

THE WORLD'S MAIN MANUFACTURERS OF PROGRAMMABLE LOGIC CONTROLLERS. OVERVIEW

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Programmable Logic Controller (PLC) has been extensively used in the manufacturing industry to automate the manufacturing processes, including making logical decisions in the assembly line, controlling robotic devices, and diagnosing process faults. The recent increase in industrial automation and advent of Industry 4.0 have bolstered the demand for PLCs. They are looking for innovation including compact PLCs and increased I/O capacity of PLCs that enhances the functionality of devices [1].

Siemens (Germany). Siemens offers a wide range of products and solutions to various industrial companies mainly process and manufacturing industries. The company provides automation technologies, industrial controls, and industry software that help customers to optimize the complete product development and production processes. The company offers SIMATIC range of controllers. It provides four varieties of SIMATIC PLCs, namely basic, advanced, distributed, and software controllers.

- Basic controllers S7-1200 is used for simple and standalone applications
- Advanced controllers S7-1500 is used for medium and complex applications
- Distributed controllers ET 200SP is used in decentralized applications
- Software controller S7-1500 is used for PC-based applications

Mitsubishi (Japan). Mitsubishi Electric provides electrical and electronic products and systems. Its products are used in energy and electric systems, industrial automation, information and communication systems, electronic devices, and home appliances. The company offers MELSEC series of PLCs. Various models include MELSEC iQ-R Series, MELSEC iQ-F Series, MELSEC-Q Series, MELSEC-L Series, MELSEC-F Series, and MELSEC-QS/WS Series.

The company also provides engineering software for PLCs. It includes software products such as iQ Works, GX Works2, PX Developer, MX Component, and MX Sheet.

Omron (Japan). OMRON offers automation components, equipment, and systems with advanced computer, communications, and control technologies. The company has key business divisions such as industrial business group, social system business group, healthcare, products, open system, and creative service business.

Industrial business group: Under this division, OMRON offers factory automation system. PLC falls under the segment of industrial automation. The PLC application portfolio range from small scale equipment controls to production lines controllers. The controller series include CJ1, CS1, CP1, CJ2, and NSJ [2].

Allen Bradley (USA). Rockwell Automation acquired Allen Bradley for approximately \$1.6 billion in 1985. Rockwell Automation provides industrial automation and control, power, and information solutions. The company serves diverse industries, including food and beverage, transportation, oil and gas, metals, mining, and life sciences. The company markets products through independent distributors and direct sales force in the US, Canada, EMEA, APAC, and Central and South America.

Rockwell Automation offers control platforms that perform multiple control and monitoring applications such as continuous, batch, and discrete process; drives and motion control; and machine safety control.

Delta (China). Delta's DVP series programmable logic controllers offer high-speed, stable and highly reliable applications in all kinds of industrial automation machines. In addition to fast logic operation, bountiful instructions and multiple function cards, the cost-effective DVP-PLC also supports various communication protocols, connecting Delta's AC motor drive, servo, human machine interface and temperature controller through the industrial network in to a complete "Delta Solution" for all users [3].

Fotek (China). The company is dedicated to researching, developing and manufacturing industrial automation devices to support production in Taiwan's machinery industry. FOTEK products are used in many Taiwanese industries such as rubber and plastics, packaging machines, food and medical industries, printing houses, car parking and transportation industries, and many large machinery manufacturers. The main products of FOTEK are solid-state relays, digital counters and measuring instruments, electromechanical time relays, multifunctional digital timers, timers with on/off delay, photosensors, inductive sensors, capacitive and temperature sensors, reed relays and devices that process signals from sensors [4].

Reference:

1. Top Five Vendors in the PLC Market [Electronic resource]. – Mode of access: <https://www.spendedge.com/blogs/top-five-vendors-plc-market>.
2. Technavio Announces Top Five Vendors in the Global Micro PLC Market from 2016 to 2020 [Electronic resource]. – Mode of access: <https://www.businesswire.com/news/home/20160502005493/en/Technavio-Announces-Top-Five-Vendors-in-the-Global-Micro-PLC-Market-from-2016-to-2020>.
3. PLC – Programmable Logic Controllers [Electronic resource]. – Mode of access: <https://www.deltaww.com/en-US/products/PLCProgrammableLogicControllers/ALL/>.
4. FOTEK CONTROLS CO., LTD [Electronic resource]. – Mode of access: <http://www.fotek.com.ua/prices>. (In Russian)