

Application and Development Prospect of Intelligent Technology Based On Electrical Engineering Automation

Jizhou Sun¹ and Peng Zhao²

¹Hubei Tobacco Golden Leaf Rebaking Co., Ltd., Xiangyang, Hubei, 441004, China

²CRRC Changchun Railway Vehicles CO, LTD., Changchun, 130062, China

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Abstract: With the continuous development of the times, modern society has been found to be a century dominated by information technology, which has also greatly promoted the development of electrical engineering automation in China. Electrical engineering automation plays an important role in people's daily life and industrial life, and is widely used in agriculture, industry and national defense. As the economy continues to improve, higher requirements are placed on the efficiency and level of electrical engineering automation. In order to further promote the development of electrical automation, it is necessary to combine it with intelligent technology to continuously improve the electrical engineering automation. Efficiency, and ultimately realize the further development of electrical engineering. This paper summarizes the application of intelligent technology in electrical engineering automation, and analyzes the development prospect of intelligence in electrical engineering automation based on personal concepts.

With the development of society, the electrical engineering is gradually combined with information technology, and the promotion of information technology makes the intelligent technology widely used, especially in electrical engineering automation control, which plays an extremely important application value [1]. The core focus of the power system is electrical automation control. If a slight loophole occurs in the application of intelligent technology, it may cause greater damage and affect the normal electrical engineering operation. Its application of intelligent technology can not only improve the reliability of equipment use, thereby reducing its repairs and maintenance costs [2]. At the same time, it can be used for equipment fault detection, when the electrical engineering is in a hazardous work area, its application can ensure the normal progress of the project, to a certain extent, making up for the defects of early electrical engineering automation control, and further improve the quality of electrical engineering work.

1. Electrical Engineering

Electrical engineering refers to the science of developing limited space and environment through the application of equipment, technology and electrical energy. Its content includes many aspects, ranging from the conversion and use of electrical energy to the manufacture of switches, all of which belong to electrical engineering. Widely used in life. With the continuous development of electrical engineering in recent years, professors at Stanford University have shown that today's electrical engineering is related to almost all electronic and photonic engineering [3].

2. Intelligent Technology

First, an overview of intelligent technology. With the development and application of electrical engineering, new technologies have also been widely cited in its field, of which intelligent technology plays an important role in its application. In essence, intelligent technology can be regarded as artificial intelligence technology. It mainly refers to the combination of computer, precision sensing, and GPS positioning technology. The comprehensive application technology belongs to one aspect of computer technology. Intelligent technology is mainly manifested in image transmission, language recognition, expression and automatic control. At the same time, with the further development of intelligent technology, it can be integrated with control science, bionics, linguistics and other aspects, so as to continuously improve and progress, which has important

significance for the development of electrical engineering automation [4].

Second, the theoretical basis of intelligent technology. When the intelligent technology was first proposed, it was questioned by many people. Today, it has been widely used. It can be said that the intelligent technology has achieved great success. Based on the development of intelligent technology, human thought and wisdom, combined with psychology, put the relevant knowledge and content involved in the form of a chip into the machine, so that the machine has a certain humanity and intelligence [5]. Therefore, it is not difficult to understand that the expression of intelligent technology is also the same, combining it with the expressions that humans have, and combining data transmission to obtain the ability to express. This kind of representation is usually called the knowledge representation mode, and its technology is involved in all fields of people's Electrical engineering is an activity that has an important role in the production and living fields at this stage. If intelligent technology is introduced on the basis of the current development, it will definitely improve the quality and efficiency of electrical engineering. In fact, relevant reports have confirmed that the application of intelligent technology not only enhances the electrical automation control system, but also reduces the work cost to a certain extent, can reduce the pressure on the relevant staff, and achieve a reasonable allocation of human resources Achieve cost savings while improving work efficiency. lives [6].

3. The Application of Intelligent Technology in Electrical Engineering Automation

First, to achieve intelligent control, which can improve the reliability of the use of electrical equipment. Introducing intelligent technology into the work of electrical automation control, it can carry out information on relevant letters in electronic form, so as to obtain, manage and store its confidence, and intelligently process its content to ensure The electronic information system realizes the characteristics of convenience, efficiency and speed when processing information, and finally can realize unmanned operation and remote operation in electrical work control [7]. The traditional automatic control technology has major drawbacks, and it is subject to many restrictions. For example, the application of intelligent technology can effectively compensate for the disadvantages of traditional control technology, and it will not be limited by time and region. Reduce the consumption of manpower and material resources. At the same time, the application of intelligent technology can realize the entire electrical engineering automation control system to automatically analyze and record the operating status of the equipment, real-time tracking and supervision, so as to be able to timely identify the abnormal phenomena in the operation of the equipment in the work, while receiving the error information Make specific and targeted solutions [8]. The application of intelligent technology has realized the intelligentization of the electrical work automatic control system, and its superiority has laid a good foundation in the later development of intelligent technology.

Second, optimize the design and provide a reference for the best design plan. One of the main links in electrical engineering automation control is the design of electrical equipment. The quality of the design has a direct impact on the stability and safety of electrical equipment to a large extent. The design of electrical equipment involves a wide range, and the design process is relatively cumbersome and complicated. Not only the relevant designers are required to have rich work experience, but also the relevant designers are required to have solid technical, theoretical and other comprehensive capabilities. Related knowledge such as magnetic force is required to understand the current standard rules of construction acceptance in China. Its comprehensive ability requires designers to have certain organizational and coordination capabilities, and a deep understanding of the country's relevant economic policies, legal regulations, supervision requirements, and contracts [9]. In the past, in the design of electrical engineering automation, the design method was mainly completed by combining actual experiments and experience. During this process, a lot of human and material resources were consumed, and there were many uncertainties in the design process. Human factors cause the final design plan to fail to meet the standard, making it more difficult to modify. The application of intelligent technology has greatly improved this problem. Its application is mainly done through computer software, using Computer Aided Design (CAD) technology. In the

actual design, electrical automation should be dealt with from the aspects of cost, process and structure to ensure its normal operation. In the electrical engineering automation process, one of the manifestations of intelligent remembering applications is genetic algorithms, which can optimize the automation of electrical engineering through signal transmission and appropriate interference. At the same time, application software combines it with hardware to enhance the humanity of the system and intelligent.

Third, implement fault diagnosis, so as to ensure the safety and stability of equipment operation. During the actual operation of the electrical engineering system, electrical equipment failure is an inevitable problem. In the past, it was necessary to set the test results in the process of troubleshooting, so as to ensure the accuracy of the test results and process. The process of detection and processing is carried out by relevant personnel, which may cause more errors that cannot be found by itself, which reduces the accuracy in the information processing process, thus has a certain adverse effect on the use of information, and ultimately cannot be accurately Find out the cause of the failure. Transformers play an extremely important role in the operation of electrical equipment. Therefore, when monitoring electrical equipment, special attention should be paid to the operating status of the transformer. If intelligent technology is combined, it can quickly and timely diagnose faults Therefore, the fault can be developed and repaired early, and the economic loss caused by the fault can be reduced [10]. In the process of using intelligent technology to diagnose transformer faults, it is necessary to monitor various equipment according to automation technology, and determine the scope of transformer faults by analyzing the decomposition gas of oil leakage in the transformer. At the same time, it carries out automatic control and data collection and processing of the transformer, accurately receives the signal, ensures the storage and recovery of data information, realizes the accuracy of accelerating maintenance and reduces economic losses.

4. The Development Prospect of Intelligent Technology in Electrical Engineering Automation

First, performance development. In the electrical engineering automation control system, the addition of intelligent technology can make electrical engineering develop in the direction of high efficiency, high speed and high precision. Efficiency, speed and accuracy can reflect the level of an electrical engineering automation. The intelligent application has achieved the improvement of the above three indicators, which can directly improve the speed, accuracy and efficiency of the power system.

Second, the development of functions. In order to further enhance the role of intelligent technology in electrical engineering, in the later development, we must make full use of counterweight technology elements, including user interface graphics, CAD technology, built-in high-performance programmable controller (PLC), multimedia Technology, etc. The combination of graphical user interface and intelligent technology can be applied to non-professional users, which can be operated through windows and menus, providing greater convenience for users. If the application of CAD design technology is increased in automation control, the design cycle can be shortened to a great extent, achieving cost savings and improving product quality. If the high-performance PLC is installed in the electrical control system, users can edit and modify themselves and establish their own programs. The application of multimedia technology can further strengthen the intelligence and comprehensiveness of information processing.

Third, the development of architecture. The application of intelligent technology can realize the development of electrical engineering automation system more integrated, modular and networked. For example, LED display technology has a high technological content, and its small size and light weight can display information in a large size, which improves the performance of related displays in electrical engineering automation systems. At the same time, in the electrical engineering automation control system, combined with the intelligent network, it can realize the networking of electric machine tools, so as to achieve the purpose of remote control and unmanned control. The screen is displayed simultaneously on the screen of each machine tool.

Conclusion

The application of intelligent technology in life and production is relatively wide, especially in the electrical engineering automation control, the value of its application is recognized by the whole society, which can improve work efficiency while reducing work costs. In the later development of intelligent technology for electrical engineering automation and control, the theory of artificial intelligence should be further researched to make its application more theoretical. The intelligent technology of electrical engineering automation has a relatively broad development prospect in our country, so in practical applications, the relevant personnel should work hard to learn the relevant knowledge and continuously strengthen their actual experience, so as to continuously optimize the intelligent technology and further Promote the development of China's electrical engineering industry.

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