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FUNDAMENTAL ERRORS IN LAWS GOVERNING ELECTRIC DEVICES

Kanarev F.M.
kanarevfm@mail.ru

The announcement. On formulation of the old laws of electric power, the electrical engineers have given all users of electric devices a strong confirmation of the correctness of their calculations. However, this correctness depends, first of all, on the laws of change of tension and current which can deform the results of the devices in multiples of ten. We will show such distortions and give the experimental results proving their reliability.

The prologue

All sources of the electric power are represented as continuous. Almost all consumption of electric power is also represented as continuous. All devices registering the expenditure of the electric power, are also based on a continuous mode of consumption, and therefore deform the size of the energy consumed by impulses. The reasons for this distortion have been established recently. There was a new law of formation of the average pulse power, whose realization in measuring devices, (pulse generators and pulse consumers of the electric power), reduces the expense of manufacture and of consumption by a number of times, equal to the porosity of impulses of tension. This law is realized in nature. Atoms and molecules which radiate and absorb energy are also based on impulses. An important body of living organisms such as the heart also absorbe energy impulses. The first-ever self-rotating generators of electric impulses were developed and tested in Russia. The role of the motor is to make a rotor, and a generator role-stator. Consuming the electric power from the primary power supply impulses, they create tension and current impulses, and also generate mechanical power on the rotor shaft of a size that approximately equals electric power. Electromotors - generators are the most economical manufacturers and consumers of electric energy.

1. The analysis of processes of a continuous and impulse feed of a lamp

Let's begin with the theory on which basis all electric devices are developed. Certainly, the main indicator of electricity is its energy. For the characteristic of its expenditure in a second the concept of power is introduced. The theoretical model for the calculation of electric power looks like,

$$P = \frac{1}{T}\int_0^T U(t)dt \cdot I(t)dt . \quad (1)$$

The mathematical maintenance of this model is faultless, but only under the condition of a continuity of change of functions of tension $U(t)$ and current $I(t)$; for example, variable sinusoidal tension and a current. For constant tension and a current it assumes a simple aspect

$$P = \frac{1}{T}\int_0^T U(t)dt \cdot I(t)dt = U \cdot I. \quad (2)$$

The accumulator, for example, realizes the energy or power on a lamp feed by continuous tension U=12V which forms a continuous current; for example $I = 1.75A$. It is quite natural, that the power P realized by the accumulator in this case, will be defined by formula (2) and will be equal to,

$$P = U \cdot I = 12.0 \cdot 1.74 = 21Watt. \quad (3)$$

The wattmeter PX120 (fig. 1) will prove these indications. The oscillogram which has been removed on faulty contact of the accumulator (fig. 2), also will show that the average values of tension and current are equal; accordingly, $U_{Ñ} = 12B$; $I_C = 1.75A$. A power calculation under formula (2) will give the size, $P = 21Watt$. No contradictions in the indications of electric devices in this case are present.

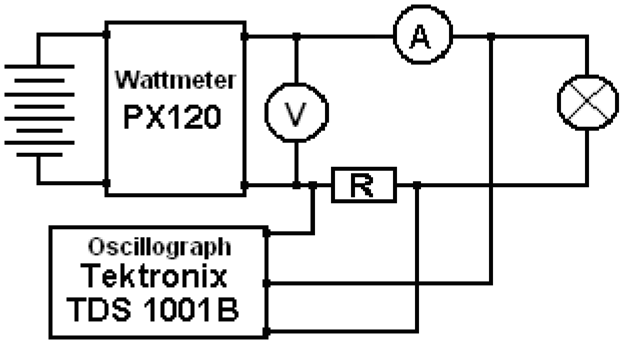


Fig. 1. The scheme for the measurement of tension, a current and power, realized by the accumulator on a continuous feed of a lamp.

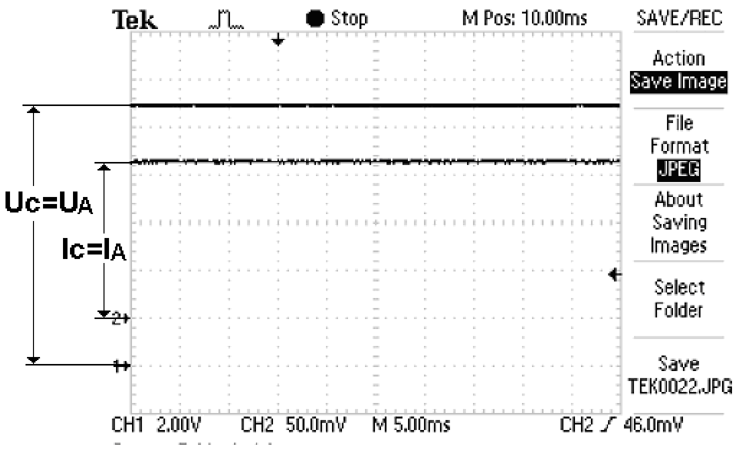


Fig. 2. The tension and current oscillogram on the accumulator and faulty contact of a lamp

Let's introduce into the scheme, an electronic key K (fig. 3) which will submit tension impulses on the faulty contact of the lamp, and they will form current impulses (fig. 4).

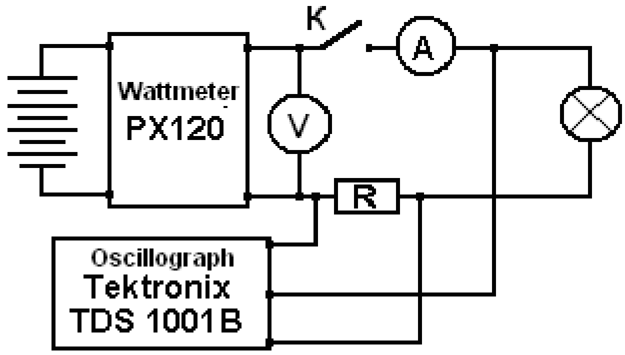


Fig. 3. The scheme for measurement of tension, a current and power, realized by the accumulator on a pulse, faulty contact of a lamp

To understand the physical process of change of measurements of the devices, we will write down the oscillogram and it is comparable with the measurements of other devices (fig. 4).

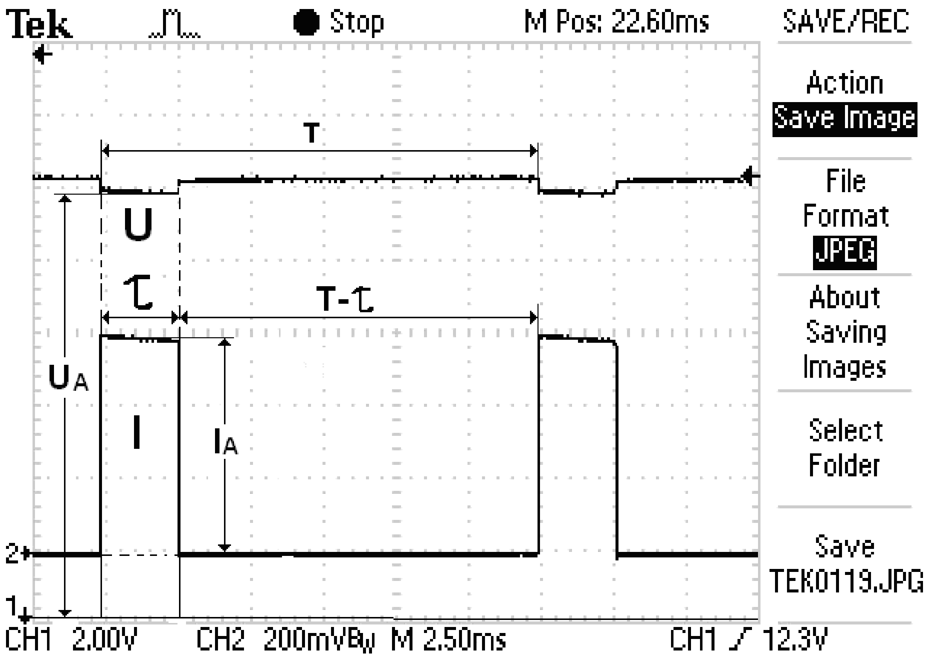


Fig. 4. The oscillogram of a pulse discharge of the accumulator

We notice at once (fig. 4), that at the consumption of the function of tension $U(t)$ and current $I(t)$ we lose the analytical kind of continuous functions. As a result, the possibility of an analytical calculation of the size of power under formula (1) is completely excluded. On the oscillogram (fig. 4), rectangular impulses of tension and current duration τ which is much less than the duration of period T (fig. 4) are obviously visible.

Mathematicians, unthinkingly, have suggested replacing the analytical method of integration following from formula (1), with a graphieanalytical method in which the mathematical essence of formula (1) is kept. The essence of a graphieanalytical method is simple. Ordinates of functions of tension and current are measured simultaneously and multiplied (fig. 4). Then, the quantity of these products are summed up and the final sum is shared on the quantity of products. It is quite natural that this operation is carried out by mathematical programs placed in measuring devices. The programs placed in oscillographs, wattmeters and electronic counters of electric power, are capable of measuring ten and hundred-thousand ordinates of tension and current in a second, and to give their average values. As the laws of change of tension and current presented in the oscillogram (fig. 4), are not continuous functions, formula (1) appears incapable of yielding an analytical result. Therefore we replace an equal-sign, between the left and right parts, with an arrow ($\Rightarrow$), and we write down the result of graphieanalytical decisions which is necessary for us for the analysis of the oscillogram and a comparison of results of this analysis with the measurements of devices. Then formula (1) becomes

$$P = \frac{1}{T}\int_0^T U(t)dt \cdot I(t)dt \Rightarrow P_C = U_A \cdot \frac{I_A}{S}. \qquad (4)$$

And now we will check the equivalence between analytical and graphieanalytical results of equation (4). A symbol S, a final expression of formula (4) - porosity of impulses is equal to the relation of the period T to the duration of impulses τ ($S = T/\tau$, fig. 4)

There is the question of how the porosity of impulses S appears in formula (4) - as a result of graphieanalytical decisions? Porosity of impulses appears in a final form in the denominator of graphieanalytical decisions as follows.

The program considers the total products of ordinates of tension and current in the range of all period T, including zero values. After division of the total sum of products of ordinates of tension and current into the total of these products, including the quantity with zero values, gives a less result than the product of peak values of tension U_A and current I_A (fig. 4). This is caused by tension at the total sum of products of ordinates of tension on ordinates of current, and zero values of these products. The size reducing the average size of power, is given by the porosity of impulses. In this case, its size is equal to the result $S = T/\tau$. From this follows, that the division of product of peak values of tension and current into the porosity of impulses is equivalent to $U_A \cdot I_A / S$ to the extension **of an impulse** **of power** on the duration of all periods T. It contradicts at once, not only the axiom of Unity demanding continuous participation of tension and current in the formation of power, but also to the system of SI which recognizes as authentic, only those values of power which are formed by tension and current parameters continuously. The Grafoanalitichesky method of the results of equation (4) is constructed on the discrete participation of tension and current in the course of formation of average pulse power which is equal to zero in the interval $T - \tau$, and the SI system demands a continuous process of formation of power. In what is the essence of this contradiction?

The analysis of the process of the work, the described program of processing the oscillogram, at first sight seems to correspond to reality. Experts - electrical engineers base the proof of reliability of this reality that power is a tension product on current and add: there is no current – there is no power, and the size of tension at the moment of equality of a current to zero does not play any role. Powerful, but for an overwhelming majority, a terrible argument. But we do not ascribe to this majority and we ask naive questions. **Here are the main ones.**

On the oscillogram (fig. 4), the rated voltage falling ($U = 12V$) on the faulty contact of the accumulator in the range of duration (τ) and impulse U_A and its restoration to a rating value over an interval of ($T - \tau$), when the current is obviously visible to zero. This means, that the peak value of tension U_A participates in the formation of power only in the range of duration (τ) and it does not participate in the power formation in an interval of $T - \tau$ (fig. 4). Formula

(4) proves that the peak value of tension U_A participates in the formation of an average size of pulse power in the range of all periods T. What to trust? Formula (4) or the oscillogram?

For a common sense unequivocal answer, trust the oscillogram. But that is not enough. The experimental proof of reliability of the result which follows from it is necessary. To understand the essence of a statement of the experiment proof of the reliability of the oscillogramm, the information in (fig. 4) and the inaccuracy of the information following from formula (4), it is necessary to analyze more attentively, the oscillogram (fig. 4).

We will begin the analysis with a definition of the concept of a power unit – the Watt. The watt is a size of the energy made or consumed continuously within a second. This means, that tension and the current forming power, should operate continuously within the second, and - the period T. If power is formed by tension and current impulses, their action also should be stretched to the duration of a second or - the period. Such a requirement follows from the SI system.

Again we look at formula (4) and try to understand, how requirements of the system of SI are reflected in it. The size of porosity of impulses belongs in S only to the peak value of the current I_A whose size I_A is equal to zero in an interval, $T - \tau$. This means, that the peak value of current I_A in formula (4) is stretched to the duration of all of period T. Graphically, it means that it is necessary for a vertical impulse of a current with amplitude I_A and duration, τ presented on the oscillogram, not to change its area to stretch to the duration of period T. As a result, it becomes horizontally laying a narrow rectangle with ordinate I_C (fig. 5). This procedure is equivalent to the realization that a requirement of the system of SI is a continuous action of a current in the range of each period T, for every second.

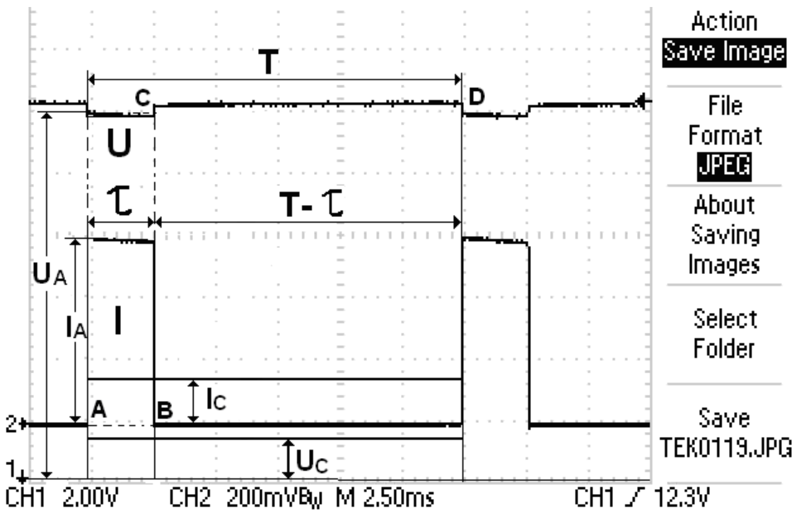


Fig. 5. The oscillogram of a pulse discharge of the accumulator
At a pulse feed of a lamp (fig. 3)

And now we analyze tension. In formula (4), it is presented by peak value U_A of a power failure on plugs of the accumulator in the range of all of period T. However, the oscillogram (fig. 5) shows, that the peak value of tension U_A participates in the formation of an average size of pulse power only in the range of duration of an impulse τ, and does not participate in an interval $T - \tau$ when the current is equal to zero. This means, that formula (4) overestimates the average size of power in the quantity of times equal to the porosity of impulses of tension U_A.

To eliminate this distortion, it is necessary to also stretch a vertical impulse of tension to the duration of the period, and not changing its area, that is, to divide the peak value of tension U_A into the porosity of impulses S. Then, formula (4) becomes,

$$P = \frac{1}{T}\int_0^T U(t)dt \cdot I(t)dt \Rightarrow \; P_C = \frac{U_A}{S} \cdot \frac{I_A}{S} = \frac{U_A \cdot I_A}{S^2}. \qquad (5)$$

Now it is clear how to create an experiment to prove an inaccuracy in formula (4) and the reliability of formula (5). It is necessary to take the accumulator, to load its pulse consumer, to write down tension and current oscillograms, to define size of the average power formed by impulses of tension and current, under formulas (4) and (5) and to track the speed of a power failure on the plugs of the accumulator loaded by consumers with power, calculated under formulas (4) and (5).

It is important to know the features of the process of a discharge of the accumulator in this manner. If on the accumulator plugs there is 12.5V, its discharge is considered admissible only in an interval of 12.5-11.0V. Moreover, the power failure leads to a loss of the operational qualities. The power failure on 3-4 Volta, is considered inadmissible.

For proof of the reliability of mathematical model (5) used for calculating the average pulse power, we will analyze the balance of power of the electromotor–generator MG-2 which consumes energy from the accumulator impulses directly, without any intermediate electronic devices. The role of the motor at it carries out a rotor, and a generator role – stator.

As loading for the electromotor-generator, we take a cell of electrolyzer (fig. 6) and we will track the process of a discharge of the motor cycle accumulator 6MTC-9, feeding the electromotor–generator MG-2, and it is comparable with process of a discharge of the same accumulator feeding a set of lamps with a general power equal to the power selected at the accumulator by the electromotor– generator, calculated on the old mathematical model, (4).

Fig. 6. Photo MG-2 + 2 accumulators 6MTS-9 + a cell of electrolyser

A feed of a rotor (P) was carried out serially from accumulators 1 and 2 (fig. 7). In fig. 7, the position of switches AA1 is shown, at which accumulator 1 feeds an excitation winding (P) a rotor, and the position of switches BB1, at which from a winding stator © , impulses of induction for charging of accumulator 2 acting in film. In working these switches which were switched manually, approximately, through 0.5 of an hour. Besides from a winding stator (C) impulses of self-induction which fed an electrolyser acted in film.

The oscillogram which has been removed from plugs MG-2 and the accumulator on the 100th minute of the experiment, lasting 3 hours and10 minutes, is presented in fig. 8. Values of tension and the power calculated on the old mathematical model (4) are designated by symbols U_{CC} P_{CC} and on the new - (5) - U_C P_C. At the moment of start-up of MG-2 the voltmeter showed an average tension on the accumulator plugs, equal to 12.60V. It completely coincided with the oscillograph indications. The frequency of rotation of a rotor of the electromotor-generator MG-2 gave 1800 revolutions/minute To the right of the oscillogram are presented the results of its processing which are given out automatically and determined under formulas (4) and (5).

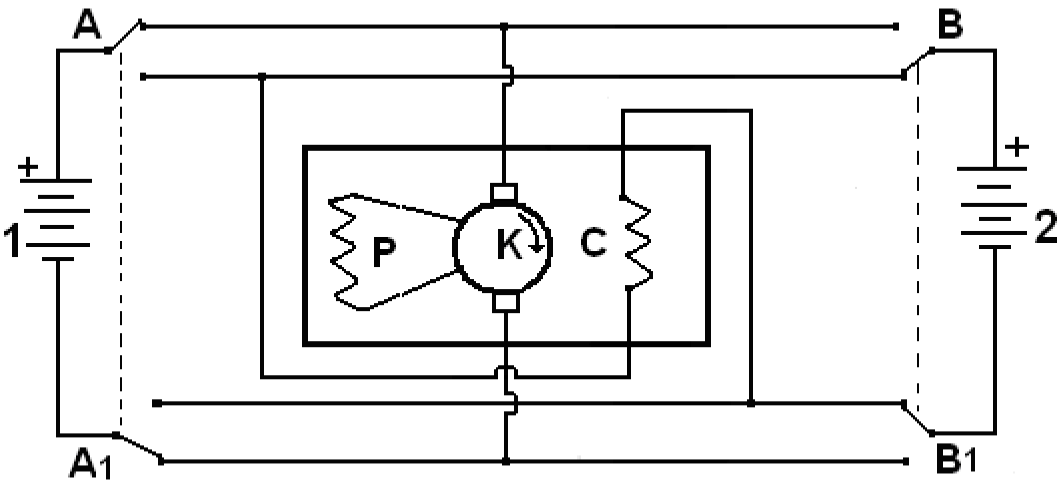
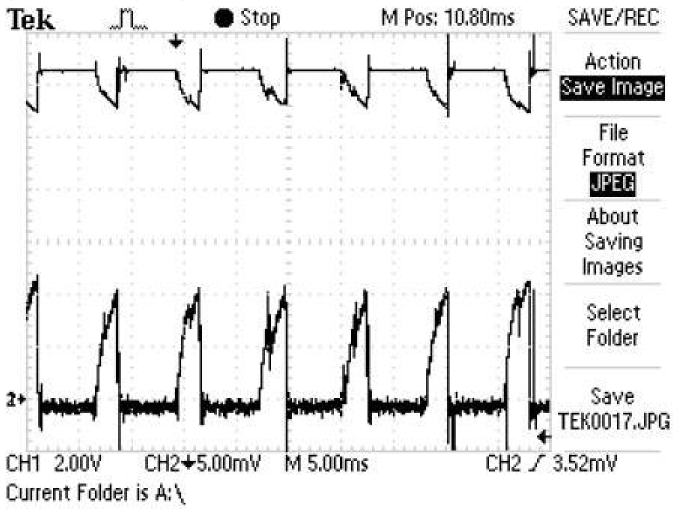


Fig. 7. The scheme of a serial discharge and gymnastics of accumulators

the electromotor – generator MG-2

On the ROTOR the-worker a course



The current shown by the ampermeter 2.80*A;*

$n = 1800 revolution..per..\min$.

<u>Oscillograph:</u>

$U_A = 12.60V$;

$U_{CC} = 12.30V$;

$I_A = 23.60A$;

$I_C = 3.08A$;

$P_{CC} = U_{CC} \cdot I_C = 12.30 \cdot 3.08 = 37.88 Watt$ **(4)**

<u>Settlement data:</u>

$S_U = 3.67$; $U_C = 11.0/3.67 = 3.0V$;

$P_C = U_C \cdot I_C = 3.00 \cdot 3.08 = 9.33 Watt$ **(5).**

Fig. 8. Electromotor-generator MG-2 oscillograms on 100 –th minute of the experiment

So, the electronic program of an oscillograph is based on mathematical model (4). It defines average values of tension and current automatically. On the right oscillograms on fig. 8 are presented average values of powers: $P_{CC} = U_{CC} \cdot I_C = 12.30 \cdot 3.08 = 37.88 Watt$ **(4),** $P_C = U_C \cdot I_C = 3.00 \cdot 3.08 = 9.33 Watt$ **(5).** In this experiment, it received **8.57liter mixes** of gases **(**$H_2 + O_2$**)** for 3 hours and 10 minutes. In tab. 1, the sizes of falling of tension on the plugs of the accumulators feeding MG-2 are resulted.

Table 1. The Power failure on plugs of accumulators for 3 hours and 10 minutes

Numbers Accumulators	Initial tension on plugs of accumulators, V	Final tension on plugs of accumulators, V
1 (Discharge)	**12.28**	**12.00**
2 (Discharge)	**12.33**	**12.00**

The main proof of the inaccuracy of the old mathematical law (4) formations of the average size of pulse electric power and the reliability of the new law (5) - in comparison with the time of discharge of the accumulator feeding with impulses of tension and current of MG-2, in due course, discharges of the same accumulator feeding a set of bulbs with the general power, equal to the oscillograph power MG-2 calculated on old mathematical model (4).

According to the old law (4), formations of an average size of pulse electric power on the plugs of the rotor of MG-2 connected to the accumulator, it took away (4) the average pulse power (fig. 8). Each accumulator, working in a mode of discharge and incomplete additional charge, lost at one hour of the 0.1V.

Initial tension on the accumulator faulty contact to which lamps of the general power of (21+5+5+5 =36.00 *Watt* have been connected, was equal to 12.78*V*. After the 1st hour and 40 minutes it had fallen to 4.86*V* or to 7.92*V*. It is in 7.92/0.3=26.00 times more speed of a power failure on the plugs of the accumulator feeding MG-2, without the different time of their work (3 hour 10 minute and 1 hour 40 minute). It is quite enough to draw an unequivocal conclusion on the full inaccuracy of the old law (4) formations of average pulse electric Power. Certainly, we have not considered 8.57 liter of a mix of hydrogen and oxygen, received by electrolysis of water in the electric energy developed by MG-2. It is, so to speak, additional energy. From the oscillogram on fig. 8 it follows that an electric power factor cost on the reception of one litre of a mix of hydrogen and oxygen has made 0.60Watts.

We will not describe here the second similar experiment. It lasted 72 hours. In this time, each accumulator feeding electromotor-generator MG-1 and receiving from it, partial charging, has lost 1.5V on the plugs nearby. This size is in the limits of an admissible norm of the discharge of the accumulator.

So, mathematical model (1) gives exact results for the size of power, realized by the manufacturer and consumed by the consumer continuously. If the electric power is consumed by impulses, formula (4) following from formula (1) overestimates its real expense in the quantity of times equal to the porosity of impulses of tension. For a correct calculation of the average pulse power it is necessary to use formula (5). It should be set as a basis by working out of the mathematical programs placed in electronic electric devices.

And now we will come back to fig. 3 and we will comment on the indications of the devices presented in this scheme and specify the expense of the electric power used by the accumulator on an impulse feed of a lamp. The voltmeter will show the rated voltage on the accumulator plugs approximately equal to $U = 12.0V$. This size of tension as we already have proved experimentally, does not participate in the formation of average pulse power which realizes the accumulator on a lamp feed. Porosity of impulses of tension and current on the oscillogram (fig. 5) is equal to $S = T/\tau = 50/9 = 5.6$. The ampermeter at the disconnected oscillograph will show the average size of current equal to $I_C = I_A / S = 1.75/5.56 = 0.31A$. The same size of current will show automatically on the oscillograph.

Thus, voltmeter and ampermeter indications give the size of the average pulse power realized by the accumulator on the feed of a lamp, equal to $P_{CC} = U \cdot I_C = 12.0 \cdot 0.31 = 3.78Watt$. This size completely coincides with the result of calculations under formula (4), which as we have already proved, is 5.56 times more than the real average pulse power realized by the accumulator on a impulse feed of a lamp.

What is the essence of the error in calculation of the average pulse power under the voltmeter and ampermeter indications? This question arises often enough, therefore for formation of correct representations of the essence of the error deforming the true size of the average pulse power, we will enter the concept **«ceiling tension»** and we will understand it as the rated voltage on the plugs of the primary power supply. At the accumulator it is equal 12.0V. The oscillograph (fig. 3 and 5) accurately fixes the size of **ceiling power** which participates in the formation of average pulse power, not continuously as follows from formula (4), and the pulse as follows from formula (5). The SI system demands the amplitude of an impulse of the tension participating in the formation of average pulse power, to divide into the porosity of impulses. The porosity of impulses is equal in our case to $S = T/\tau = 50/9 = 5.6$. Then the real size of the average tension participating in the formation of average power, will be equal to $U_C = U_A / S = 12.0/5.6 = 2.14V$ and the real size of the average power realized by the accumulator on an impulse feed of a lamp, appears equal to $P_C = U_C \cdot I_C = 2.14 \cdot 0.31 = 0.66Watt$. This is real power which is taken by the lamp from the accumulator.

It is quite natural, that the wattmeter (fig. 3) will also show the deformed size of average power. The mathematical program which has been put in place in it, corresponds to formula (4) which includes **the ceiling tension** equal to the rated voltage on the plugs of the accumulator, of 12.0V. Therefore the mathematical program which is based on mathematical formula (4), put in place in a wattmeter, will overestimate its indications in the quantity of times equal to the porosity of impulses of tension, that it is in. It is necessary to notice, that the program which has been correctly put in place in a wattmeter, will define the average size of a pulse current. We have already analyzed and described in detail the reason for this correctness.

Before us, there is quite naturally the following question: If the bulb is not connected to the accumulator and to the usual electric network, and receives energy through the impulses generated by the electronic generator of electric impulses, what will the devices presented in fig. 9 show?

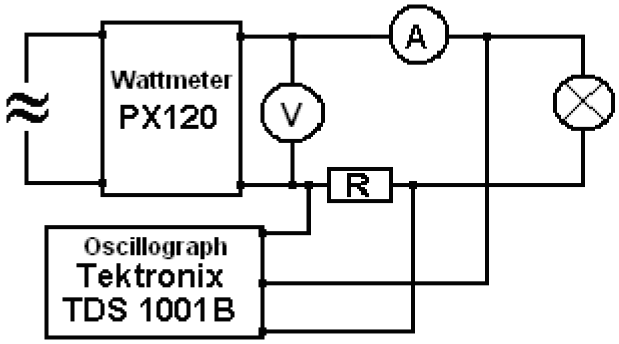


Fig. 9. The scheme for measurement of tension, current and power, realized by an electric network on a impulse feed of a lamp

The answer is obvious. On wattmeter plugs, there will not be an average size of the pulse tension, submitted to a bulb, and **the ceiling tension** of a network equal to 220V. The mathematical program which has been put in place in a wattmeter or the counter of electric power, will yield the result corresponding to formula (4) which as we have already proved, overestimates the real size of power and energy in the quantity of times equal to the porosity of impulses of tension.

Thus, the voltmeter, the ampermeter, the wattmeter and the electric power counter (fig. 9) overestimates the average value of pulse size of power and energy in the quantity of times equal to the porosity of impulses of tension. Considering what has been stated, we will continue the analysis of the indications of the electric devices registering power, realized on a food of an electrolyser.

2. The analysis of the process of impulse feed of an electrolyser

An electrolyser is a set of lamellar anodes and cathodes. Each pair is called a cell. The solution takes places between the plates of the electrodes. Tension on the plugs of the electrolyser can be submitted continuously, and possibly – on impulses. We have already seen the potential possibilities of the pulse process of the giving of tension on bulb plugs. Now it is necessary to find out how to realize this possibility on the plugs of an electrolyser. The scheme of connection of measuring devices to the plugs of an electrolyser, is presented in fig. 10.

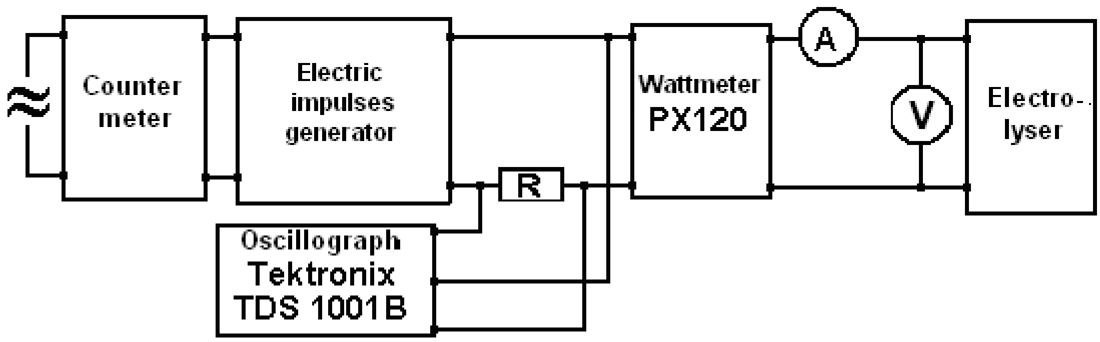


Fig. 10. The scheme for measurement of tension, current and power, realized by an electric network on a impulse feed of an electrolyser

The main feature of the scheme is presented in fig. 10, - the possibility of a record of impulses of tension and current, electric impulses generated by the electronic generator and directed on the plugs of the electrolyser through a wattmeter. The oscillogram of the specified impulses is presented in fig. 11. In it, tension and current impulses, and the absence of the so-called **ceiling tension** are accurately visible**.**

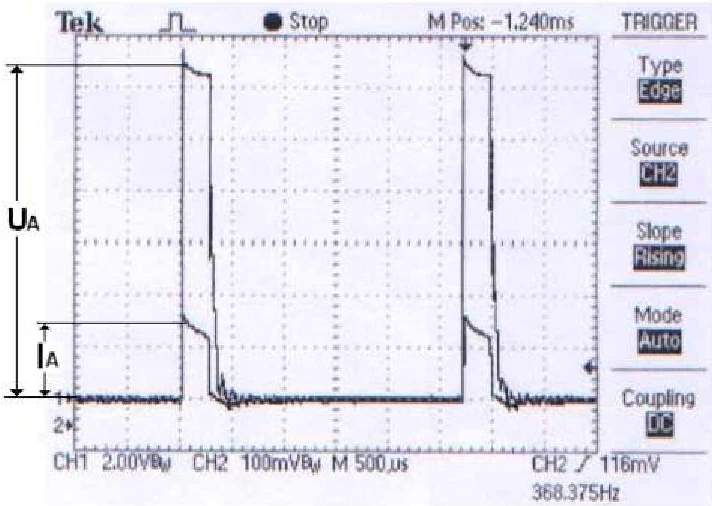


Fig. 11. Tension and current oscillograms before a wattmeter (fig. 10)

And now we will connect an oscillograph to the plugs of electrolyser (fig. 12), which has **ceiling tension** and the oscillogram (fig. 13) which accurately fixes it.

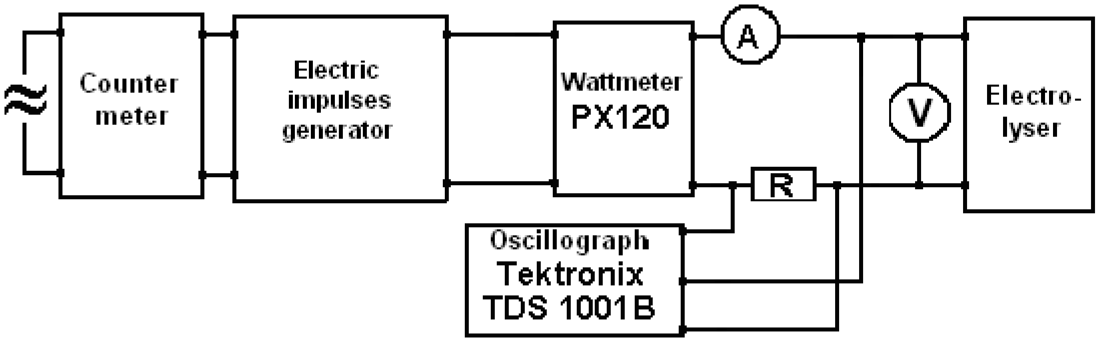


Fig. 12. The scheme for measurement of tension, current and power, realized by electric network on a impulse feed of electrolyser

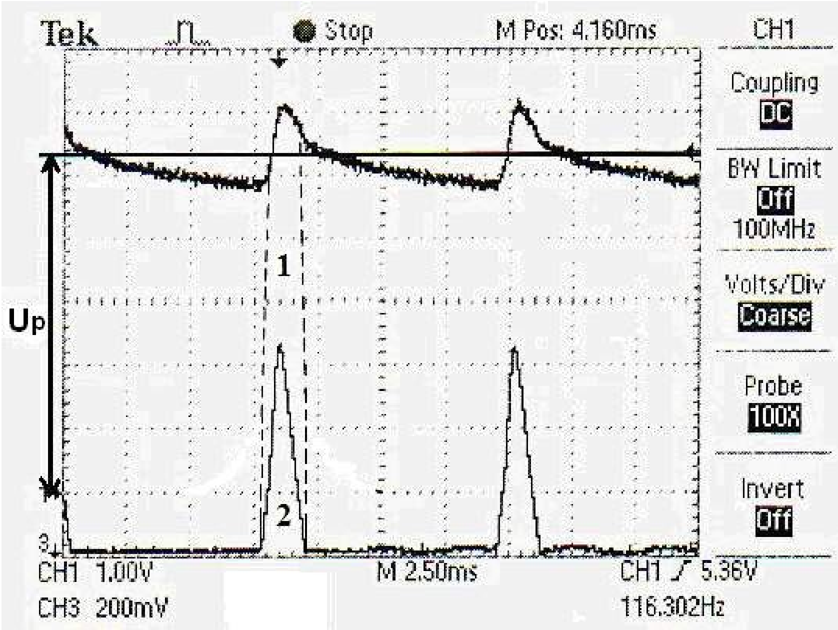


Fig. 13. The oscillogram of tension and a feed current of an electrolyser:
1 – a tension impulse; 2 – current impulse; U_P - average size constant,
ceiling potential on the plugs of the electrolyser

Let's pay attention to (fig. 13), that the electrolysers, being charged in the beginning work, get the constant potential U_P peculiar to the condenser or the accumulator. The size of this potential, we have already named the **ceiling**. It increases with an increase in the quantity of cells in the electrolyser. The devices measuring power on the plugs of the electrolyser, form indications in which the size of the constant (**ceiling**) potential U_P belonging to the electrolyser is considered, and the average size of a pulse current thus formed, is I_C .

In fig. 13, it is obvious that tension impulses restore the average potential U_P of the electrolyser which decreases in the absence of an impulse. This means, that there is no need to submit tension in the electrolyser continuously as it has the potential, for maintenance of the set for which size, the periodic additional charge of the electrolyser is sufficient.

In such a system of the giving of electric energy in the electrolyser, measuring devices do not consider the average size of pulse tension which is necessary for its additional charge, and full **(ceiling)** average size of the constant potential U_P which, quite naturally, has no relation to the energy submitted to the electrolyser (fig. 11). **Ceiling potential** V_P is more than the average size of amplitude of the tension necessary for an additional charge of the electrolyser in a period of time, equal to the porosity of impulses of tension. So work all modern electrolysers. From the stated real energy spent for the process pulse of the electrolysis of water, it follows that it is less than that on the devices shown. How do we define its size?

The electronic generator of electric impulses (fig. 10) generates a tension of impulses (fig. 11) and submits them to the plugs of the electrolyser. We already know the essence of erroneous indications of the devices fixing a pulse current consumption, therefore without effort, we can predict the indications of all devices presented in schemes (fig. 10 and 12). First of all, all devices correctly define the average size of a pulse current and are mistaken only in the definiton of the average size of pulse tension. This error is always present at that part of an electric chain where there is **a continuous ceiling tension** (fig. 4, 5, 8, 13).

Long-term use of voltmeter M2004, with an accuracy of 0.2 (GOST 8711-78) and ampermeter M20015, with an accuracy of 0.2 (8711-60) has shown GOST, that their indications of average values of pulse of tension and current are very close to the average sizes of pulse tension and current, This follows from the oscillogram with an account of the porosity of their impulses. Therefore we will trust the reliability of indications of these devices for measurement of average values of impulses of tension and current (fig. 14).

So, in schemes (fig. 10 and 12), the voltmeters will show the average size **of ceiling potential** constantly present V_P on the plugs of the electrolyser. The same size will be given out automatically in the program which has been put in place in an oscillograph. The ampermeter will show the average size of impulses of current which will be close to the same size automatically fixed by the program of an oscillograph. These indications correspond to the calculation of average pulse power on the plugs of the electrolyser under formula (4) which as we have already proved, increases the real size of power in the times equal to the porosity of impulses of tension. In fig. 11, the porosity of impulses of tension and current are approximately identical. It is equal to $S = 11$. This means that indications of the voltmeter, the ampermeter and wattmeter overestimate the size of power realized on the plugs of the electrolyser by 11 times.

There is a lawful question: in how many time the electric power counter will increase real power on plugs of electrolyser? The answer is simple. On plugs of the counter of the electric power always there is **a ceiling tension 220V**. The average size of a current on plugs of the counter of the electric power will be a little bit more than the average size shown by the ampermeter. Thus, if the general tension on plugs of electrolyzer is 220V the counter will increase the real expense of the electric power on electrolyze of waters, approximately in 11 times. If on plugs of electrolyser there will be a smaller general tension, distortion will be even more.

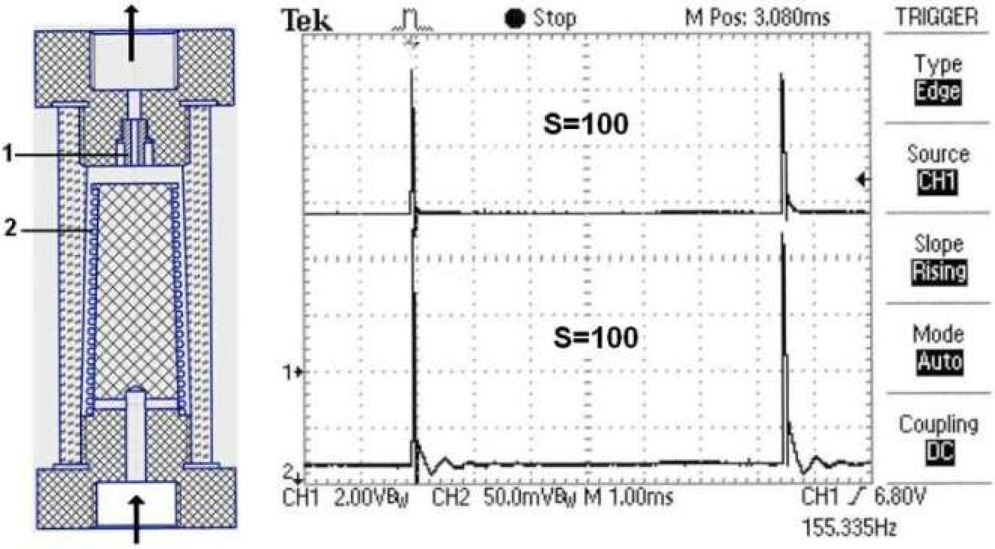
Fig. 14. The voltmeter, the ampermeter and oscillograph, used in the experiments

Thus, all devices presented in schemes (fig. 10 and 12) will show the nonexistent increased expenditure of electric power on the electrolysis of water.

3. The analysis of the process of impulse feed of a thermal cell

And now we will pick up the consumer of impulses of tension and current at which the ceiling potential is unformed. Such a consumer is a process of pulse heating of water with the minimum presence of alkali. The scheme of connecting devices is the same, as on fig. 12. The oscillogram of impulses of tension and current is presented in fig. 15. On it, impulses of tension and current have a porosity of $S \approx 100$.

The devices connected under the scheme presented in fig. 12, have the following fixed indicators. The voltmeter shows 10V. Calculation under the oscillogram where the amplitude of impulses of tension is equal to 1000V, and their porosity is given as $S = 100$ gives the same size – 10V. The ampermeter shows 1.5A. Calculation under the oscillogram where the amplitude of impulses of current is equal to 150A at a porosity of impulses shown as $S = 100$ gives the same size – 1.5A. Calculation under formula (5) gives the average size of pulse power equal to $P_C = 10 \cdot 1.5 = 15Watt$. Indications of the electronic wattmeter PX-120 fluctuated in an interval of 10-25*Watt.* Such a result we assume, is caused by the absence on the oscillogram (fig. 15, b) of ceiling tension. Composers of the program for this wattmeter, probably have considered such a variant. In this case, the average pulse of power can be defined by a unique method – definition of average values of tension and current, and the subsequent multiplication of these values, that completely corresponds to formula (5).



a) **b)**

Fig. 15: a) – thermal preplasma cell; b) the-oscillogram of impulses of tension and a current, three consistently connected preplasma thermal cells submitted on plugs

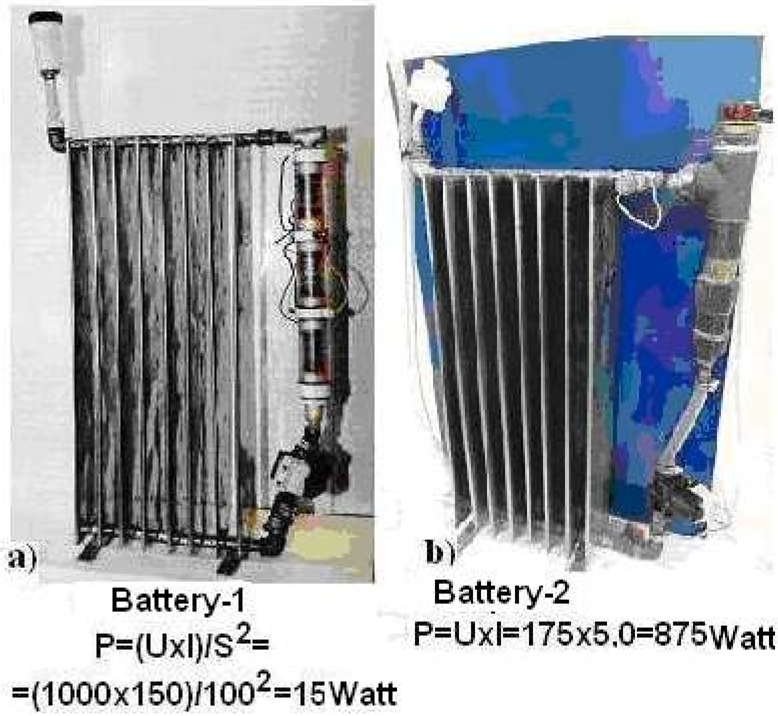


Fig. 16. – the experimental radiator which is heated up by three consistently connected thermal cells; b) – the experimental battery which is heated up by usual means to the power of 1 kWatt.

Both batteries presented in fig. 16, heated up to 80^0 degree. of temperature for 0.5 hours. Thus, all devices connected to the plugs of a battery with three thermal cells, showed power on its plugs, equal to 15Watt, and on other battery, -870Watt.

Our laboratory was visited by some foreign and Russian delegations of experts which brought the devices for measurement. They were convinced of the correctness of the results of our publications about the efficiency of our thermal preplasma cells (fig. 15). All of them promised to create their own electronic generators which will guarantee realization of the specified power effect. We convinced them, that it is impossible, as the network has a **ceiling tension of 220V.** The current coming on to the plugs of the counter of the electric power, is more than the current on the battery plugs as in it, the additional loadings formed by the electronic generator of electric impulses are reflected. However, our visitors, flatly refused to trust us. They left, and in acouple of months returned with the electronic generators of electric impulses and assured us, that they guarantee the effect which has been found by us, by means of the electronic generators made by them.

One Russian delegation had brought prepared test reports in advance in which the academician of the Russian Academy of Sciences appeared as chairman. He continuously called and was interested in the results, intending immediately to arrive from Moscow for test report signing. But all came to an end on our predictions. Results of such tests were negative. The reason, in essence was not in the electronic generator of electric impulses, and inaccuracy of the account of the electric power serial counters of the electric power. All of them work under the programs following from formula (4), and the authentic result of the average size of pulse power shows only when in the electric power counter, the program following from the formula (5) is put in place.

The conclusion

Each interested person can check independently the described indications of the devices presented in this article. Those already familiar with our patent on MG-1 and MG-2, can experiment with it.

The literature

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