LISTEN.
THINK.
SOLVE.SM

**SLC™ 500
PROGRAMMABLE
CONTROLLERS**

RIGHT FOR TODAY.
READY FOR TOMORROW.

Rockwell Automation

POWERFUL FLEXIBLE

SLC 500. A SOLID INVESTMENT. TODAY. TOMORROW.

When it comes to flexibility and power, the Allen-Bradley® SLC™ 500 family from Rockwell Automation® is a proven solution of small logic controllers. Designed with smaller to mid-sized automation applications in mind, the SLC 500 provides powerful, reliable performance without requiring customers to pay for the unused capacity and features of a full-size programmable logic controller.

The SLC 500 was one of the first full-featured, small controllers on the market, and it remains the gold standard in small logic controllers more than a decade after its introduction. It's a rugged chassis-based platform, which means you can configure exactly the stand-alone or distributed system you need for dependable control of your application. In fact, the SLC 500 provides cost-efficient, reliable control in hundreds of thousands of applications around the world — everything from amusement park rides and microbreweries to pharmaceutical and food processes.

What's more, we're constantly looking toward the future of automation, evolving and enhancing the SLC 500 system to stay ahead of our customers' ever-changing demands. And we offer unmatched support, having trained more than 100,000 satisfied customers in the United States alone. No wonder we have a worldwide installed base of 1.6 million — and growing.

The Small Controller for Big Applications

The Allen-Bradley SLC 500 is Rockwell Automation's small, chassis-based, modular family of programmable controllers and I/O. The smaller size of the SLC means that you can use it in applications where you can't afford the size and overhead of a traditional, full-size programmable logic controller. And its modular design offers you the flexibility to buy exactly what you need.

But don't let its diminutive size fool you. The SLC platform has the horsepower to run all of your critical industrial applications. When tight budgets, performance, flexibility and rugged reliability are key, the SLC 500 family is the proven solution you can build on today and tomorrow.

Protecting Your Control Investment

Protecting your control investment is equally as important. We are constantly continuing to develop, improve, and expand the SLC 500 platform with enhancements to help minimize downtime, reduce manufacturing costs, and improve operating efficiency for the SLC's ever-growing installed base.

Meeting Changing Times Head-on

The SLC is suited for change. It can be stand alone or networked. It can control a single machine, or it can be distributed throughout a wide area for SCADA applications. With an SLC running your application, you can easily expand processor capabilities or add I/O as your system grows. And the SLC platform is continuing to grow, too.

You can be assured that the SLC is positioned for the future. Outstanding performance and continuous development illustrate why the SLC 500 is a solid investment. The entire SLC 500 family is fully supported by Rockwell Automation and the ongoing innovation of our Encompass™ Partners program of third-party vendors.
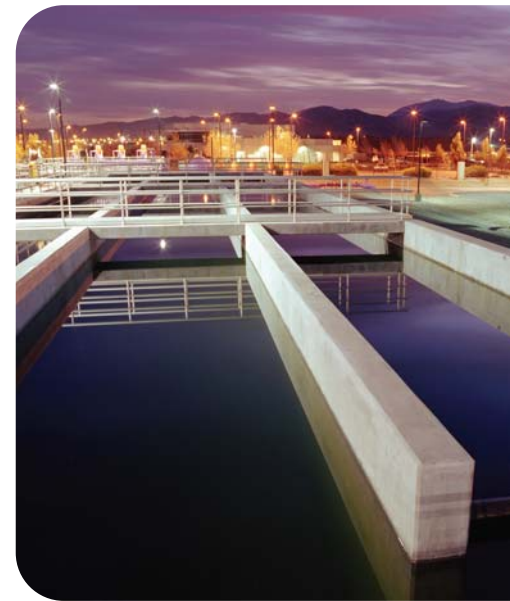
The SLC 500 is a celebrated workhorse in more than just packaging and conveyor applications. Water/Wastewater is another area of the SLC's expertise. Offering daily, 24-hour uninterrupted service, the SLC is a product you can count on.

VERSATILE RELIABLE
SLC 500 PROCESSORS

The SLC family demonstrates our commitment to the highest standards of product dependability, technological innovation, and performance. Stability and uncompromising quality are the hallmarks of the SLC 500.

The highly-respected and well-equipped SLC 500 can address high-speed discrete and complex process control applications from a single platform. This makes it ideal for fast-paced operations like bottling lines and packaging machines. Plus, comprehensive diagnostics simplify troubleshooting throughout your process.

Range of Capabilities

The SLC 500 processors are designed to offer a wide range of choices in memory (from 1K to 64K), chassis options (4, 7, 10, or 13 slot), instruction set, power supplies and built-in network capabilities, so you can tailor your control system to exactly meet your application requirements. These processors have an extensive installed base covering a broad range of applications. And ongoing enhancements ensure that the SLC family will grow with your application.

Processor Options

The SLC 500 is an adaptable platform. The family is made up of five processor models: the 5/01, 5/02, 5/03, 5/04, and 5/05. Because of this array of processors, the SLC 500 has the flexibility to control simple machines or a complex process — small or large, these processors have the scalability you need for your diverse applications.

CASE HISTORY

Welding Technology Corporation

WTC began partnering with Rockwell Automation in 1994 by incorporating SLC 500 controller systems into its resistance-welding units for automotive production. With the success of its 3,000-spots-per-car welders, WTC recently made the decision to continue integrating the SLCs and associated connectivity modules into its next-generation welders, which will see applications in the automotive, appliance and aerospace production markets.

"As new metals are used in the production of cars, aircraft and other products, we needed a method to control our state-of-the-art welding technology," said Dave Androvich, vice president of controls at WTC. "The flexibility of SLC 500 controllers and Rockwell Automation's ongoing support of the platform make it indispensable for high-tech OEMs."

The SLC 5/05 provides optimized performance using 100Mbps Ethernet communications for program upload/download, on-line editing, and data acquisition. Benefit from embedded Web server capabilities, channel-to-channel passthrough, and either a 16K, 32K, or 64K memory size.

COMPLETE FAST

Choose from over 60 modules to control digital, analog, and temperature signals. Numerous specialty modules from Rockwell Automation and third-party partners are also available. With this complete and varied assortment of modules, we can offer you the flexibility and speed you need to configure all your control applications.

Digital I/O

Our digital modules offer a broad range of densities. These modules can interface to an assortment of voltage levels, and they are available in several input/output combinations. Designed and tested for industrial applications, these high-quality modules perform well in a variety of harsh industrial conditions.

Analog I/O

Our analog modules have excellent accuracy, high resolution, and the choice of input filtering for fast response or high noise immunity. These analog modules are ideal for process control applications because of their inherent precision and ruggedness.

Specialty I/O

A variety of modules for specialty applications are available, all of which fit directly into the SLC chassis. Look to our specialty modules for your temperature, high-speed counting, motion and positioning, hydraulic, or press control needs.

Distributed I/O Options

A diverse selection of I/O networking options provides connectivity to ControlNet™, DeviceNet™, and Remote I/O networks. Use these networks to connect the SLC 500 to Allen-Bradley FLEX™ I/O, POINT™ I/O and SLC I/O, Rockwell Automation's world-class I/O products.

I/O Wiring Systems

Connecting to SLC 500 I/O is convenient and easy with Allen-Bradley Interface Modules and Cables. Our popular Interface Modules (IFMs), Pre-Wired Cables and Ready-to-Wire Cables replace terminal blocks, saving you 50% of the point-to-point wiring that normally occurs between the controller and its field devices. You gain faster installation, fewer wiring errors, and simplified troubleshooting. Also, our IFMs let you incorporate additional terminations, LED status indicators, and over-current protection.

Configure your system to meet your precise needs. SLC I/O products from Rockwell Automation and third-party partners come in a full range of digital and analog I/O options—all housed in a rugged modular assembly.
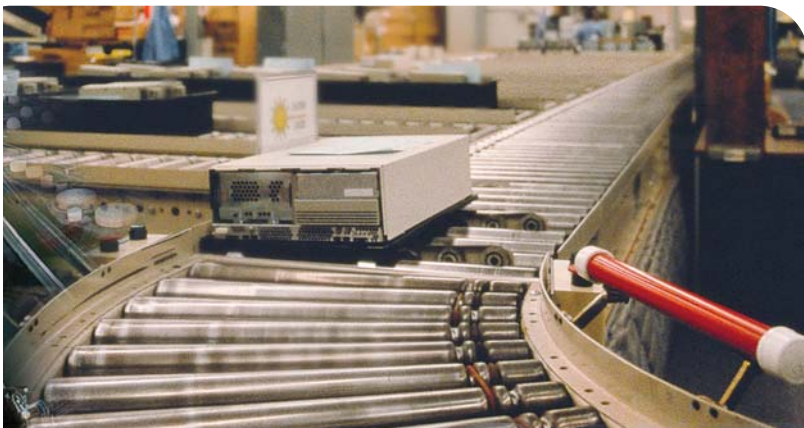
Our many control and communication options provide plant-wide solutions that meet your automation and business needs.

Shop-Floor-to-Top-Floor Communications

With available built-in Ethernet, the SLC 5/05's integrated Web capabilities let you monitor production data from any computer with a standard Web browser. The SLC 500 can communicate plant-floor data in data acquisition, supervisory control, program management, statistical quality control, production scheduling, and material tracking applications over an Ethernet network.

Peer-to-Peer Versatility

A choice of networking options provides superior connectivity. Every SLC 500 is offered with built-in DH-485 communications. In addition, you can select an SLC 500 processor that can support Ethernet, or one that can perform high-speed peer-to-peer communications with built-in Data Highway Plus™.

Device-Level Control

Our DeviceNet Scanner module lets you connect a single-cable interface to "smart" devices, including sensors, push buttons, motor starters, simple operator interfaces, and drives.

Remote I/O Compatibility

Add a Remote I/O (RIO) scanner or adapter module to your SLC system to support digital and block transfer options. Easily access drives, operator interface, and third-party devices, plus the many other RIO-compatible products on your Remote I/O network. Additionally, Remote I/O passthrough simplifies upload or download applications to the Human Machine Interface (HMI) products, like PanelView™, on your Remote I/O network.

Products like the DF1 Port Splitter (left), USB to DH-485 Interface Converter (center) and Ethernet Network Interface (right) provide multiple connectivity and communication options for your SLC 500-based system.
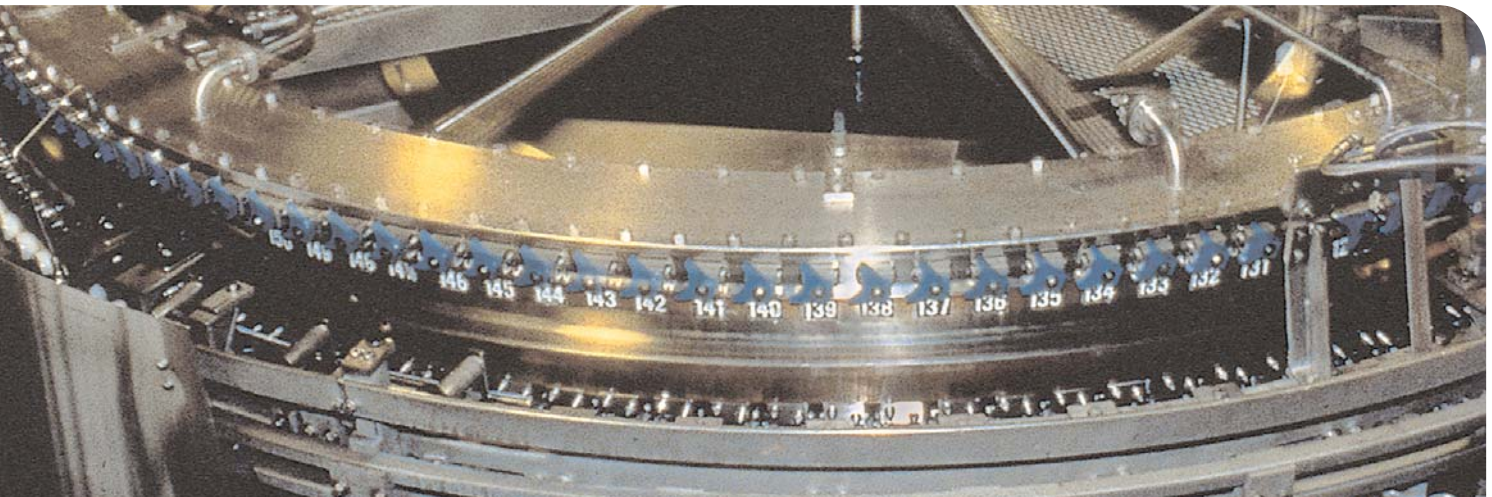
RSLogix™ 500

With its easy-to-use editors, point-and-click configuration, and superior diagnostics and troubleshooting, RSLogix 500 incorporates the latest technologies to help you maximize performance and reduce development time. Its intuitive interface and steadfast reliability translate into overall increased productivity.
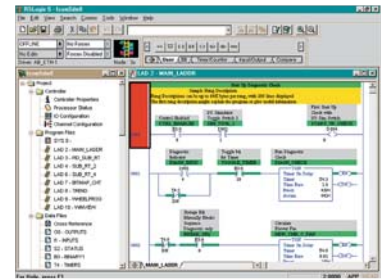
Customize your SLC 500 control programs to your specific needs. RSLogix 500 programming software lets you efficiently create, modify, and monitor your application programs for the SLC 500, as well as all Allen-Bradley MicroLogix™ products. RSLogix 500 makes it simple to standardize on one software package for all of your small controller needs.

RSLogix™ 500 Professional

The RSLogix 500 Professional package includes RSNetWorx™ configuration tools, the RSLinx® Lite communication interface, and RSLogix™ Emulate 500, a high-productivity emulation software that helps you easily test and debug your programs prior to commissioning and startup. RSLogix 500 Professional has been updated with many enchancements including a Logic Trace feature. Now you can use Web browser-type navigation buttons to quickly move through your ladder logic history.

Visualization

Keep an eye on your SLC-controlled processes with our PanelView and InView™ products. These electronic operator interface devices provide unsurpassed plant-floor control and data monitoring capabilities. In particular, the flexible PanelView™ Plus is ideal for situations where operators need to observe, control, and display information graphically to quickly understand the status of their application.

CASE HISTORY

Instrument Control Systems

"We used to buy full-size controllers for many of our applications, but we've seen that SLCs can often do the job at a much more affordable price" says Warren Schimunek, from Minneapolis-based Instrument Control Systems.

As a control systems integrator, many of the company's water control and wastewater treatment applications involve multiple SLC 500s connected by Data Highway Plus™ or EtherNet/IP™. The processors control and monitor various sections of the architecture, including pumps, reservoir levels and other key functions. "We've been implementing SLCs for more than 10 years, and our customers expect the SLC 500 platform to remain viable." Schimunek added. "Our municipal customers are the most demanding, with specific requirements for components that will be supported for many years."

SLC 500 Controllers Specifications

Specification	SLC 5/01		SLC 5/02	SLC 5/03		SLC 5/04			SLC 5/05		
Catalog Number 1747-	**L511**	**L514**	**L524**	**L531**	**L532**	**L541**	**L542**	**L543**	**L551**	**L552**	**L553**
Memory Size (Words)	1K	4K	4K	8K	16K	16K	32K	64K	16K	32K	64K
Backplane Current (mA) at 5V	350 mA			500 mA		1000 mA			1000 mA		
Backplane Current (mA) at 24V	105 mA			175 mA		0 mA			0 mA		
Digital I/O, Max.	7880		8192								
Max. Local Chassis/Slots	3/30										
On-Board Communications	DH-485 Slave		DH-485	DH-485 and RS-232		DH+ and RS-232			10/100 Mbps Ethernet and RS-232		
Optional Memory Module	EEPROM			Flash EEPROM							
Programming	RSLogix 500										
Programming Instructions	52		71	107							
Typical Scan Time*	8 ms/K		4.8 ms/K	1 ms/K		0.9 ms/K					
Program Scan Hold-up Time After Loss of Power	20 ms…3 s (dependent on power supply loading)										
Bit Execution (XIC)	4 µs		2.4 µs	0.44 µs		0.37 µs					
Clock/Calendar Accuracy	N/A		±54 seconds/month @ +25 °C (+77 °F), ±81 seconds/month @ +60 °C (+140°F)								

*The scan times are typical for a 1K ladder logic program consisting of simple ladder logic and communication servicing.
Actual scan times depend on your program size, instructions used, and the communication protocol.

Complete Confidence

Rockwell Automation's unique global strategy helps customers achieve a competitive advantage; provides access to thousands of Rockwell Automation sales representatives, authorized partners, distributors, and system integrators from around the world; and offers a world-class support network of complete system integration and services. These valuable services include sales and order support, application engineering, installation supervision, system start-up, training, field services, and ongoing product support.

For support information:
http://support.rockwellautomation.com/
For SLC 500 information:
http://www.ab.com/plclogic/slc/

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