

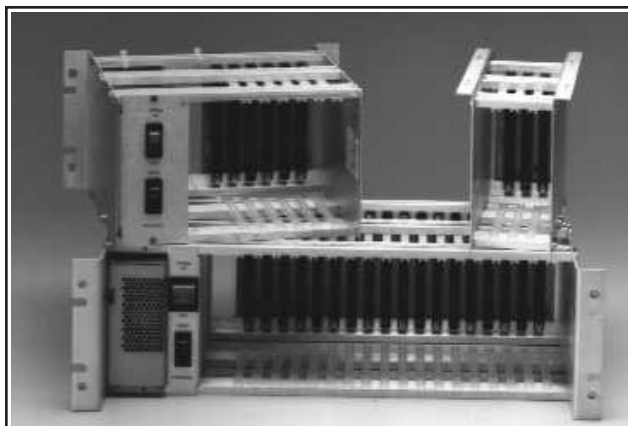
FEATURES

- 3, 6, 9, 12, 15, 18, 21, 24, and 26-slot versions
- Available as backplanes, card cages and powered racks with 5/8" spacing
- Compact design for easy mounting in cramped locations
- Accommodates multiple backplanes within a single card cage
- Rugged aladine aluminum construction including end plates and mounting bars that won't rust
- 50W and 100W switching power supplies available
- Self-lubricating card guides with retention tabs
- Three mounting configurations:
 - Wall Mount (for NEMA boxes)
 - Rack Mount (for racks enclosures)
 - Table Mount (for flat surface mounts)
- Excellent backplane design
 - Wide ground and power buses
 - Ground plane on assembly side
 - Supports STD Bus 16-bit data transfers
 - Power status LEDs
 - Screw terminals on 0.2-inch centers for power cable connections
 - Optional transorbs supported for transient protection on the backplane
 - Backplane mounting made on the connectors not to the PC board
 - Gold-plated bellows card edge connectors
- Accepts CMOS STD Bus cards
- Optional card restraint for shock and vibration
- Replaces Pro-Log's BX series card cages

Often for embedded industrial applications, space is at a premium so that the physical size of the instrument can be held to a minimum. The CX series of STD Bus card racks and backplanes fulfills this demand. Based upon 0.625" centers with vertical card orientation to take advantage of convection cooling, the CX card cages allow either a smaller enclosure size or provides more card slots when compared to a 0.75" spacing.

WinSystems offers a broad line of backplanes, assembled card cages and card cages with power supplies from 3 to 26 slots for housing STD Bus and CMOS STD Bus cards. They are ideal for high performance and demanding STD Bus applications. Specify the size and type of card cage, the number of backplanes and power supply, and WinSystems will ship you a completely assembled and fully tested card cage system.

Custom Configurations - Multiple backplanes and other options can be installed in a card cage to allow



more than one system to occupy a single container. To configure and price a custom backplane or assembly, contact the WinSystems' factory with your specifications.

BACKPLANES

Backplanes - WinSystems' STD Bus backplanes are available in nine different versions from 3 to 26 slots. Spacing between cards is 0.625 inch on centers. Multiple backplanes can be installed in a single card cage. The design and construction allows them to support both STD and CMOS STD Bus cards with no termination required.

WinSystems' backplanes are designed for high performance STD Bus processors. They can work with all the processors including the new high performance 16/32-bit processors with full 16-bit data transfers.

Power Distribution - Except on the BP3, the backplanes have multiple terminal blocks available for power. They have multiple connections on the terminal blocks for GND and +5V to allow use of remote supply sense or redundant leads. GND and AUX GND are isolated to allow configuration flexibility and to minimize error voltages due to common ground impedances. Jumper locations are available for connecting the two.

Status LEDs - Three light emitting diodes (LEDs) are on each backplane to visually indicate the presence or absence of each of the power supply voltages. A different color is assigned to each voltage for easy and instant status recognition. Red is assigned to +5VDC, green is assigned to +12VDC, and yellow is assigned to -12VDC.

Connectors - The heart of an interconnect system is the edge card connector itself. WinSystems uses only UL approved connectors with gold-plated bifurcated bellows contacts. This translates to higher reliability and a better connection since it can absorb load deflection of a card while maintaining sufficient contact force for good electrical connection. Maximum reliability of the bellows connector is assured through superior contact tolerance through environmental stresses including shock, vibration, temperature and humidity variations. Other parameters such as insulation resistance, contact resistance, durability and contact separation force meet all of industry's (and applicable military) specifications for reliability.

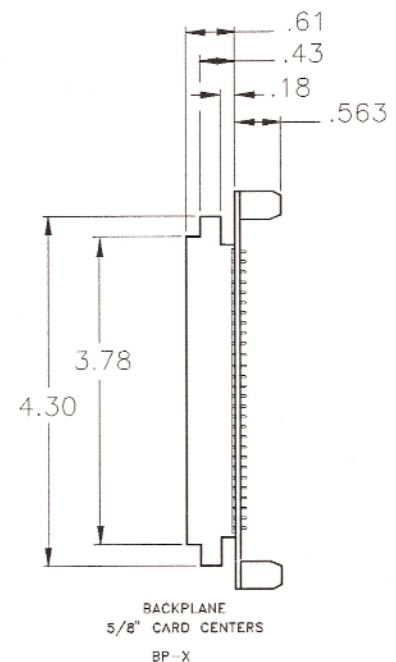
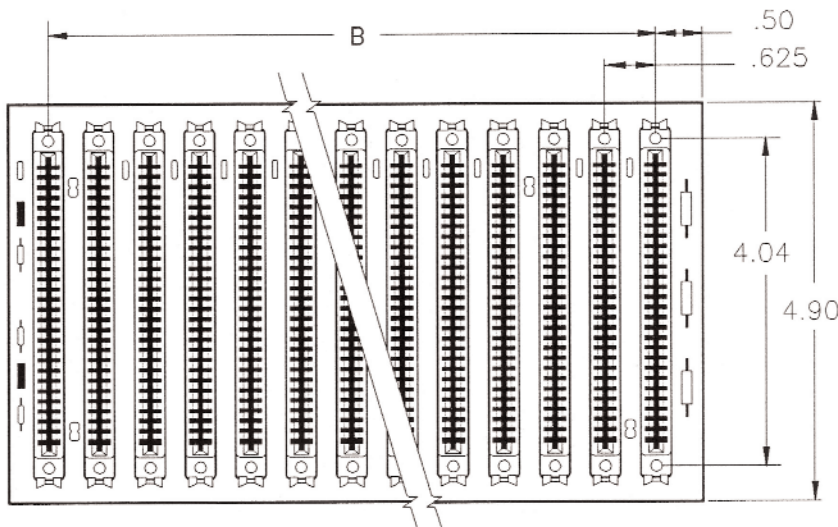
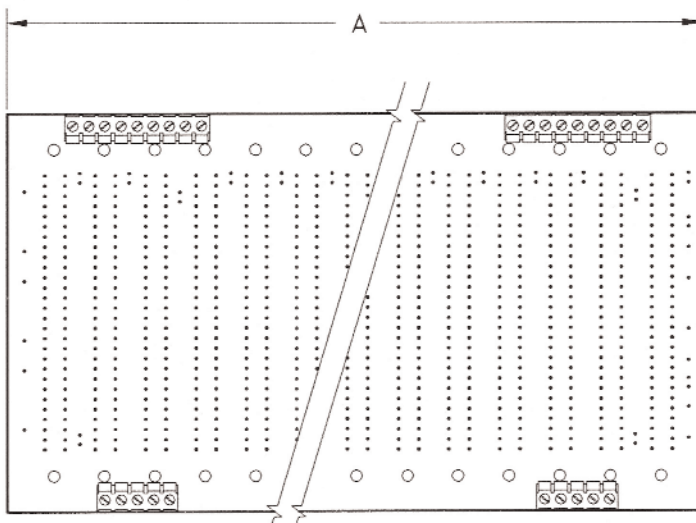
Transient Protection - Optional transient protection is provided by adding transorbs on the +5, +12,

and -12 volt lines for spike and surge protection. This is listed as OPT 1 for any backplane, card cage or powered rack.

ORDERING INFORMATION

Model	Slots
BP3	3 slot backplane
BP6	6 slot backplane
BP9	9 slot backplane
BP12	12 slot backplane
BP15	15 slot backplane
BP18	18 slot backplane
BP21	21 slot backplane
BP24	24 slot backplane
BP26	26 slot backplane

MODEL NO.	NO. OF SLOTS	REFERENCE DIMENSIONS	
		A	B
BP3	3	2.300	1.250
BP6	6	4.175	3.125
BP9	9	6.050	5.000
BP12	12	7.925	6.875
BP15	15	9.825	8.750
BP18	18	11.700	10.625
BP21	21	13.575	12.500
BP24	24	15.450	14.375
BP26	26	16.700	15.625



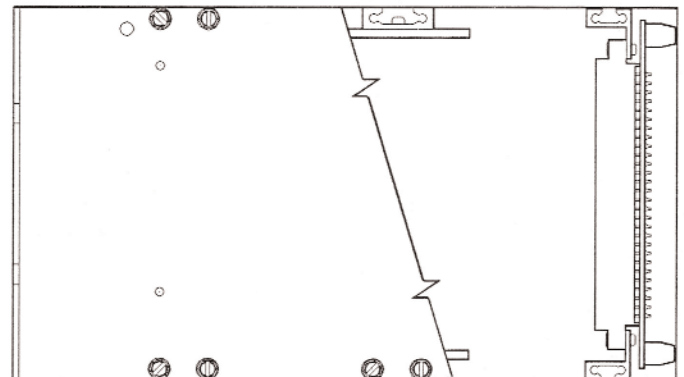
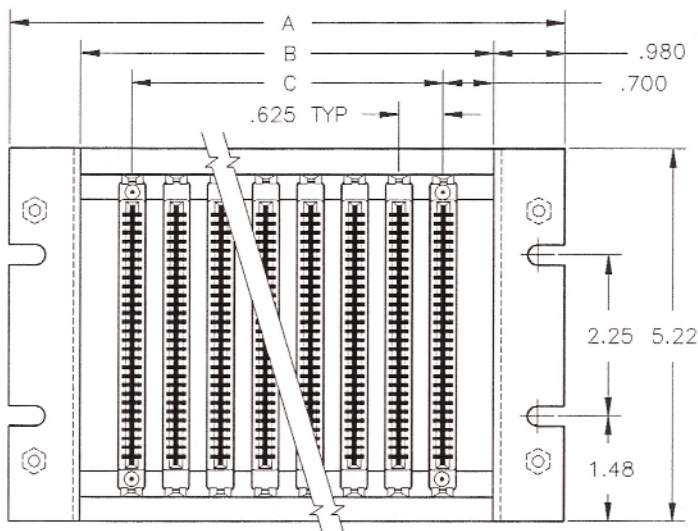
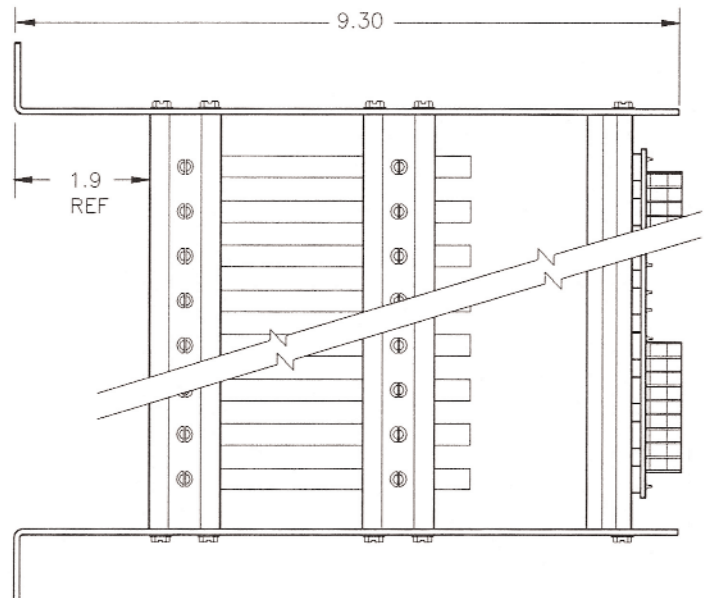
CARD CAGES

Rugged, Compact Construction - WinSystems' CX series of card cages are based on field-proven engineering techniques which offer the highest integrity and reliability. Constructed from extruded anodized aluminum for the end plates, guide rails, and connector rails, these racks give manufacturers the ruggedized enclosures required for industrial applications. Aluminum is lighter than steel and will not rust. The card guides are made from high-grade nylon and are self-lubricating, nonconductive, and provide isolation for cards and their components from shock and vibration. The guide tracks have integral card retention tabs to insure a secure fit.

The appropriate WinSystems' backplane is mounted to the card cage by riveting the connectors to the metal chassis. The connector housing accepts the insertion and withdrawal forces rather than the backplane PCB which adds reliability to the system.

Card Rack Mounting Versatility - Three mounting configurations are available — rack, table, and wall mount for flexibility in cramped locations.

MODEL NO.	NO. OF SLOTS	REFERENCE DIMENSIONS		
		A	B	C
CX03-R	3	4.62	2.66	1.250
CX06-R	6	6.50	4.54	3.125
CX09-R	9	8.37	6.41	5.000
CX12-R	12	10.25	8.29	6.875
CX15-R	15	12.12	10.16	8.750
CX18-R	18	14.00	12.04	10.625
CX21-R	21	15.87	13.91	12.500
CX24-R	24	17.75	15.79	14.375
CX26-R	26	19.00	17.04	15.625



RACK MOUNT CARD CAGE ASSEMBLY
5/8" CARD CENTERS

The "R" (rack mount) version has the card cage supported from standard 5.25" flanges on the front of the unit. The "W" (wall mount) version has the flanges mounted in the rear for mounting to a vertical panel of an enclosure. The "T" (table) version has the flanges on the bottom of the card cage. All cards cages are supplied with a WinSystems' high performance backplane.

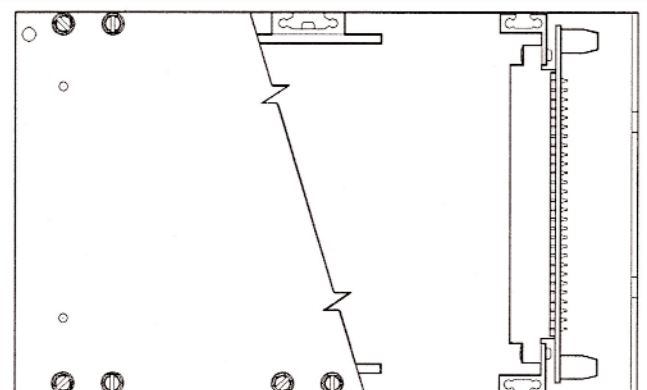
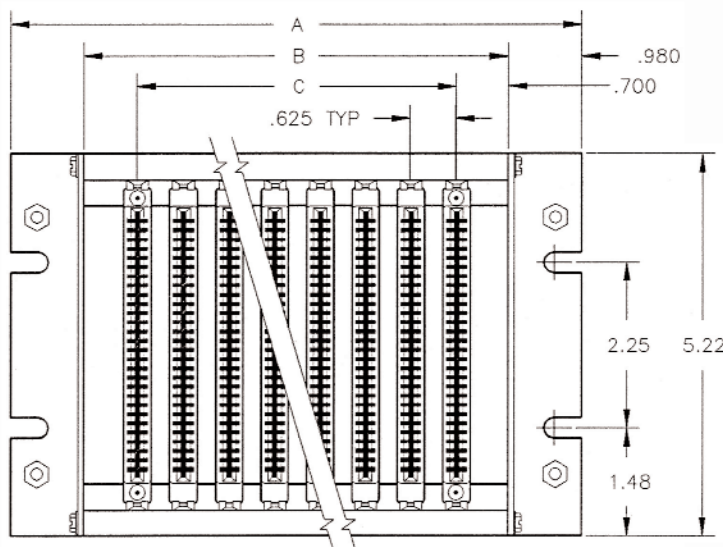
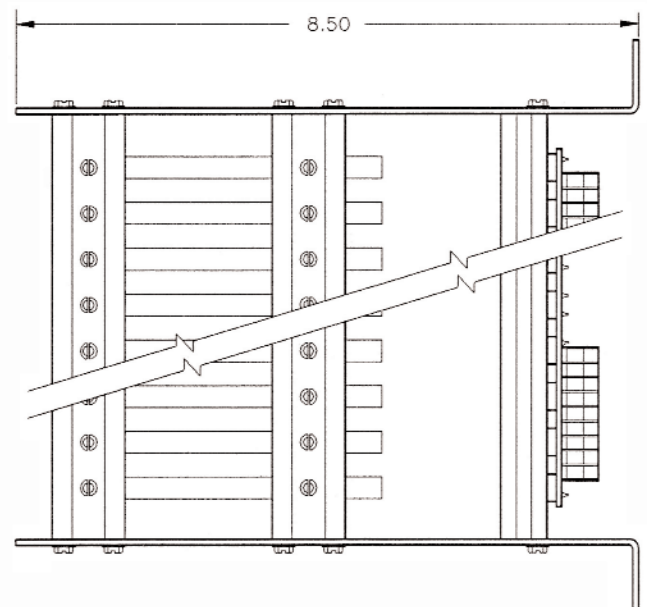
Card Access - All cards are on a 0.625" centers with a vertical orientation to allow maximum convection air circulation.

Termination - Good backplane design involves both an understanding of high frequency RF, plus good

grounding and layout techniques. WinSystems' card cages and backplanes do not require RC passive termination networks and we do not recommend their use. CMOS STD Bus cards should not be used in terminated backplane systems because of the capacitive loading on the bus transceivers.

The "termination networks" offered by some vendors are nothing more than RC filters. These filters are not desirable since they introduce 100 pF to 200 pF of unwanted capacitance which will skew the control, address, and data signals. Also, the extra capacitive loading of the termination networks degrade a system's performance.

MODEL NO.	NO. OF SLOTS	REFERENCE DIMENSIONS		
		A	B	C
CX03-W	3	4.62	2.66	1.250
CX06-W	6	6.50	4.54	3.125
CX09-W	9	8.37	6.41	5.000
CX12-W	12	10.25	8.29	6.875
CX15-W	15	12.12	10.16	8.750
CX18-W	18	14.00	12.04	10.625
CX21-W	21	15.87	13.91	12.500
CX24-W	24	17.75	15.79	14.375
CX26-W	26	19.00	17.04	15.625

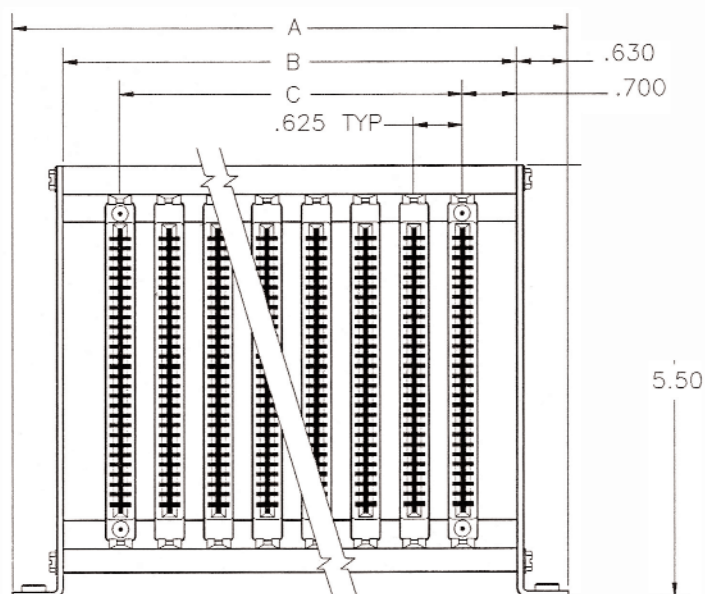


WALL MOUNT CARD CAGE ASSEMBLY
5/8" CARD CENTERS

Multiple Buses - For distributed processing applications, multiple backplanes can be mounted in a single card rack. This allows more than one STD Bus controller to reside in a single enclosure. Call WinSystems for exact configurations and specifications.

Hold down bar - An optional latching bar is available to provide additional card restraint. It consists of a 3/8 inch square bar with pins in each end. One of the pins is spring loaded to allow the bar to be installed or removed. A knurled finger screw provides a method to securely lock the bar in place. It fastens at both ends of the card cage and then horizontally across the STD Bus card's ejector to hold the cards firmly in the card cage. HXB is the prefix for the hold down bar for the CX series of card cages.

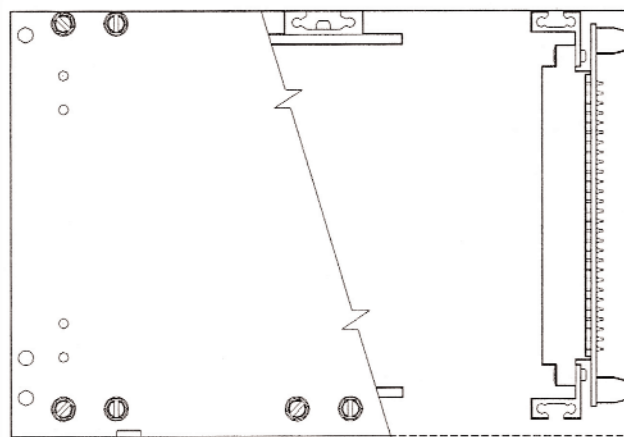
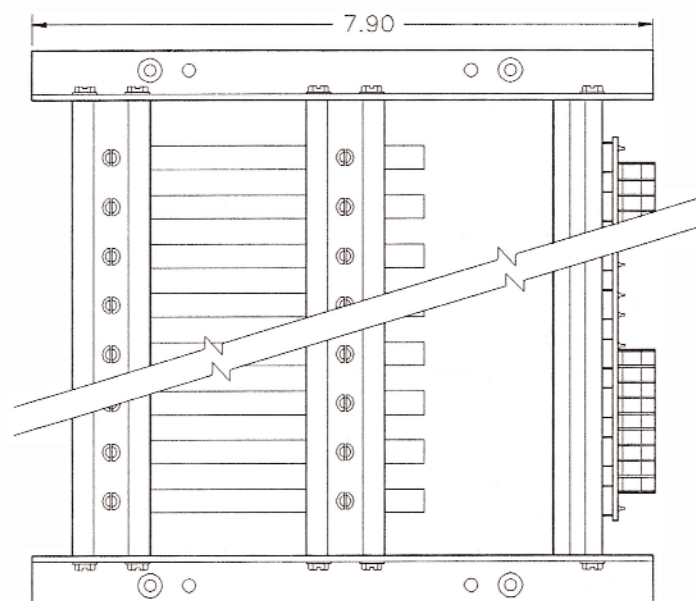
MODEL NO.	NO. OF SLOTS	REFERENCE DIMENSIONS		
		A	B	C
CX03-T	3	3.92	2.66	1.250
CX06-T	6	5.76	4.54	3.125
CX09-T	9	7.63	6.41	5.000
CX12-T	12	9.51	8.29	6.875
CX15-T	15	11.38	10.16	8.750
CX18-T	18	13.26	12.04	10.625
CX21-T	21	15.13	13.91	12.500
CX24-T	24	17.01	15.79	14.375
CX26-T	26	18.26	17.04	15.625



This product is ordered as a separate option with the card cages and powered racks.

ORDERING INFORMATION

Model	Slots
HXB-3	3
HXB-6	6
HXB-9	9
HXB-12	12
HXB-15	15
HXB-18	18
HXB-21	21
HXB-24	24
HXB-26	26



SIDE ENTRY CARD CAGE ASSEMBLY
5/8" CARD CENTERS

ORDERING INFORMATION

CARD CAGES

Model	Slots	Mounting Style	Backplane Installed
CX03-R	3	Rack Mount	BP3
CX03-T	3	Table Mount	BP3
CX03-W	3	Wall Mount	BP3
CX06-R	6	Rack Mount	BP6
CX06-T	6	Table Mount	BP6
CX06-W	6	Wall Mount	BP6
CX09-R	9	Rack Mount	BP9
CX09-T	9	Table Mount	BP9
CX09-W	9	Wall Mount	BP9
CX12-R	12	Rack Mount	BP12
CX12-T	12	Table Mount	BP12
CX12-W	12	Wall Mount	BP12
CX15-R	15	Rack Mount	BP15
CX15-T	15	Table Mount	BP15
CX15-W	15	Wall Mount	BP15
CX18-R	18	Rack Mount	BP18
CX18-T	18	Table Mount	BP18
CX18-W	18	Wall Mount	BP18
CX21-R	21	Rack Mount	BP21
CX21-T	21	Table Mount	BP21
CX21-W	21	Wall Mount	BP21
CX24-R	24	Rack Mount	BP24
CX24-T	24	Table Mount	BP24
CX24-W	24	Wall Mount	BP24
CX26-R	26	Rack Mount	BP26
CX26-T	26	Table Mount	BP26
CX26-W	26	Wall Mount	BP26

POWERED RACKS

Power Supplies - WinSystems offers card cages with triple output, 50W and 100W power supplies. These are high efficiency, highly reliable switching power supplies that accept single phase, 85 to 264 VAC. They will work from 47 to 63 Hz. An ON/OFF switch and momentary Reset switch are mounted on a panel for operator convenience. All units are fused and are equipped with a US standard 3-prong power cord with plug.

All powered card cages are supplied with a WinSystems' high performance backplane and status LEDs.

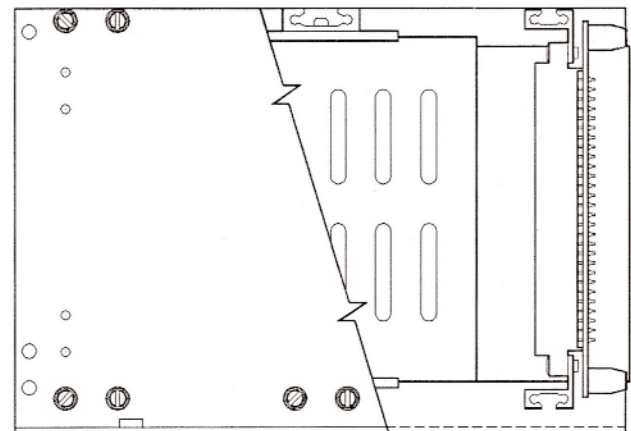
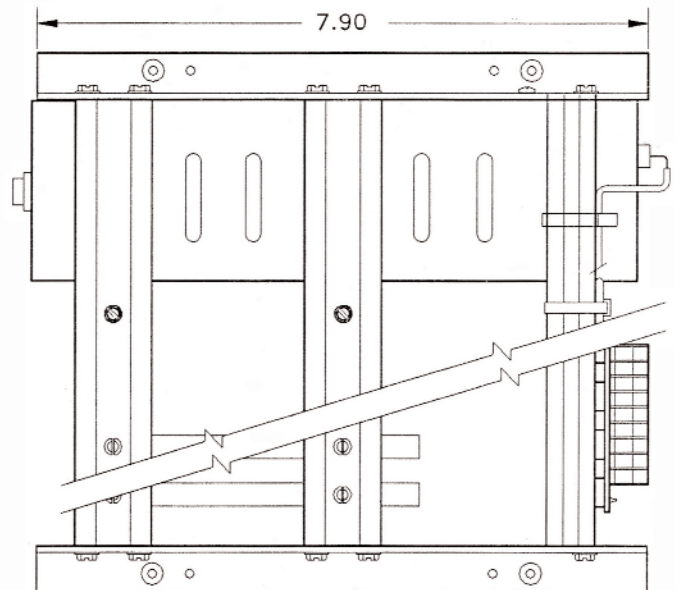
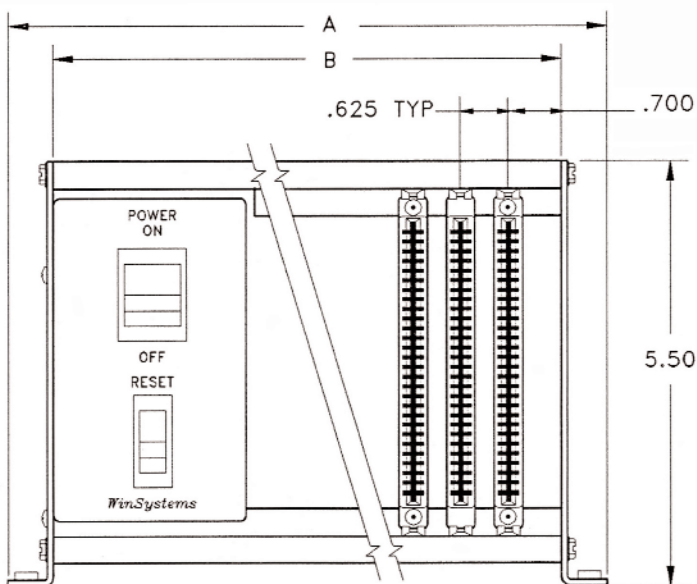
Card Rack Mounting Configuration - Three mounting configurations are available for the card cages with power supplies: Rack mount (R), Table mount (T),

and Wall mount (W). The dimensions for the powered racks are longer than the card cages to accommodate for mounting the power supplies inside the racks. The 21- and 24-slot card cages have the power supply mounted on the back of the cage so that the unit will stay within the 19" length for a standard equipment rack.

50 Watt Supply - The PS50 is a triple output, 50 Watt power supply. It is designed for CMOS STD Bus or small systems configurations. Although it has a standard 3 prong AC cable, it is a universal input switching design. Universal input voltage eliminates the need for an external 115/220 VAC system switch thereby eliminating failures dues to improper input voltage. It will operate from 47 Hz to 440 Hz.

MODEL NO.	NO. OF SLOTS	REFERENCE DIMENSIONS	
		A	B
CX03-T-PS50	3	8.37	6.41
CX06-T-PSXX	6	10.25	8.29
CX09-T-PSXX	9	12.12	10.16
CX12-T-PSXX	12	14.00	12.04
CX15-T-PSXX	15	15.87	13.91
CX18-T-PSXX	18	17.75	15.79
CX21-T-PS100	21	17.75	15.79
CX24-T-PS100	24	19.00	17.04

PSXX PS50 - 50 WATT POWER SUPPLY
PS100 - 100 WATT POWER SUPPLY



SIDE ENTRY CARD CAGE ASSEMBLY
5/8" CARD CENTERS w/100W PS

The PS50 is a zero current switcher. It will maintain regulation on all output voltages down to zero current thus eliminating the need for load resistors at light loads. This makes it ideal for CMOS applications yet there is enough current available for a small DOS system.

The PS50 has overvoltage protection and output short circuit protection. The power supply is convection cooled and should be derated from 50°C to 70°C to 25W. The power supply is very reliable with a MTBF of 160,000 hours.

PS50 OUTPUT CHARACTERISTICS

Voltage	Minimum	Maximum
+5	0A	5.0A
+12	0A	2.0A
-12	0A	0.5A

100 Watt Power Supply - The PS100 is a triple output, high efficiency, 100 Watt power supply. It is designed for medium to large systems configurations. Although it has a standard 3 prong AC cable, it is a universal input switching design which will accept 85VAC to 264VAC. Universal input voltage eliminates the need for an external 115/220 VAC system switch thereby eliminating failures dues to improper input voltage. It will operate from 47 to 63 Hz.

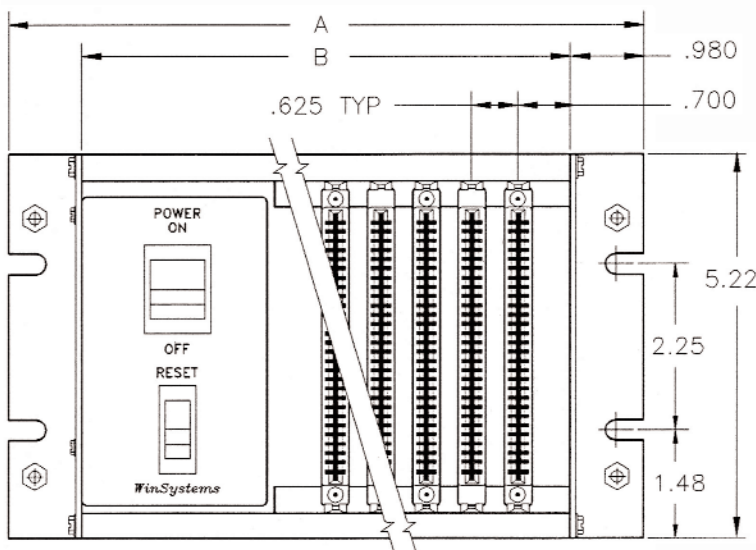
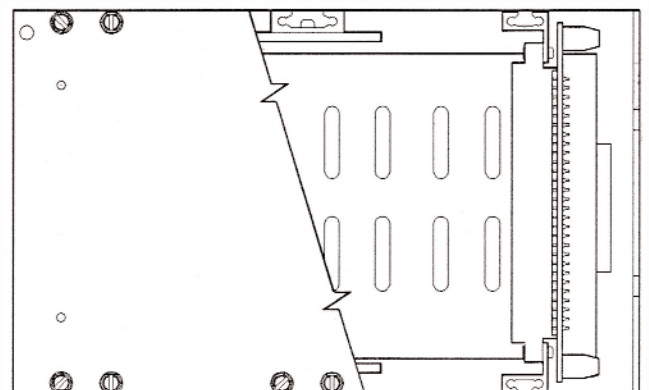
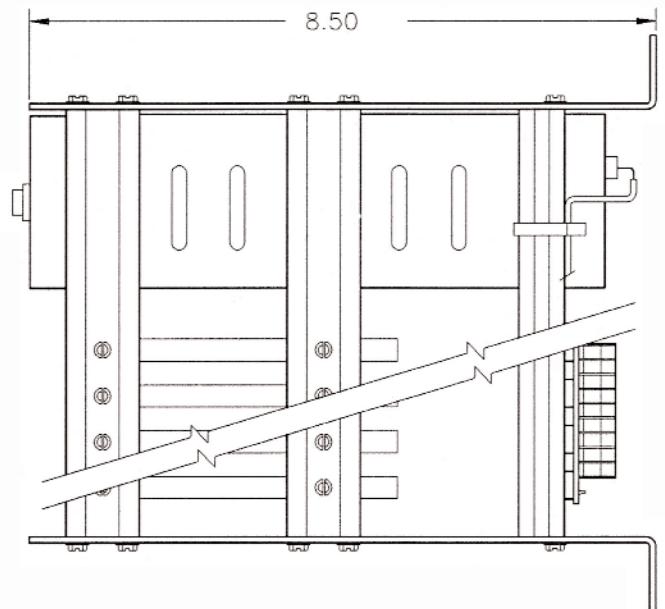
The PS100 is a switching power supply which does not require a minimum load to maintain regulation on all output voltages lines. It also has overvoltage protection and output short circuit protection.

PS100 OUTPUT CHARACTERISTICS

Voltage	Minimum	Maximum
+5	0A	10.0A
+12	0A	3.5A
-12	0A	0.5A

MODEL NO.	NO. OF SLOTS	REFERENCE DIMENSIONS	
		A	B
CX03-W-PS50	3	8.37	6.41
CX03-W-PSXX	6	10.25	8.29
CX09-W-PSXX	9	12.12	10.16
CX12-W-PSXX	12	14.00	12.04
CX15-W-PSXX	15	15.87	13.91
CX18-W-PSXX	18	17.75	15.79
CX21-W-PS100	21	17.75	15.79
CX24-W-PS100	24	19.00	17.04

PSXX PS50 - 50 WATT POWER SUPPLY
PS100 - 100 WATT POWER SUPPLY



WALL MOUNT CARD CAGE ASSEMBLY
5/8" CARD CENTERS w/50W PS

Dimension - The same amount of room is allocated for the power supply for both power ranges. Therefore the mechanical drawings for the Rack, Wall, and Table versions reflect no additional room required. The difference is that with the 50W supply, the ON/OFF switch and Reset switch is integral in the power enclosure. The 100W model has an enclosed bracket with the ON/OFF and Reset switch mounted there.

The 50W power supply is available for the 3, 6, 9, 12, 15, and 18-slot card cages in all mounting configurations. The 100W power supply is available for the 6, 9, 12, 15, and 18-slot card cages. The 21 and 24 slot

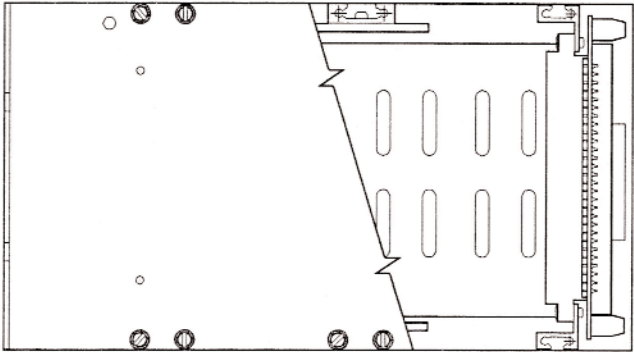
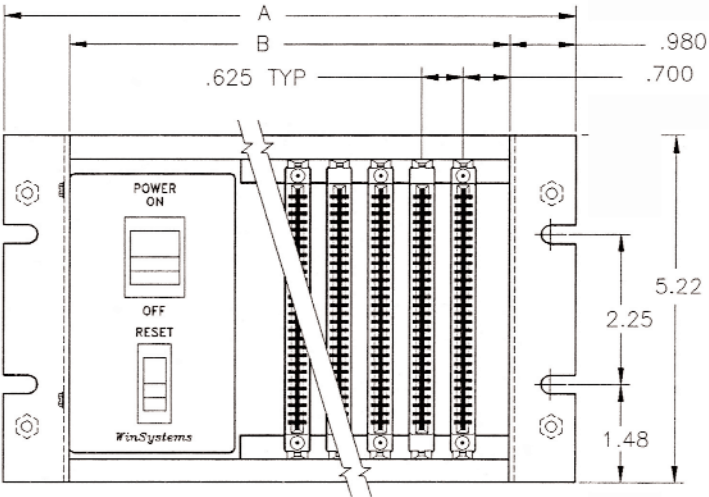
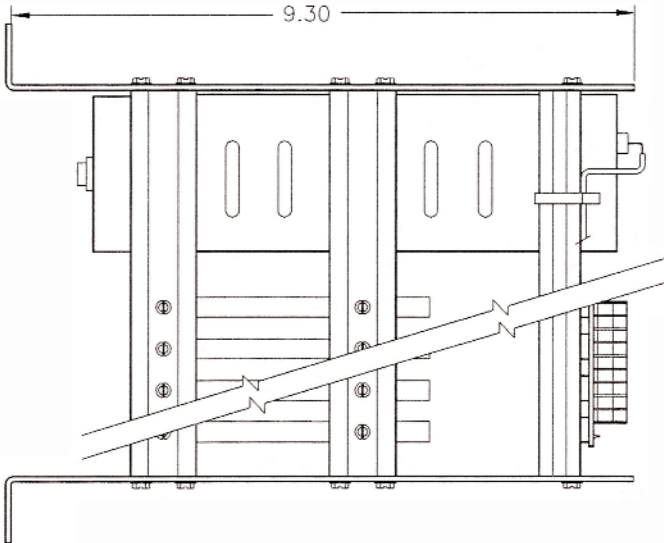
card cages have the 100W power supply mounted on the back rails of the card cage and are available for the rack and table versions only.

Part Number Assignment - A suffix is added to the standard card cage model number to designate the specific model power supply integrated into the rack. A PS50 suffix denotes the 50W power supply and a PS100 denotes a 100W power supply. For example a CX09-W-PS50 designates a 9 slot wall mount card cage with the 50 Watt power supply installed.

Options - The hold down bar and transorb options are available for the powered racks.

MODEL NO.	NO. OF SLOTS	REFERENCE DIMENSIONS	
		A	B
CX03-R-PS50	3	8.37	6.41
CX06-R-PSXX	6	10.25	8.29
CX09-R-PSXX	9	12.12	10.16
CX12-R-PSXX	12	14.00	12.04
CX15-R-PSXX	15	15.87	13.91
CX18-R PSXX	18	17.75	15.79
CX21-R-PS100	21	17.75	15.79
CX24-R-PS100	24	19.00	17.04

PSXX PS50 – 50 WATT POWER SUPPLY
PS100 – 100 WATT POWER SUPPLY



RACK MOUNT CARD CAGE ASSEMBLY
5/8" CARD CENTERS w/50W PS

ORDERING INFORMATION

POWERED CARD CAGES

Model	Slots	Mounting Style	Backplane Installed
CX03-R-PS50	3	Rack Mount	50W
CX03-T-PS50	3	Table Mount	50W
CX03-W-PS50	3	Wall Mount	50W
CX06-R-PS50	6	Rack Mount	50W
CX06-R-PS100	6	Rack Mount	100W
CX06-T-PS50	6	Table Mount	50W
CX06-T-PS100	6	Table Mount	100W
CX06-W-PS50	6	Wall Mount	50W
CX06-W-PS100	6	Wall Mount	100W
CX09-R-PS50	9	Rack Mount	50W
CX09-R-PS100	9	Rack Mount	100W
CX09-T-PS50	9	Table Mount	50W
CX09-T-PS100	9	Table Mount	100W
CX09-W-PS50	9	Wall Mount	50W
CX09-W-PS100	9	Wall Mount	100W
CX12-R-PS50	12	Rack Mount	50W
CX12-R-PS100	12	Rack Mount	100W
CX12-T-PS50	12	Table Mount	50W
CX12-T-PS100	12	Table Mount	100W
CX12-W-PS50	12	Wall Mount	50W
CX12-W-PS100	12	Wall Mount	100W
CX15-R-PS50	15	Rack Mount	50W
CX15-R-PS100	15	Rack Mount	100W
CX15-T-PS50	15	Table Mount	50W
CX15-T-PS100	15	Table Mount	100W
CX15-W-PS50	15	Wall Mount	50W
CX15-W-PS100	15	Wall Mount	100W
CX18-R-PS50	18	Rack Mount	50W
CX18-R-PS100	18	Rack Mount	100W
CX18-T-PS50	18	Table Mount	50W
CX18-T-PS100	18	Table Mount	100W
CX18-W-PS50	18	Wall Mount	50W
CX18-W-PS100	18	Wall Mount	100W
CX21-R-PS100	21	Rack Mount	100W
CX21-T-PS100	21	Table Mount	100W
CX24-R-PS100	24	Rack Mount	100W
CX24-T-PS100	24	Table Mount	100W

Backplane and Card Cage Quick Reference

SLOTS	BACKPLANE Only	RACK MOUNT		WALL MOUNT		TABLE MOUNT	
		With Power Supply	Without Power Supply	With Power Supply	Without Power Supply	With Power Supply	Without Power Supply
3	BP3	CX03-R-PS50	CX03-R	CX03-W-PS50	CX03-W	CX03-T-PS50	CX03-T
6	BP6	CX06-R-PS50 CX06-R-PS100	CX06-R	CX06-W-PS50 CX06-W-PS100	CX06-W	CX06-T-PS50 CX06-T-PS100	CX06-T
9	BP9	CX09-R-PS50 CX09-R-PS100	CX09-R	CX09-W-PS50 CX09-W-PS100	CX09-W	CX09-T-PS50 CX09-T-PS100	CX09-T
12	BP12	CX12-R-PS50 CX12-R-PS100	CX12-R	CX12-W-PS50 CX12-W-PS100	CX12-W	CX12-T-PS50 CX12-T-PS100	CX12-T
15	BP15	CX15-R-PS50 CX15-R-PS100	CX15-R	CX15-W-PS50 CX15-W-PS100	CX15-W	CX15-T-PS50 CX15-T-PS100	CX15-T
18	BP18	CX18-R-PS50 CX18-R-PS100	CX18-R	CX18-W-PS50 CX18-W-PS100	CX18-W	CX18-T-PS50 CX18-T-PS100	CX18-T
21	BP21	CX21-R-PS100	CX21-R	CX21-W-PS100	CX21-W	CX21-T-PS100	CX21-T
24	BP24	CX24-R-PS100	CX24-R	CX24-W-PS100	CX24-W	CX24-T-PS100	CX24-T
26	BP26	—	CX26-R	—	CX26-W	—	CX26-T

