

Re: not understand anemometer

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On Thu, 20 Jan 2005 13:32:43 +0800, "developer" <noemail@nowhere.net> wrote:

>*still do not understand*
>
>
>
>>
>> *The rotor spins. AC is just DC in motion.*
>>
>> *John*
>>
>

Coils create magnetic fields and attract the magnets. If you apply DC to a coil, the motor moves to some position and then stops; you noted this yourself. To get the motor to spin, you have to keep changing the current in the coils to keep the rotor moving; you have to keep changing the "place where it would stop"

If you use the motor as a generator, by externally spinning the shaft, the magnets move past the coils and generate voltage. As a magnet approaches a coil, the voltage swings positive, and then as it moves away, it swings negative. This happens over and over as the shaft spins, so the average voltage induced into the coil is zero. So there's no DC to measure.

Actually, as I said, AC is just moving DC. If you were to turn the shaft very slowly and look at it with a sensitive DC voltmeter, you'd see the slow positive and negative swings. But the voltage would be very small. As the speed goes up, a DC voltmeter can't follow the swings and reports the average value, 0. An AC voltmeter essentially rectifies the voltage before measuring it, so you get a number.

John