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WHAT IS REACTIVE POWER AND WHY IT SHOULD BE COMPENSATED?

Reactive power, like active power, is part of apparent power. However, it differs in that it does not produce useful work, but contributes to the formation of electromagnetic fields and creates an excessive parasitic load on the power lines of the power supply. Reactive power can be characterized by the lagging (shift) of the sinusoid of the AC voltage from the phase current, and its value significantly depends on the design features of the equipment and its mode of operation.

Increased reactive power can lead to excessive losses in the conductors, as well as provoke network voltage deviations from the nominal value. Regular repetition of such situations can have a negative impact on the performance of electrical equipment. Therefore, reactive power is important to compensate.

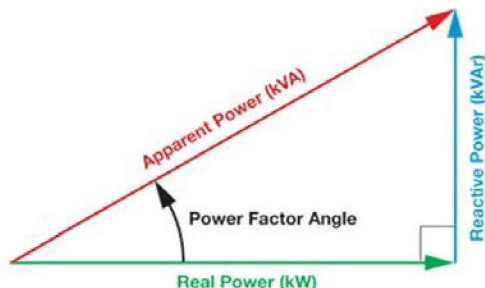


Figure 1 - Power relationship

Increased reactive power can lead to excessive losses in the conductors, as well as provoke network voltage deviations from the nominal value. Regular repetition of such situations can have a negative impact on the performance of both the main and auxiliary electrical equipment. Therefore, reactive power is important to compensate. The most important process of reactive power compensation is considered for large industrial enterprises, where asynchronous motors act as the main load on the power grid, since they are sources of reactive power. Through the use of automatic condensing units, it is possible to achieve both financial benefits and a longer service life of the equipment. This is due to the following factors:

due to the operation of the automatic IRPC (International Rural Poultry Centre), it is possible to reduce the load on power transformers, which has a positive effect on their service life;

the use of ACU allows to reduce the load on wires and cables, which in turn makes it possible to use cables of a smaller cross section;

ACU helps to reduce the level of electricity consumption and, as a result, reduce electricity costs;

The use of compensating devices for existing electrical networks will achieve:

- an increase in the capacity of the power supply system, which in turn makes it possible to connect an additional load without increasing the cost;
- network restrictions from reactive power during the period of minimum load;
- informing about the current state of the network and its main parameters.

As you can see, the use of IRPC in industrial networks for reactive power compensation provides a lot of advantages. And in some cases it is even an absolute necessity. Especially in situations when it comes to worn-out utility networks or the massive use of asynchronous electric motors. In any case, the costs for the purchase and installation of ACU (Automatic Call Unit) are much less than the expected costs for the repair of networks and equipment, which will certainly arise in the absence of compensation devices.