# Classification and introduction of Allen Bradley PLC system

**SLC 500 Series PLC**

Most models start with 1746 and 1747. It is a medium-sized PLC system and is widely used. Allen Bradley SLC 500 PLC is a medium-sized rack based control system, which is composed of controller, discrete quantity module, analog quantity module, special input and output module and peripheral equipment. The SLC 500 series has powerful functions and flexible configuration. It can provide a wide range of communication configurations, features and memory options. Rslogix 500 ladder logic programming software package provides flexible editor, point and click input and output configuration, powerful database editor, and diagnostic and troubleshooting tools to help you save project development time and maximize efficiency.

**RSLOGIX 500**

With its easy-to-use editor, click and click configuration, powerful diagnosis and troubleshooting functions, rslogix 500 integrates the latest technologies to help users improve performance and reduce development time. Its intuitive interface and stable reliability translate into productivity growth. Rslogix 500 allows you to effectively create, modify and monitor your applications for your SLC 500 series, just as for Allen Bradley Micrologix products. Rslogix 500 is a standardized programming software package for all your small controllers, which greatly simplifies programming.

**Rslogix 500 professional**

Rslogix 500 professional software package includes rsnetworx network configuration tool, rslinx Lite communication interface and rslogix 500 emulator.

**Controllogix**

It integrates many advantages of Logix common platform - common programming environment, common communication network and common control engine - to provide an environment that can meet your high-performance application requirements and is easy to use. Most models begin with 1756. The close integration of ControlLogix in programming software, controller, input and output reduces the development cost and time in commissioning and normal operation.

ControlLogix System provides discrete control, drive control, motion control, process control, safety control, convenient communication connection and artistic input and

output functions with compact and economical products. ControlLogix System is a modular system. You can effectively design, establish and modify it, which helps to significantly reduce costs in training and engineering. The real redundant controller structure provides undisturbed switching and high reliability. It provides many communication options, more analog quantities, digital quantities and special input and output modules.

ControlLogix products have passed TUV certification and can be applied to projects required by SIL 2.

The ControlLogix content capacity can be extended to 8m at most. The ControlLogix controller supports high-standard process control applications and provides the function of high-speed processing of motion control instructions in a single integrated environment.

ControlLogix provides modular communication network connection options. You can purchase corresponding communication modules according to your needs.

The ControlLogix solution also provides time synchronization, which is particularly important in the first fault condition and process sequence applications. ControlLogix controllers with different storage capacity can be selected according to application requirements. A mobile storage device that can use a CompactFlash card as a program.

The ControlLogix System has the following advantages:
A modular high-performance control platform suitable for sequence, process, transmission and motion control. Each ControlLogix controller can perform multiple control tasks and reduce the number of controllers required. In this way, faults can be solved faster. Several periodic tasks can be started separately to achieve a higher performance level. Multiple processors, communication modules and I / O modules can be used in one rack. ControlLogix processors, I / O modules and communication modules are like intelligent nodes on the network.

General programming environment and Logix control engine.

ControlLogix, CompactLogix, FlexLogix, softlogix and drivelogix are all based on the general Logix platform. They have a general programming environment and Logix control engine. Connect to the NetLinx open network. From equipment to workshop to information management layer, ControlLogix highly supports three-layer network communication.

**PLC-5 Controller**

It can be divided into the following categories:

1. classic PLC-5 controller
There are the following CPU models: the product order number (model) corresponding to the processor name
PLC-5/10 1785-LT4
PLC-5/12 1785-LT3
PLC-5/15 1785-LT
PLC-5/25 1785-LT2

2. enhanced PLC-5 controller
There are several CPU models:
1785-L11B、1785-L20B、1785-L30B、1785-L40B、1785-L60B、1785-L80B
Dh+ or (and) remote input / output communication interface (remote i/o) is generally provided.

3. Ethernet PLC-5 controller
There are several CPU models:
1785-L20E、1785-L40E、1785-L80E
For the above three CPUs, the Ethernet interface is a built-in standard configuration. Dh+ or remote I / O interface is also provided

4. control network PLC-5 controller
There are several CPU models:
1785-L20C15、1785-L40C15、1785-L46C15、1785-L80C15。
The above four CPUs have built-in ControlNet network communication function, and also provide dh+ and remote input / output communication connection function.

5. protective PLC-5 controller
There are several CPU models:
1785-L26B、1785-L46B、1785-L46C15、1785-L86B。The safe controller allows the user to set access to "critical" or "private" program areas, protected memory areas, protected input and output, etc., and can also restrict the operation of the controller. Users can be classified and managed by programming software, so that they have different system permissions. In addition to the classic PLC-5 controller, the above five controllers are all equipped with 25 pin serial communication port.

Micrologix products
It mainly provides three different levels of programmable controllers: micrologix1000, micrologix1200 and micrologix1500.
Micrologix1000 is an ideal choice for small control system due to its small size and comprehensive functions;
Micrologix1200 can provide users with powerful control functions in a space limited environment to meet the needs of different application projects;

Micrologix1500 not only has perfect functions, but also can be flexibly expanded according to the needs of application projects, which is suitable for control systems with high requirements.

**CompactLogix PLC**

Provide Logix solutions for low-end to medium-sized applications. Typical applications include device level control applications (requiring only a limited number of inputs and outputs and limited communication requirements).

CompactLogix 1769-L31 provides two serial communication interfaces. 1769-L32C and 1769-L35CR controllers provide an integrated ControlNet communication port. The 1769-L32e and 1769-L35E provide an integrated Ethernet interface.

CompactLogix PLC system support: the CompactLogix controller from the center remotely controls the input and output and field equipment through ethernet/ip, control network and equipment network to realize distributed control in different places. By connecting the CompactLogix controller to the ethernet/ip Ethernet or ControlNet control network, you can integrate a machine or a project into a plant wide control system at a very low cost. For example, you can use the 1769-l35e controller to connect a large number of products, such as Allen Bradley PanelView plus operator interface, point i/o, and PowerFlex 70 drives, to achieve a full range of integrated solutions.

**FlexLogix：**
Each FlexLogix system provides a programmable controller for multiple purposes. I / O modules can be placed near sensors and actuators. If distributed processing is required, multiple FlexLogix controllers can be networked.
FlexLogix has a Logix control engine. A FlexLogix controller supports Logix instruction set, task model, and data model. FlexLogix controller and other Logix controllers share the same programming mode and the mode of configuring input and output modules. Both of them use rslogix5000 programming software.
A simple FlexLogix system consists of a controller and up to eight I / O modules. In more complex FlexLogix systems, multiple controllers can be networked. Input and output can also be distributed on different links.

**Pico: small, simple but flexible**

Allen Bradley Pico controller provides simple logic, timing, counting and real-time clock operation. To enhance performance, Pico gfx adds the use of graphics, providing advanced programming features such as PID control, high-speed counters, and bit sequences. Pico is an ideal alternative to relay applications. It is suitable for simple control applications, such as buildings, HVAC, parking lot lighting, and some occasions with strict cost requirements. Pico controller is easy to use. All

programming and data adjustment can be completed through the keyboard and display on the panel, or by using Allen Bradley's picosoft and picosoft Pro Configure the software to complete.