

Develop Low Current Systems in Radio Electronic Devices

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Abstract: *The purpose of the survey is to determine a set of measures and develop technical proposals, taking into account the generated standard solutions. Based on the results of the survey, our designers will help the Customer to develop a competent Terms of Reference for the design of a complex of technical means.*

Keywords: *Voltage, current, low-current, calculation, assignment, communication.*

Introduction

To maintain communication links, it is necessary to carry out a special network designed for low voltage [1]. Most often, it runs parallel to the main electrical system, but it is located so that there are no short circuits. For this, a special cable winding is provided [2].

The entire network operates at low currents, connects to devices that do not require high voltage, can transmit from 12 to 24 V.

When designing low-current, the complex project of all communications is taken into account: lines and lines of electrification, water supply, lighting, in particular, to prevent unwanted intersections [1-2].

Low-current engineering systems - what is its second name of such networks is informational. This is due to the direct assignment of low voltage currents. They are supported by devices such as telephone line, Internet, television and radio broadcasting, etc.

In general, communication consists not only of wiring, but also of adapters and technical devices, household appliances. They complete this circuit, being the best. When designing, it is necessary to indicate on the drawing all the expected exit points. It often happens that several connectors are required to connect one equipment - both high and low currents. For example, such a situation can arise if a stationary computer is simultaneously connected to an outlet (and there may be several of them) and to a local network or the Internet. Therefore, when drawing up a plan, two wire drawings are often superimposed on one another to coordinate the tie-in points.

Materials and methods

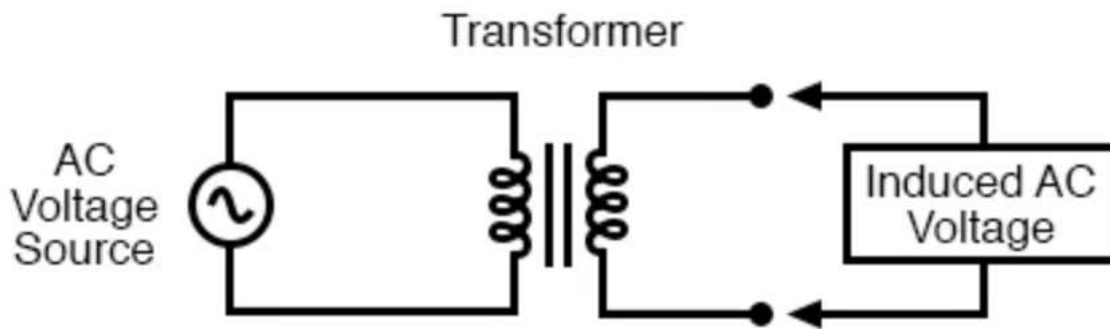
Another difference from power networks, in addition to voltage, is the relative safety for humans. Unlike the dangerous 220 volt plate, a low-current cable cannot do significant harm.

Despite the fact that this communication is considered applied and optional, if, of course, there is an opportunity to be without access to any external information, high quality standards are imposed on it:

Reliability. This manifests itself both at the time of drawing up the project and during the installation process - it concerns the laying of cables, their insulation, connection to equipment, as well as the installation of distribution boards, etc. It is necessary to ensure the perfect connection of all devices so that it meets the requirements that are in the technical data sheet of the devices. It is also worth thinking about wire insulation, if necessary. This happens in rooms with high air humidity, as well as where small children have access. Safety rules should contain the basics of protection against fires, as well as against short circuits. Failure to comply may result in a fire and damage to technical equipment. SNiP 3.05.06-853 is a set of instructions for connecting low-current equipment.

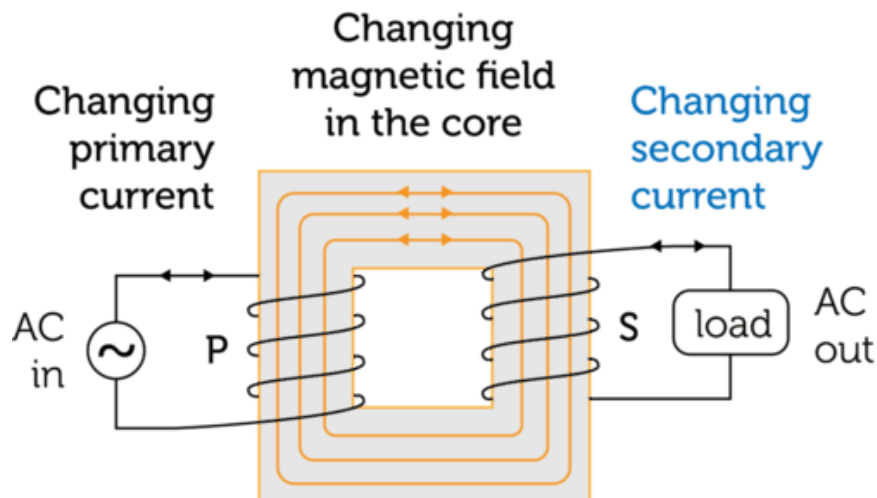
Result and discussion

Ensuring trouble-free operation. During the operation of the system, there should be no sudden shutdowns. The technician is often responsible for fire alarms, video surveillance and other functions that cannot be ignored. To avoid accidents, it is required to regularly carry out comprehensive maintenance, check all components, and also carefully think over everything at the time of design.



Pic.1. Electrical diagram of the transformer

Electric Transformer



Pic.2. Wiring diagram of primary and secondary transformer

Possibility of expanding the system. Since any organization has the ability to replenish the staff or simply increase the units of equipment, it is required to equip such equipment connection, if one cable is damaged, you can use an additional one. This is also decided at the time of drafting.

Conclusion

The determination of the connection of parting in a low-current system depends on the design solution and the needs of the company. Even with home use of low current, you must count on an increase in connectors. Let's give an example: at the time of laying the wires, you have one stationary computer that requires the Internet. A year later, you have a second device - you also need to pull a line to it. When you buy materials for any communication, you need to calculate the amount of cable that should reach

References

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