

APPLICATION OF THE INTELLECTUAL LOGICAL PROGRAMMED RELAYS IN SYSTEMS AUTOMATIONS AERATIONS OF GRAIN

Syvenko M.

Scientific advisor - Ph.D., Assoc. Piskaryov O. M.

Kharkiv Petro Vasylenko National Technical University of Agriculture
(61052, Kharkiv, 19 Rizdvyana street, department of Power Engineering and Computer Technologies, tel. (057) 712-52-45)
E-mail: sivenko.michael@gmail.com

Necessity of ventilation at drying of grain, for temporal preservation cooling and airing of seed at the protracted storage, is one of major tasks of agriculture.

Analysis of advantages and disadvantages of control system of the automatic electric drive of bunker of active aeration of grain by means of intellectual logical programmable relay of firm Schneider Electric series of Zelio Logic.

The expedient method of drying of grain active aeration envisages blowing out of layer of grain air with relative humidity that corresponds or the hardly below balanced humidity of grain.

Complication of this process consists in the necessity of high-fidelity control on the indexes of discrete and analog sensors (it contingently the specific terms of environment), rapid transmission, analysis and control of data centralized traffic. Presence a few functionally excellent modes of operations of plenty of electrical equipment, requires high-performance controls and defence, and in case of insignificant deviation from the set algorithm, entails heavy and irreparable material tolls.

Intellectual relays of Zelio Logic are multifunction devices with possibilities of programming in language of relay logic, exposure of time, account of impulses, rapid treatment of signals from discrete and analog sensors. The presence of possibilities of communication of data allows to build an intellectual relay in the systems of the control centralized traffic, passing of emergency messages is possible, and a relatively small cost, high reliability and simplicity of the use, is main advantage of this type of microcontrollers.

Analysing all requirements of technological process it is possible to draw conclusion, that the intellectual relays of series of Zelio Logic conform to all requirements and maximally expedient for the use in control system the automatic electric drive of bunker of active aeration of grain.