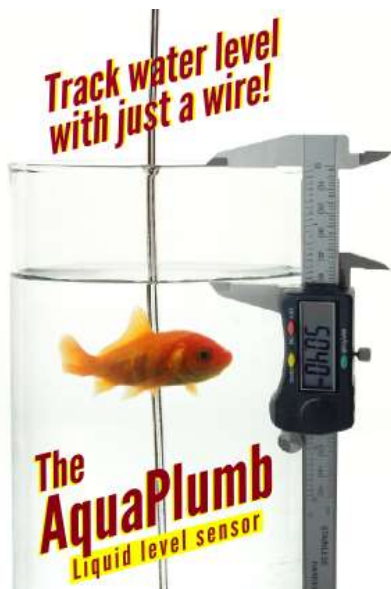
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Coil Physical Properties Calculator

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	0.644	(mm) (See Gauge Table)	
Number Turns	800	(turns)	
Bobbin Length	44.5	(mm)	
Bobbin Diameter	12	(mm)	
Rated DC Current (Optional)	4	(A)	
Results			
Compute			
Turns/Winding	69.099	(Turns/Winding)	
Number of Windings	11.578	(Windings)	
Coil Diameter	26.912	(mm)	1.060 (in)
Cross sectional Area	297.299	(mm ²)	0.461 (in ²)
Total Length of Wire in Coil	48.898	(m)	
Resistance/meter	0.053	(ohms/m)	
Resistance	2.589	(ohms)	
Voltage at Rated Current	10.355	(V)	
Power at Rated Current	41.419	(W)	



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Salt Lake City, UT, USA

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