1600 RAID-Enabled Industrial PCs

DS-1600RD(A)

The most susceptible component of any Industrial PC is the hard drive. Some sources suggest shock mounting the hard drive; unfortunately, shock mounting may cause the hard drive to become more vibration-sensitive at certain frequencies. The most common method to overcome a susceptibility to vibration is through the use of solid-state storage media or the use of redundant hard drives.

FEATURES

- 4U height
- Passive backplane with 3 ISA & 6 PCI slots available
- Intel® Socket 478 Pentium 4 2.4 GHz, 512 KB cache, 533 MHz system bus
- 4X AGP Video controller with 8 MB base, uses system RAM to 64 MB
- USB 2.0 Compliant ports (rear access)
- Parallel Port, one RS-232 port and one selectable RS-232/422/485 port
- Audio (In, Out, Mic)
- Dual 10/100 BaseT Ethernet ports
- 40 GB or 80 GB dual drive RAID 1 configurations
- 300 Watt AC power supply
- Front accessible 1.44 MB floppy drive
- 256 MB DDE RAM
- Preloaded Windows 2000 operating system
- 2-year warranty

Many of Xycom Automation's Heavy-Duty Industrial PCs offer solid-state media in the form of CompactFlash™ or solid-state hard drives. While many storage sizes are available, the cost of solid-state drives increases considerably as the required size increases.

A second approach is to use RAID. (RAID stands for Redundant Array of Independent Disks.) In essence, RAID is two or more hard drives hooked up to the same controller, either SCSI or IDE. The RAID controller can "stripe" or "mirror" data.

Striping (RAID 0) is used to read and write to many disks at once to increase hard drive performance, while mirroring (RAID 1) allows the same data to be available on two or more drives.

In a RAID 1 system, there is a primary and a secondary hard drive. The RAID controller writes to both drives, but only reads from the primary drive. If the RAID controller detects any problems with the primary drive, it switches over to the secondary drive (which has an exact copy of all data on the primary drive) and informs the operator of the switch-over. If the RAID controller should detect any problems with the seocndary drive, it stops writing to it and informs the operator of the problem. In either case, the operator can schedule a time to replace the failed drive.

There are two methods to implement a RAID solution – via software or dedicated hardware. Xycom has chosen a hardware solution because software solutions are more limited, and require a Windows® 2000 or 2003 Server.

A PCI IDE RAID controller card is utilized in Xycom's hardware RAID solution. One PCI expansion slot is necessary for the controller card, so a user needs to verify the available expansion in their Industrial PC for the application. The products listed in this datasheet are set up for RAID 1, and include two IDE hard drives.

RAID 1 with two hard drives was chosen as the optimal solution for creating a more robust, fault-tolerant system in the Xycom 1507, 3700 Series, and 1600 Series of Heavy-Duty Industrial PCs. [For more information on the 3700 Series RAID-Enabled IPC, see datasheet ds-RAID37(A).]

These RAID-Enabled Industrial PCs are configured at time of manufacture, and the parts and assemblies required to create them cannot be ordered as upgrades to already installed units. Xycom has chosen to support Windows® 2000 and Windows® XP for these RAID-enabled assemblies for optimal and reliable performance.

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HARDWARE CONFIGURATIONS

Model	**1612, 1613, 1614**
Processors	Pentium® 4 2.4 GHz (533 MHz system bus)
Preloaded OS	Windows® 2000, Windows® XP
Ethernet	10/100 BaseT ports
Expansion	3 ISA and 6 PCI slots available (see below for details)

Model	Available ISA Expansion Slots			Available PCI Expansion Slots			Total Available Slots
	Full-length	3/4-length	1/2 length	Full-length	3/4-length	1/2 length	
1612	3	0	0	1	2	3	9
1613	3	0	0	1	5	0	9
1614	3	0	0	4	2	0	9

1600 SERIES PRODUCT SPECIFICATIONS AND RATINGS

Environmental

	Operating	**Nonoperating**
Thermal	0°C to 50°C	-20°C to 60°C
Humidity	20% to 80% RH, noncondensing	20% to 80% RH, noncondensing
Shock [a]	2g peak acceleration, 11 msec duration	7.5g peak acceleration, 11 msec duration
Vibration 5-2000 Hz	0.006 peak to peak displacement .5g acceleration	.081" peak to peak displacement 2g maximum acceleration

[a] Mounted by the flange only (not rail mounted).

Cooling fan capacity [c]

82 CFM with dust filters

[c] Does not include power supply fans

Electrical

Power Supply	300 W AC	2 x 300 W AC Redundant
Rated input	100-240 V AC, autoranging, 50-60 Hz, 4/2A (maximum), 150 W nominal [d]	100-240 V AC, autoranging, 50-60 Hz, 4/2A (maximum), 150 W nominal [d]

[d] Nominal Power is measured for a base configuration only. Any additional expansion and/or devices will increase the input power required.

Unit Weight

48.2 lbs (23 kg)

Regulatory Compliance

CE

- EN 55022, Class A
- EN 61000-6-2
- EN 61000-3-2, Class A
- EN 61000-3-3
- EN 60950

FCC

- 47 CFR, Part 15, Class A

Safety Agency Approvals

UL

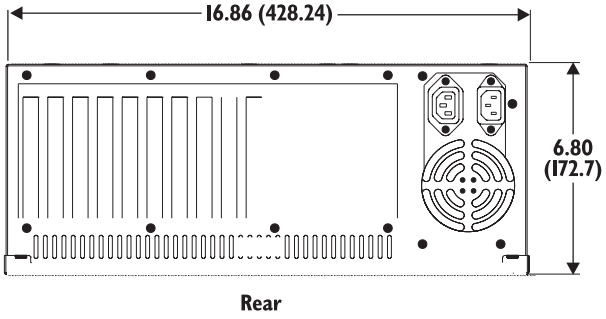
- UL 508 Listed

cUL

- CSA-C22.2, #142 Listed [e]

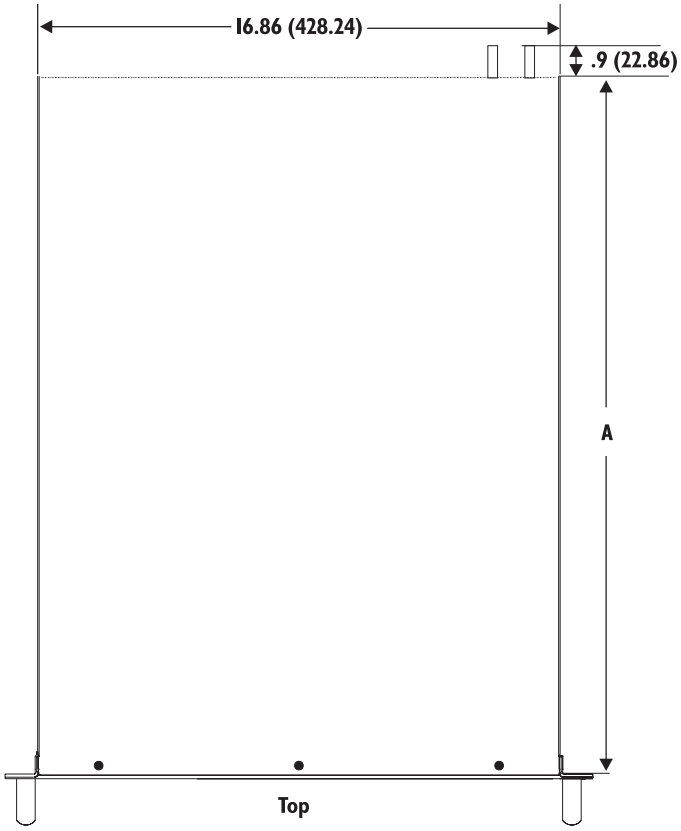
[e] Not available with DVD-R/W option.

PRODUCT DIMENSIONS AND MOUNTING (CONTINUED)

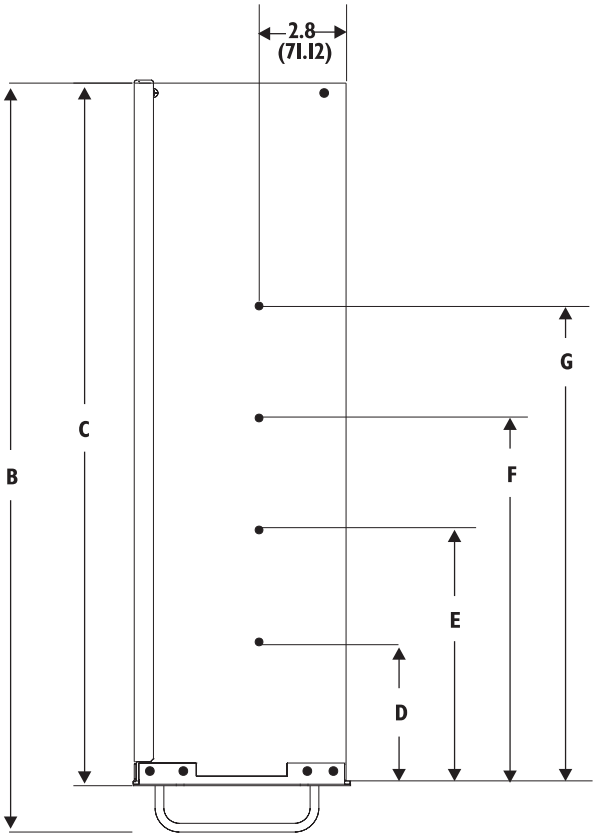


Rear

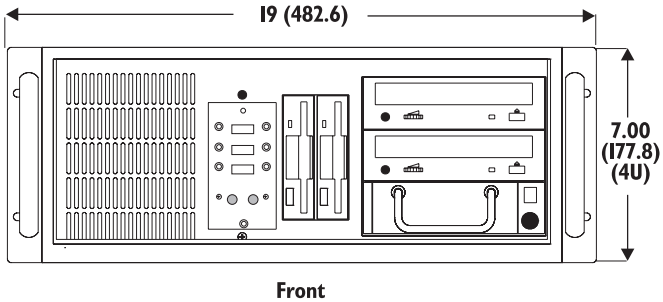
	A	B	C	D	E	F	G
1612	17.75 (450.85)	19.25 (488.95)	17.875 (454.025)	3.75 (95.25)	7.37 (187.198)	10.99 (279.146)	14.61 (371.094)
1613	19.75 (501.65)	21.25 (539.75)	19.875 (504.825)	4.50 (114.30)	8.12 (206.25)	11.74 (298.20)	15.36 (390.14)
1614	22.75 (577.85)	24.25 (615.95)	22.875 (581.03)	4.50 (114.30)	8.12 (206.25)	11.74 (298.20)	15.36 (390.14)



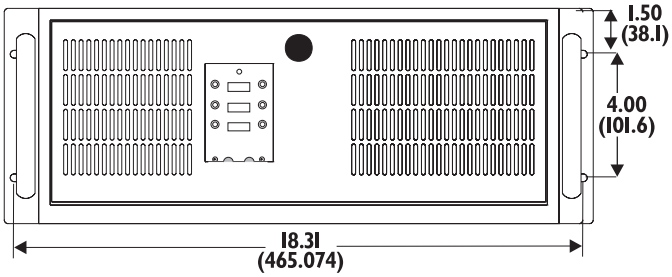
Top



Side



Front



Front with door closed

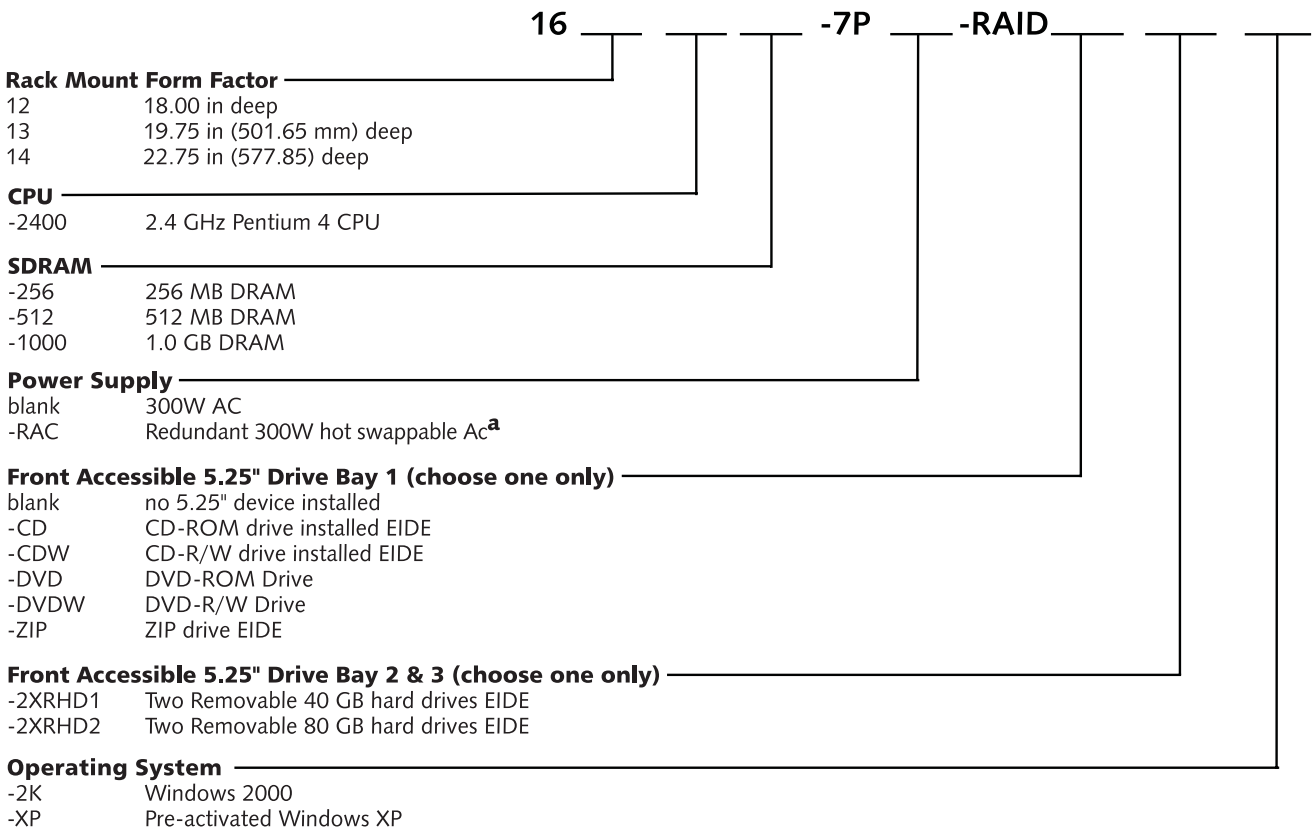
All dimensions are in inches (mm).

ORDERING INFORMATION

To create an order number, follow the conventions defined by the example order numbers and product configurations.

Example Order Number

Order Number	Description
1612-2400-256-7P-RAID-2XRHD1-2K	A 1612, 1613, or 1614 series industrial rack mount PC with PCI hardware RAID (level 1) 2.4 GHz Intel Socket 478 Pentium 4, 512 KB cache, 533 MHz system bus processor, 256 MB DDR SDRAM Internal 20 GB hard drive, preloaded with Windows 2000 and 4X AGP video controller
1613-2400-256-7P-RAID-2XRHD1-2K	
1614-2400-256-7P-RAID-2XRHD1-2K	



[a]Only available on 1613 & 1614

Important Notice for XP configurations: Certain Microsoft® software product(s) included with this computer may use technological measures for copy protection. IN SUCH EVENT, YOU WILL NOT BE ABLE TO USE THE PRODUCT IF YOU DO NOT FULLY COMPLY WITH THE PRODUCT ACTIVATION PROCEDURES. Product activation procedures and Microsoft's privacy policy will be detailed during initial launch of the product, or upon certain reinstallations of the software product(s) or reconfigurations of this computer, or may be completed by Internet or telephone (toll charges may apply).

The 1600 Industrial PC carries a two-year warranty on parts and labor. Extended warranties are available.

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