

Motor transformer



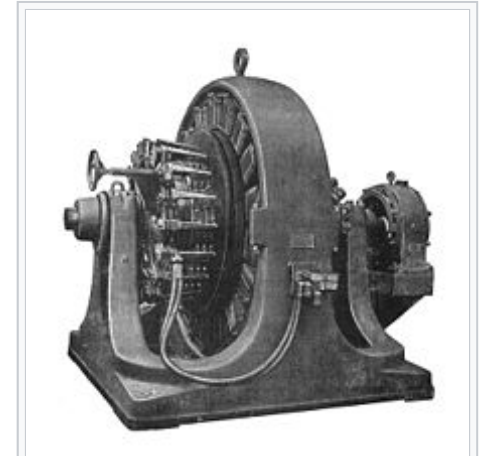
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Three examples of motors acting as generators (or transformers) are [rotary converters](#), [dynamos](#) and [motor generator sets](#) (the latter is referenced at: [motor-generator conversions](#)).

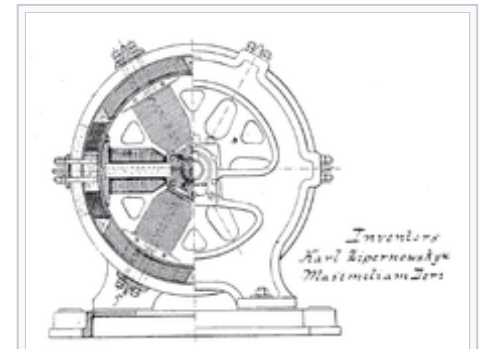
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Synopsis [\[edit \]](#)



1909 500kW Westinghouse rotary converter 



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It's possible to design an all-in-one motor-transformer by making double use of the starter coils of an A/C single-phase, induction motor. Not only can these starter coils (a [Tesla invention](#)) insure that a motor will rotate – and always in the same direction rather than merely wiggle back-and-forth, but they may also serve as the primary coil in a [step-up transformer](#). Additionally, the main coils will doubly act as both the [prime mover](#) (of this motor) and also act as the secondary of a transformer provided the starter coils are fed low-voltage, high frequency sinewaves and are not self-shortened, but connected to an appropriate circuit (see, below: [simulation schematics](#)). Hence, the generation of electricity – by way of its amplification – gives this device a triple equivalence as: a motor, a [transformer](#) and a generator all-in-one. And by adding a pair of switches placed on the path wherein the gain is occurring, namely: the wire shorting out both terminals of all four of its coils, its gainful overunity can be [swiftly cut OFF](#).

Historical Context [\[edit \]](#)

I'm not the first guy to suggest these ideas. There are two other instances in which this idea, for a novel configuration of an electric car's motor wiring scheme, has probably occurred.

"Dynamo Electric Machine" (end view, partly section, U.S. Patent 284,110) 



In an [electric arc furnace](#), the transformer has a heavy copper bus for the low voltage winding, which can be rated for tens of thousands of amperes. They are immersed in oil for cooling and insulation, and are designed to survive frequent short circuits. 



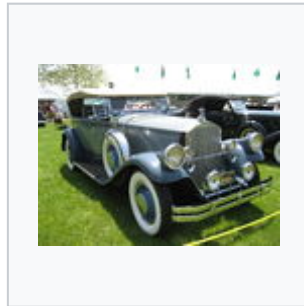
The Ammann brothers' demonstration of 1921 in Denver, Colorado.

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by the image's author:

[boguslaw](#), on

[EnergeticForum](#).



Tesla's [Pierce-Arrow](#) demonstration of 1931.

Simulations [\[edit \]](#)

Video Discussions [\[edit \]](#)



Discussion of a shorted and inverted induction motor circuit simulation of high frequency.



Part two discussing this novel modification of an A/C single-phase, induction motor.



Part Three discusses how I've resolved the mystery surrounding [Tesla's Pierce Arrow demonstration](#), of 1931 (in Buffalo, New York), ten years after the Ammann brothers demonstrated *their* version of -what I suspect is- the same circuit concept as is being suggested, here, on this gallery page. A two-for-one solution to a nagging mystery...

Images & Diagrams [\[edit \]](#)

Conversion Hints [\[edit \]](#)



Hints on how to convert a conventional single phase A/C induction motor into a motor transformer.

Schematics [[edit](#)]

Screen Shots [[edit](#)]



Schematic of a [Micro-Cap](#) simulation of a motor transformer installed in an electric car traveling at cruising speed.



Schematic of a [Micro-Cap](#) simulation of a motor transformer installed in an electric car traveling at full throttle speed.

Switching this device OFF [\[edit \]](#)

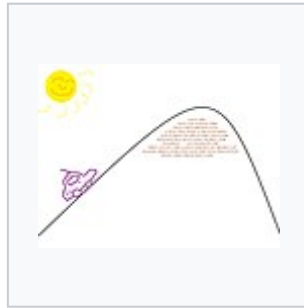


Schematic of an improvement over [full throttle speed](#). By adding a pair of switches on the shorted pathway leading to both terminals of all four motor coils, the overunity gain of this device is severely undermined illustrating the significance of motor coil shorting while adding a convenient safety switch for turning OFF this device, almost entirely.

Circuit Code [\[edit \]](#)



Circuit code for simulating the maintenance of cruising speed arising from the use of this inverted, shorted, A/C induction motor concept acting as its own transformer-generator.



Circuit code for simulating full throttle acceleration of this inverted, shorted, A/C induction motor concept acting as its own transformer-generator.



Circuit code for turning OFF this motor transformer while in the midst of its full throttled, acceleration, utilizing a pair of switches placed in series along its shorted pathway leading to both terminals of all four motor coils.

Oscilloscope Tracings (readout of projected output) [\[edit \]](#)

Cruising Speed for an EV [\[edit \]](#)



Oscilloscope tracing of the voltage and amperage fed to a motor transformer installed in an electric car traveling at cruising speed simulated in Micro-Cap analog simulator.

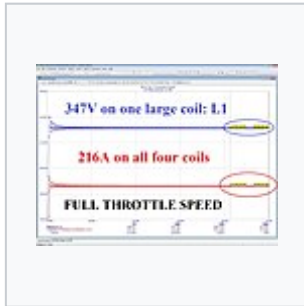


Oscilloscope tracing of the wattage fed to a motor transformer installed in an electric car traveling at cruising speed.

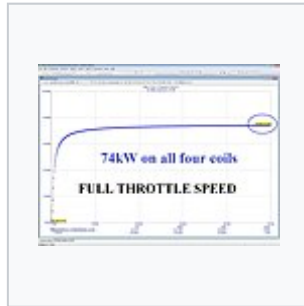


Impedance tracing for a motor transformer installed in an electric car traveling at cruising speed.

Full Throttle Speed for an EV [[edit](#)]



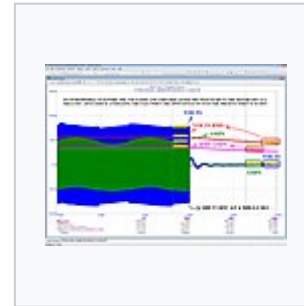
Oscilloscope tracing of the voltage and amperage put out by a motor transformer installed in an electric car traveling at full throttle speed simulated in Micro-Cap analog simulator.



Oscilloscope tracing of the wattage put out by a motor transformer installed in an electric car traveling at full throttle speed.




Impedance tracing for a motor transformer installed in an electric car traveling at full throttle speed.



Oscilloscope tracings of volts, amps, volts RMS and amps RMS of this motor transformer configured for full throttle speed as its powerful gain in overunity is abruptly cut OFF at 6 milli seconds.

See Also [\[edit \]](#)

 See also category: [Motor generators](#) – Rotary conversion of A/C voltage in a motor-generator design..

Musical Slideshows [\[edit \]](#)

...of images from this depository married to pop tunes – a flavorful event!

- [U2 -- Moment of Surrender](#)
- [The Impossible Dream, The Quest, Joe Darion & Mitch Leigh, Fingerstyle Guitar, Mihai Covacs, Sep2016](#)
- [John Lennon - Imagine](#)
- [a-ha - Take On Me](#)
- [The Byrds - Turn! Turn! Turn!](#)

- [George Harrison - Here comes the sun](#)
- [George Harrison - Give Me Love \(Give Me Peace On Earth\)](#)
- [Jefferson Airplane - White Rabbit](#) My favorite! I can just visualize choreographing a dance to this... Something with [Flamenco](#) to it.

Category: [Motor–transformer](#)

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