

Annotation

The diploma project consists of an annotation, introduction, analytical review, analysis of parameters, calculation of control system elements, calculation of equipment parameters and conclusions.

The total volume of the explanatory note is 73 pages, includes: 22 illustrations, 10 tables, 5 drawings, 41 references and 33 formulas.

The topic of the diploma project is related to the study of the automated control system (ACS) of the operation of laser machines and the calculation of the elements of the control system and the parameters of the laser machine equipment. The automated machine control system combines a set of specialized devices, methods and tools necessary for the implementation of an automated control system (ACS). The ASK system is mainly characterized by cycle programming, processing modes and trajectories of movement of the machine's working bodies. At the same time, all the necessary information is provided in the form of a sequence of letters and numbers printed in a coded form (alphanumeric code) on the software carrier.

Control technology is an important field that deals with the development and implementation of machine or system controls of all kinds. In a modern system, such control is usually carried out with the help of numerous sensors and actuators. It usually has a central control unit in which all information is collected and from which various factors are controlled.

Automation has affected all aspects of our society as well as the future of industrial automation. The integration of artificial intelligence into industrial automation means that production systems can recognize, analyze and make decisions on their own, and inverters provide the critical link between the control system and the actuators.

Key words: laser, equipment, process, cutting, grading, automated control system.