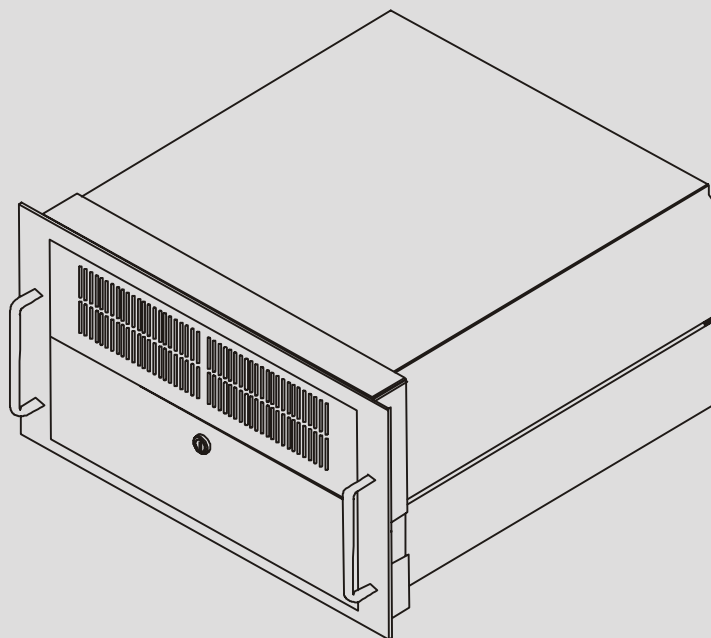


Bulletin 6155 High-Performance Industrial Computer

 **Allen-Bradley**

(Bulletin 6155-xxS)

Installation Instructions



**Rockwell
Automation**

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Important User Information

Solid state equipment has operational characteristics differing from those of electromechanical equipment. "Safety Guidelines for the Application, Installation, and Maintenance of Solid State Controls" (Publication SGI-1.1) describes some important differences between solid state equipment and hard-wired electromechanical devices. Because of this difference, and because of the wide variety of uses for solid state equipment, all persons responsible for applying this equipment must satisfy themselves that each intended application of this equipment is acceptable.

In no event will Rockwell Automation be responsible or liable for indirect or consequential damages resulting from the use or application of this equipment.

The examples and diagrams in this manual are included solely for illustrative purposes. Because of the many variables and requirements associated with any particular installation, Rockwell Automation cannot assume responsibility or liability for actual use based on the examples and diagrams.

No patent liability is assumed by Rockwell Automation with respect to use of the information, circuits, equipment, or software described in this manual.

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Throughout this manual, we use notes to make you aware of safety considerations.



ATTENTION: Identifies information about practices or circumstances that can lead to personal injury or death, property damage, or economic loss.

Important: Identifies information that is especially important for successful application and understanding of the product.

Bulletin 6155 High-Performance Industrial Computer

Description

The Bulletin 6155 High-Performance Industrial Computer provides high-performance computing for specialized or mission-critical applications. Each 6155-xxS Industrial Computer includes the following common features:

- Pentium III 550 MHz processor
- 19 slot passive backplane motherboards (10 full-length PCI slots, 9 full-length ISA slots)
- Rack mounting enclosure (6U height)
- Hot-swappable system cooling fans
- CD-ROM and LS120 floppy drive
- Windows NT Workstation

The Bulletin 6155-xxS Industrial Computers can be ordered in configurations that offer features for more performance and fault-tolerance:

- Dual Pentium III 550 MHz processors
- Dual, hot-swappable power supplies
- Dual, hot-swappable 9+GB SCSI RAID1 hard drives
- System Sentinel™ monitor and alarm board
- Windows NT Server

Models Covered

Rockwell Automation offers four variations of the Bulletin 6155-xxS Industrial Computer. The following table describes these models:

Table A
6155-xxS Industrial Computer Models

Catalog Number	Description	Features
6155-SLSZGMGZGDZ	High-Expandability	13+ Gbyte hard drive, single Pentium III processor, 4MB video (on-board CPU), 128 MB RAM, single power supply, Windows NT workstation
6155-SLSZGOGZHDZ	Fault tolerant with redundant hard drive and power supply	9+ Gbyte SCSI RAID1 hard drives, Pentium III processor, 4MB Video (on-board CPU), 128 MB RAM, redundant power supply, System Sentinel™ monitor and alarm board, Windows NT workstation
6155-SMSDHMGJGDZ	High performance with dual processors	13+ Gbyte hard drive, dual Pentium III processors, 8MB PCI video card, 256 MB RAM, single power supply, Windows NT workstation
6155-SMSDHOGJHEZ	High performance fault tolerant	9+ Gbyte SCSI RAID1 hard drives, dual Pentium III processors, 8MB PCI video card, 256 MB RAM, redundant power supply, System Sentinel™ monitor and alarm board, Windows NT Server

Packing List

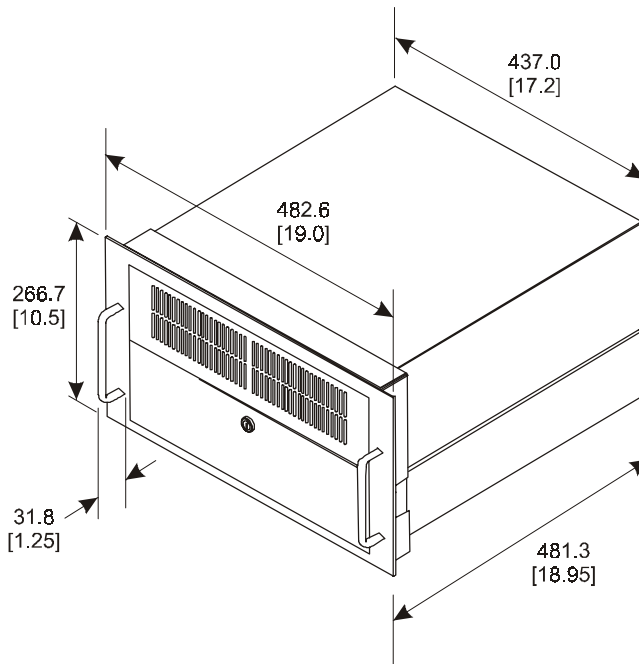
Bulletin 6155-xxS Industrial Computers are shipped with the following items:

- Industrial computer
- Front access door keys and drive removal keys for fault tolerant units
- 3.1 m (10ft.) AC power cord
- Software driver diskettes for major components
- Component manuals
- This manual (Publication 6155-UM001A-EN-P)

Physical Dimensions

Figure 1
Dimensions of 6155-xxS Industrial Computers

Note: Be sure to allow 101-152 mm (4-6 in.) depth clearance for cable connections and airflow.



Installation Instructions

Environmental Considerations

For proper cooling, the computer requires a minimum free air space of 101-152 mm (4-6 in.) behind, 13-38 mm (0.5-1.5 in.) above, and 25-76 mm (1-3 in.) in front of the chassis. The computer is equipped with fans to help ensure proper cooling.



ATTENTION: When you install expansion cards in the 6155-xxS Industrial Computer, you must ensure that the cards you install do not result in non-conformance to the Safety or EMC Requirements for this product.

Rack Mounting

The computer can be installed in a rack cabinet that conforms to EIA standards for equipment with 19-in. wide panels. The cabinet must be tall enough to accommodate the computer's height and deep enough to accommodate the unit's depth, while providing rear clearance for cabling and air flow. A cabinet with a depth of 61 cm (24 in.) is sufficient.

The computer is designed to be supported by rack slides or to be placed on a shelf. The front flanges of the computer are intended to horizontally secure the unit to the rack cabinet's front mounting rails.

To install a 6155-xxS Industrial Computer in your rack:

1. Refer to the physical dimension drawings for your unit (Figure 1) to confirm that there is adequate space behind the panel where the unit is mounted. Remember to allow extra space for air circulation.
2. Install the rack slides in the rack cabinet.
3. Carefully remove the computer from its packaging.
4. Attach the rack slides to the unit, and align to the mating slide inside the cabinet.
5. Insert the computer in the rack cabinet from the front of the cabinet.



Tip: It will be easier to install the computer if you support it with a shelf or other support adjusted to the appropriate height.

6. Horizontally secure the computer to the front mounting rails of the rack cabinet.

Connecting AC Power

The computer requires a single-phase power supply providing 85-265V AC at 47 to 63 Hz. Power must be available at the three-pin AC input receptacle situated in the rear of the unit.

To connect AC power to the computer:

1. Use the GND point on the rear panel of the monitor to establish a chassis to earth ground connection. Secure one end of a ground strap to the GND point. Connect the other end of the ground strap to a suitable earth ground.
2. Connect the AC power cord provided to the mating connector on the rear of the computer.
3. Connect the plug end of the AC cord to the main outlet.

Installing Cables

Depending on your application, you will need to connect a number of cables at the rear of the unit before you can properly utilize your 6155-xxS Industrial Computer. This section describes the cable

connections you will need to make. While installing cables, be sure to keep the following points in mind.

- Connect the cables according to the options in your Industrial Computer.
- Route and secure the cables. In cases where the cable crosses a door hinge, be sure to leave enough excess cable for a loose fit in all door positions.
- Coil and secure any extra cable length in a convenient location.

Opening the Computer Chassis

You may have to open the computer chassis to install a card or for some other reason.

To open the computer chassis:

1. Loosen the screws securing the cover to the chassis. There are two screws on each side and three on the back of the cover (7 screws total).
2. Remove the screw on the top cover near the front of the unit.
3. Raise the top cover by grasping both sides of the cover and lifting straight up.

Replacing Components (Fault Tolerant Models)

With fault-tolerant models of the 6155-xxS Industrial Computer, you may need to replace any of the following components while the computer is in operation:

Table B
Replacement Parts

Part	Description
6189-HD90SCSI	SCSI disk drive
6189-S5PS1FT	Power supply
6189-S5FAN1TACH	System cooling fan assembly

Note: Fault-tolerant models include a System Sentinel™ monitor and alarm board that indicates alarm conditions by lighting LEDs and sounding alarms.

For information on alarm conditions, refer to the System Sentinel user manual included with your computer.

To replace a SCSI disk drive:

Each SCSI disk drive is placed in a hard drive carrier cartridge that is accessible from the front and is equipped with a lock. The lock secures the cartridge in place and serves as an ON/OFF switch for the power to the drive. To replace a disk drive, you must have the hard drive carrier key to unlock the drive.

Important: The two SCSI drives in the system are configured in a RAID 1 configuration. Each requires a unique drive identifier.

Before setting a drive in a carrier, the top SCSI drive should be set to **0** on the 16-position switch selector (0-F). The bottom SCSI drive should be set to 1.

The dialer-type selector switch is located at the back of the cartridge. To change the SCSI ID, use a small flat-head screwdriver to rotate the arrow to point to the desired SCSI ID number.

1. Insert the hard drive carrier key into the lock on the cartridge.
2. Pushing in on the key, turn the key 90 degrees counterclockwise to unlock the drive.
3. Grasp the handle on the drive bay and pull drive carrier completely out of the unit.
4. Pry loose the bottom carrier cover using the supplied tool or a flat-head screwdriver.
5. Remove two 6-32 x 3/8" screws from each side of the carrier and carefully lift the drive out of carrier.
6. Remove 3 connectors (power, SCSI, and CRU) from the drive.
7. To install a new drive, reverse the steps in this procedure.

To replace a power supply:

1. Unplug the AC power cord from the power supply.
2. Remove the middle screw closest to the handle on each side.
3. Grasp the handle and remove the power supply.
4. To install a new power supply, reverse the steps in this procedure.

To replace a system cooling fan:

1. Open the front access door and raise the upper door.
2. Determine which fan is no longer functioning.
3. Loosen the thumbscrew securing the fan assembly. Remove the fan assembly.
4. Disconnect the power cable to the fan assembly.
5. To install a new fan assembly, reverse the steps in this procedure.

Maintenance**Preparation for Shipment**

If it is necessary to ship the computer from one site to another, it should be removed from the rack cabinet in which it has been installed. Whenever possible, the computer should be repacked in its original shipping carton.



ATTENTION: Never try to ship the Industrial Computer while it is mounted in a rack. Doing so could result in damage to the rack or the Industrial Computer.

To remove the computer from the rack cabinet, reverse the installation procedures given previously in this manual.

Note: Be careful to remove the ground wire (if installed) before removing the computer from the rack cabinet.

Cleaning

Filters should be removed and cleaned or replaced as necessary to maintain proper cooling (replacement part 6189-S5FILTER). Inspect the filter at least yearly, and more often in environments with large concentrations of airborne particulate matter.

Specifications

Processor/Memory	
Processor/Speed (MHz)	Pentium III 550Mhz or Dual Pentium III 550 MHz
Memory Options	128M (6155-SLS Models) 256M (6155-SMS Models)

System	
System Bus Architecture	32-bit PCI/ 16-bit ISA, 20-slot passive backplane)
Expansion Slots	19 full length slots (10 PCI, 9 ISA)
Serial Ports, Standard	2
Parallel Ports, Standard	1
USB Ports	2
Operating Systems	Windows NT Workstation Windows NT Server (SM Model only)
Network Support	10/100 PCI Ethernet Card



Mass Storage	
Internal Drive Bays	5 (rack mount/benchtop): 2 3.5" hard drive mounting locations 2 5.25" device bays 1 3.5" device bay
Diskette Drive	LS-120 super drive (supports 3.5" 1.44MB floppy disks and 120MB LS-120 disks)
Hard Disk drives	13+ Gbyte HDD or 9 Gbyte SCSI (RAID1)

Operator Input	
Standard Keyboard Interface	Rear panel PS/2 connector
Video Controller (for external monitor)	Single processor: ATI Rage Pro AGP on board Dual processor: ATI Xpert SVGA card with 8 MB VRAM

Environmental	
Temperature Operating Non-operating	0 C to 50°C -25°C to 70°C
Relative Humidity	5% to 90% non-condensing
Vibration Operating Non-operating	0.006in. p-p, 10-57Hz sine; 1.0g peak, 57-150Hz sine 0.012in. p-p, 10-57Hz sine, 2.0g peak, 57-150Hz sine
Shock Operating Non-operating	15g (1/2 sine, 11 msec) 30g (1/2 sine, 11 msec)

Electrical	
Line voltage	85-265V AC
Line Frequency	47-63 Hz
Power Consumption	200W typical, 400W max.

Physical	
Approximate Dimensions (W x H x D)	19.0in x 10.5in x 19.0in (483mm x 267mm x 483mm)
Net Weight	40 lb. (18 kg) (6155-SLS Models) 58 lb. (23 kg) (6155-SMS Models)

Agency Approval		
	UL 1950 Recognized Component, C-UL 950 Recognized Component	
	LVD (73/23/EEC)	EN 60950 (A1: 1992, A2:1993)
	EMC (89/336/EEC)	EN 50081-2: 1992 EN 50082-2: 1995

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