

MANUFACTURER DOCUMENT PACKAGE

Manufacturer's Manual

Amikon cover with selected official Rockwell Automation pages

ALLEN-BRADLEY SLC 500

1747-L532/D

SLC 5/03 SERIES D 16K CONTROLLER

Selected official pages cover processor installation, indicators, communications, specifications, memory backup and safety requirements.



Installation Instructions

SLC 5/03, SLC 5/04, and SLC 5/05 Modular Processors

Catalog Numbers 1747-L531, 1747-L532, 1747-L533, 1747-L541, 1747-L542, 1747-L543, 1747-L551, 1747-L552, 1747-L553

http://literature.rockwellautomation.com/idc/groups/literature/documents/in/1747-in009_-mu-p.pdf

FR

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Safety Considerations

ATTENTION

Never install, remove, or wire any module while power is applied. Also, do not expose processor modules to surfaces or other areas that may typically hold an electrostatic charge. Electrostatic charges can alter or destroy memory.

For general recommendations concerning installation safety requirements and safety related work practices, refer to the requirements specific to your region.

- Europe: Reference the standards found in EN 60204 and your national regulations.
 - United States: refer to NFPA 70E, Electrical Safety Requirements for Employee Workplaces.
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IMPORTANT

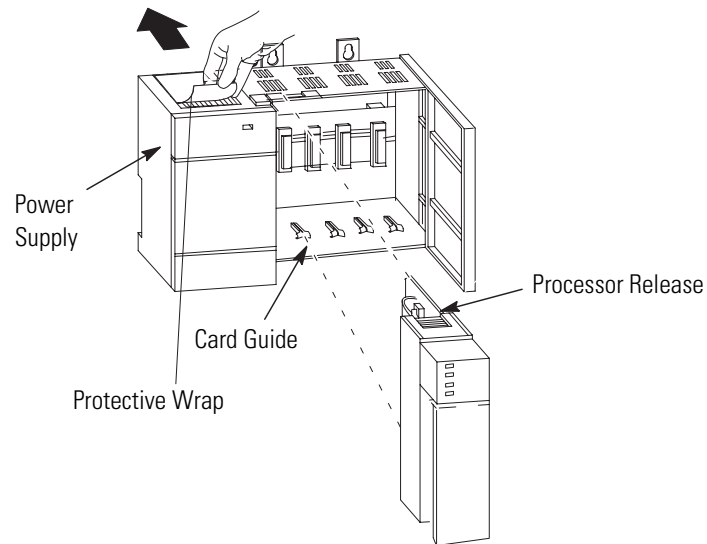
See page 14 for information on proper battery handling, storage, and transporting.

Hazardous Location Considerations

This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D or non-hazardous locations only. The following WARNING statement applies to use in hazardous locations.

WARNING**EXPLOSION HAZARD**

- Substitution of components may impair suitability for Class I, Division 2.
 - Do not replace components or disconnect equipment unless power has been switched off or the area is known to be non-hazardous.
 - Do not connect or disconnect components unless power has been switched off or the area is known to be non-hazardous.
 - This product must be installed in an enclosure. All cables connected to the product must remain in the enclosure or be protected by conduit or other means.
 - All wiring must comply with N.E.C. article 501-4(b).
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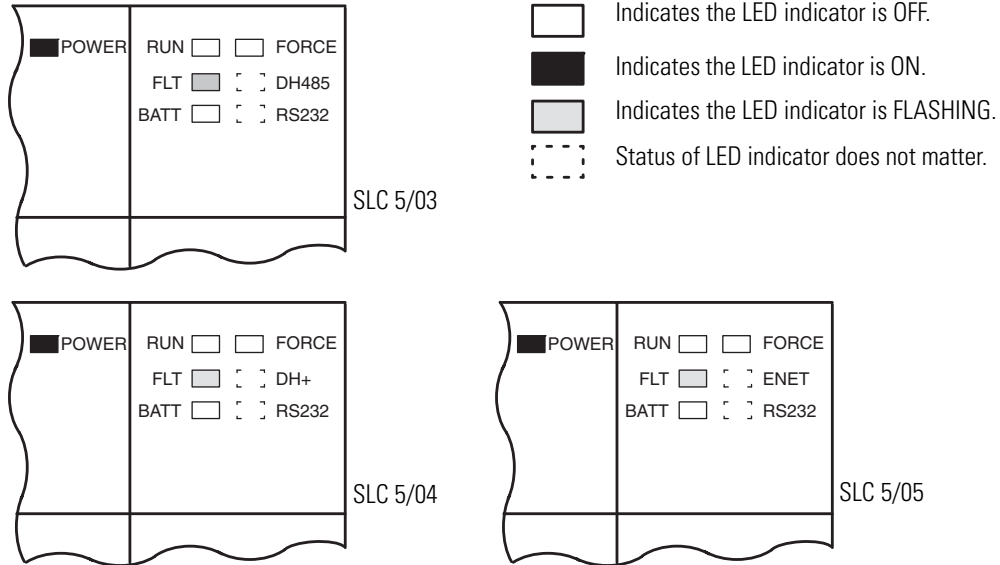


Apply Power to the Processor

1. Energize the chassis power supply.
2. Check the chassis power supply and processor LED indicators. The power LED indicator on the power supply should be on and the fault LED indicator on the processor should be flashing.

See the figure on page 9 for location of the power supply and processor LED indicators.

Power Supply and LED Indicators



Loading Your Software

Refer to your programming software documentation.

Establish Communication to the Processor

1. Refer to the following table to establish communication between the processor and your personal computer.

Processor	Procedure
SLC 5/03	Connect the 1747-PIC interface from the processor to your personal computer serial port or connect the 1747-UIC interface from the processor to your personal computer USB port to the processor using the 1747-C13 or 1747-CP3 cable. You can also use a 1784-PKTX(D) or 1784-PCMK interface, or a 1747-CP3 cable from channel 0 of the processor to the personal computer serial port.
SLC 5/04	Connect a 1747-CP3 cable from channel 0 of the processor to the personal computer serial port or connect the 1747-UIC interface from channel 0 of the processor to your personal computer USB port, or use a 1784-PKTX(D) or 1784-PCMK interface.
SLC 5/05	Connect a 1747-CP3 cable from channel 0 of the processor to the personal computer serial port, or connect the 1747-UIC interface converter from channel 0 of the processor to your personal computer USB port. For Ethernet connection, connect channel 1 of the processor and the PC Ethernet Card to an Ethernet hub using 10/100Base-T compatible cable. ⁽¹⁾

⁽¹⁾ EtherNet/IP address must first be set via BOOTP or an RS-232 connection.

Troubleshooting Your SLC Processor

Before troubleshooting your SLC 500 system, please obtain an SLC 500 Modular Hardware Style User Manual, publication 1747-UM011. Refer to the chapter on troubleshooting.

In addition to the SLC 500 Modular Hardware Style User Manual, publication 1747-UM011, the SLC 500 Instruction Set Reference Manual, publication 1747-RM001, contains explanations and examples for the entire instruction set as well as for all status words and bits. It also contains explanations for all possible fault codes found in status word S:6.

Specifications

SLC 5/03, SLC 5/04, and SLC 5/05 Processors

Attribute	SLC 5/03			SLC 5/04			SLC 5/05		
	L531	L532	L533	L541	L542	L543	L551	L552	L553
Memory (words)	8 K	16 K	32 K	16 K	32 K	64 K	16 K	32 K	64 K
I/O capacity, max	4096 discrete inputs/4096 discrete outputs								
Local system, max	3 chassis / 30 slots								
Programming instructions	107								
Typical scan time ⁽¹⁾	1 ms/K			0.9 ms/K					
Bit execution (XIC)	0.44 μs			0.37 μs					
Programming software	SLC 5/03s and SLC 5/04s: RSLogix 500, SLC 5/05s: RSLogix 500								

⁽¹⁾ The scan times are typical for a 1 K 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.

Specifications

Attribute	Value
Power supply loading at 5V dc	500 mA for the SLC 5/03 processor
	1.0 A for the SLC 5/04 and 5/05 processors
Power supply loading at 24V dc	175 mA for the SLC 5/03 processor
	0 mA for the SLC 5/04 processor ⁽¹⁾
	0 mA for the SLC 5/05 processor
Program scan hold-up time after loss of power	20 ms...3 s (dependent on power supply loading)
Noise immunity	NEMA Standard ICS 2-230
Vibration	Displacement: 0.015 in., peak-to-peak at 5-57 Hz
	Acceleration: 2.5 g at 57...2000 Hz
Shock, operating	30 g
Ambient temperature rating, operating	0...60 °C (32...140 °F)
Ambient temperature rating, storage	-40...85 °C (-40...185 °F)
Humidity	5 to 95% without condensation
Agency certification See http://ab.com for declarations of conformity, certificates, and other certification details.	UL Listed Industrial Control Equipment C-UL Listed Industrial Control Equipment for use in Canada UL Listed Industrial Control Equipment for use in Class I, Division 2, Hazardous Locations Groups A, B, C or D CE compliant for all applicable directives C-Tick marked for all applicable acts

⁽¹⁾ SLC 5/04 Processors manufactured prior to April 2002 draw 200 mA at 24V dc. Check your label to verify your processor's current draw.

Communication

Communication options for the SLC 5/03, 5/04, and 5/05 processors are as follows:

- DH485
- RS-232 protocols (DF1 Full-duplex, DF1 Half-duplex master/slave, DF1 Radio Modem, DH-485, or ASCII)
- Data Highway Plus (A ControlLogix Gateway is required for the SLC 5/03 and SLC 5/05 processors.)
- Ethernet TCP/IP (A 1761-NET-ENI interface module is required for the SLC 5/03 and SLC 5/04 processors)
- ControlNet (via a 1747-KFC15 module)
- DeviceNet (via a 1761-NET-DNI interface module)

Memory Backup

The following table shows the memory backup options for the SLC 5/03, 5/04, and 5/05 processors. Flash EPROMs (Flash Erasable Programmable Read Only Memory) combine the versatility of EEPROMs (Electrically-Erasable Programmable Read Only Memory) with the security of UVPROMs (UV-Erasable PROM).

Memory Backup Option	SLC 5/03 Processor (1747-L531, 1747-L532, 1747-L533)	SLC 5/04 Processor (1747-L541, 1747-542, 1747-543)	SLC 5/05 Processor (1747-L551, 1747-552, 1747-553)
Flash EPROM	1747-M13 (OS302 Series C or later)	1747-M13 (OS401 Series C or later)	1747-M13 (OS501 Series C or later)

Battery Handling, Storing, and Transporting (Cat. No. 1747-BA)

Handling

ATTENTION



Do not charge the batteries. An explosion could result or the cells could overheat causing burns. Do not open, puncture, crush, or otherwise mutilate the batteries. An explosion may result and/or toxic, corrosive, and flammable liquids would be exposed.

Storing

Store the lithium batteries in a cool, dry environment, typically 20...25 °C (68...77 °F) and 40% to 60% relative humidity.

Transporting

One or Two Batteries - Up to two batteries can be shipped together within the United States without restriction. Regulations governing shipment to or within other countries may differ.

Three or More Batteries - Procedures for the transportation of three or more batteries shipped together within the United States are specified by the Department of Transportation (DOT) in the Code of Federal Regulations, CFR49, "Transportation."

An exemption to these regulations, DOT - E7052, covers the transport of certain hazardous materials classified as flammable solids. This exemption authorizes transport of lithium batteries by motor vehicle, rail freight, cargo vessel, and cargo-only aircraft, providing certain conditions are met. Transport by passenger aircraft is not permitted.