

system consists of a panel or an array of solar modules, an inverter, a battery and wiring interconnection. Business and research organizations, large and small enterprises, educational establishments, hotel owners, farmers and home owners have applied large photovoltaic system with solar pack for their own aims related to autonomous electrical energy saving solutions.

Taking into account our research we could suggest that the installation with multiple modules will produce more amount of power than the one single solar assembly. The relationship between the positive and negative effects of the use of concentrators as a part of solar photoelectric platforms depends on the destination, conditions of system applications, their structure and parameters.

In the work we have researched the ways of energy supplying automation on the base of solar panels. It means not only the simplification of the whole process, but also increasing of efficiency and decisions for the solution of different disadvantages.

The features of solar panels structure cause degradation of performance with increasing of temperature. Partially obscured panel causes a fall of the output voltage due to losses in an unlit cell, which begins to act as a parasitic load. This disadvantage can be eliminated by installing a bypass for each photocell panel. Working characteristics of the photovoltaic panels shows that a maximum effectiveness depends on a proper selection of the required load resistance. In this case the photovoltaic panels are not connected directly to the load, but the management controller of PV systems is used to provide optimal operation of the panels.

So, these are only some ways of disadvantages solution. As to disadvantages of using they are expensive enough and have a low efficiency. In the work we tried to create more ways with these drawbacks. As to advantages it is not a secret that solar panels create ecologically clear energy, such energy can be widely used and available for anybody. The solar panels are silent and have sufficiently long lifetime.

*Scientific supervisor: Bereznikova N.,
Senior Lecture*