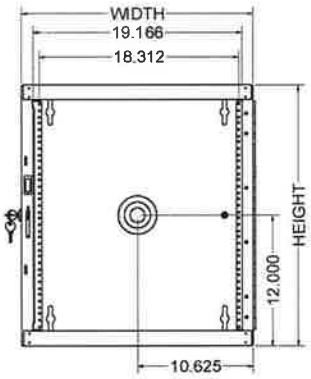
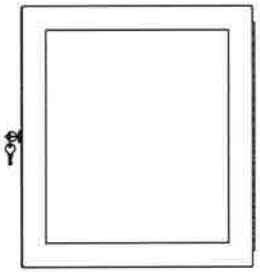
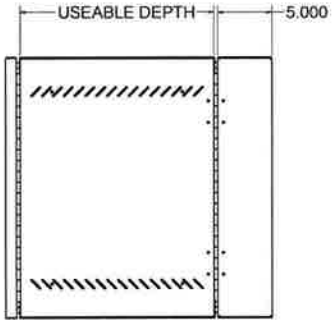


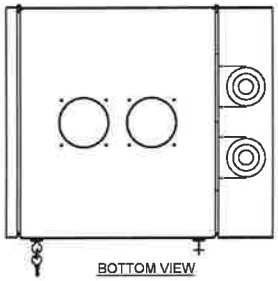
FRONT VIEW
(without Door)



FRONT VIEW
(with Door)



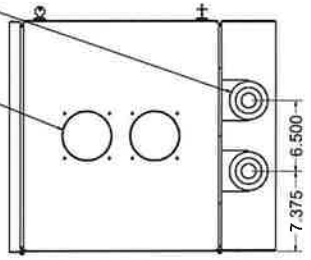
RIGHT SIDE VIEW



BOTTOM VIEW

1", 2", AND 3" REAR SECTION NOMINAL CONCENTRIC CONDUIT KNOCKOUT

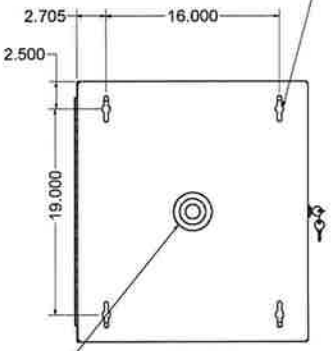
2 FAN UNIT MOUNTING SHOWN FOR GL24WM, GL36WM, AND GL48WM. FAN UNIT MOUNTING IS ROTATED 90 DEG. ON GL2418WM



TOP VIEW

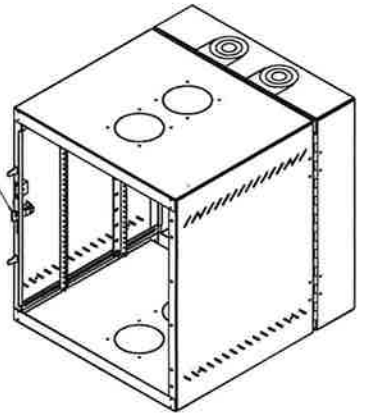
INDEPENDENT LOCKING FRONT AND REAR DOOR SECTION

MOUNTING HOLES FOR 1/4" HARDWARE

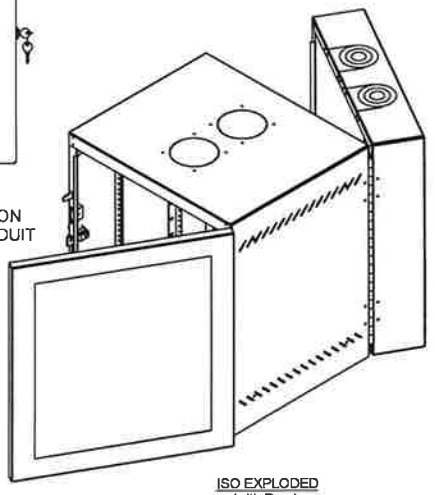


BACK VIEW

1", 2", 3", AND 4" REAR SECTION NOMINAL CONCENTRIC CONDUIT KNOCKOUT



ISO COLLAPSED
(without Door)



ISO EXPLODED
(with Door)

Part No.	H	W	Usable D
GL2418WM	24.00"	21.25"	13.00"
GL24WM	24.00"	21.25"	19.50"
GL36WM	36.00"	21.25"	19.50"
GL48WM	48.00"	21.25"	19.50"

INTERPRET DRAWING PER ASME Y14.5M-1994
DIMENSIONAL LIMITS APPLY AFTER APPLICATION OF FINISH
DRAWING NOT TO SCALE
TOLERANCE UNLESS OTHERWISE NOTED
ANGULAR +/- 5°
XXXX +/- .010
XXX +/- .015
XX +/- .030
R FOR REF. ONLY
THIRD ANGLE PROJECTION
UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE IN INCHES

PART NUMBER
QTY PER UNIT 1
MATERIAL TYPE
MATERIAL GAUGE
FINISH SEE NOTES
DRAWN MZ DATE 1/11/2011
CHECKED & APP WSS DATE 1/11/2011

TITLE
WM Wall Mounts

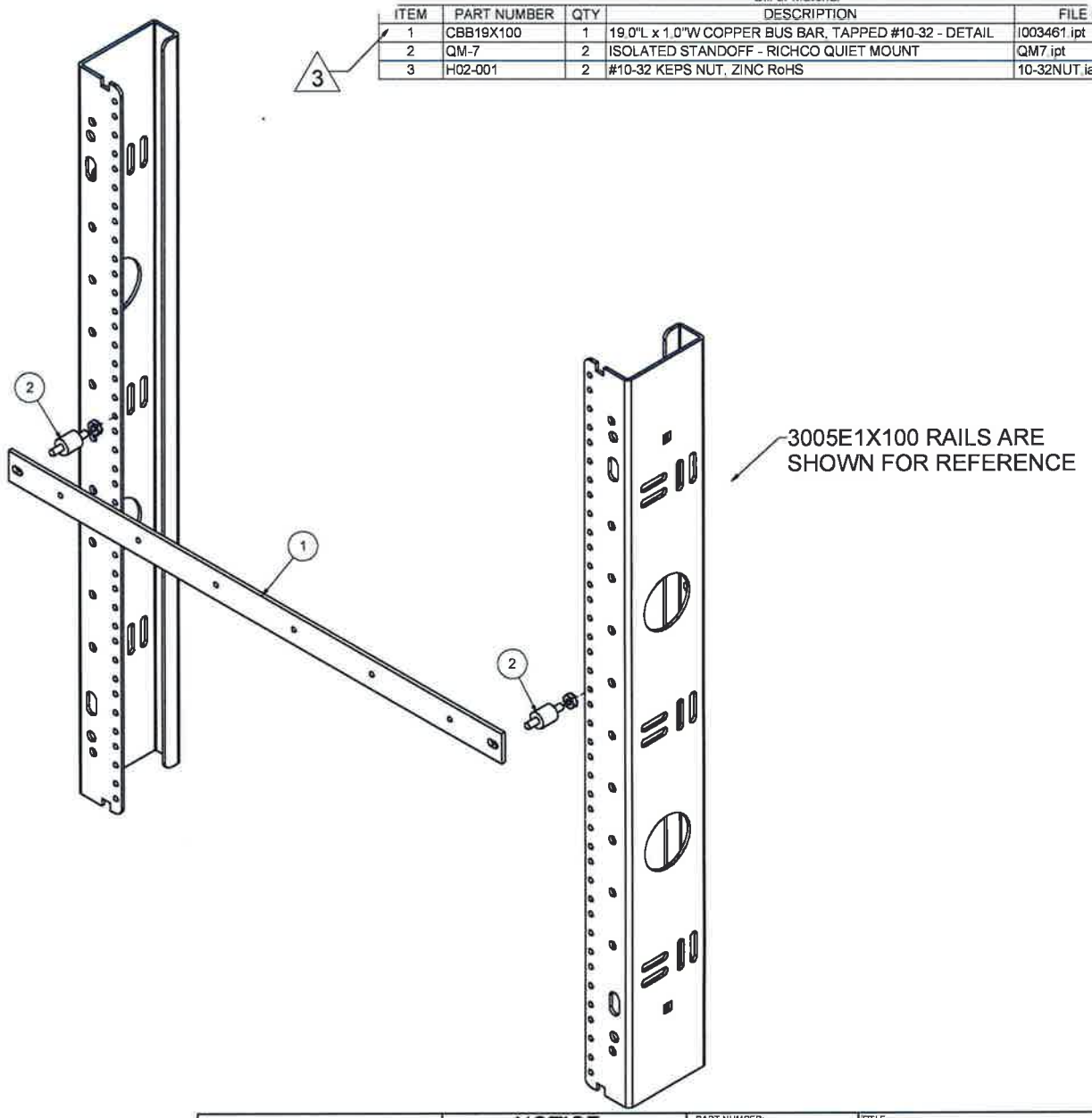
GREAT LAKES CASE & CABINET CO., INC
P O BOX 551 EDINBORO, PA 16412
PHONE (814) 734-7303 FAX (814) 734-3907
E-MAIL glcc@greatlakesmfg.com

DWG NO 1013250 REV 0 SHEET 1 OF 1

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED
2	ECO-01636	9/13/2005	JL
3	ECO-02431	11/14/08	CD

Bill of Material

ITEM	PART NUMBER	QTY	DESCRIPTION	FILE NAME	REV
1	CBB19X100	1	19.0"L x 1.0"W COPPER BUS BAR, TAPPED #10-32 - DETAIL	I003461.ipt	6
2	QM-7	2	ISOLATED STANDOFF - RICHCO QUIET MOUNT	QM7.ipt	-
3	H02-001	2	#10-32 KEPS NUT, ZINC RoHS	10-32NUT.iam	-



INTERPRET DRAWING PER ASME Y14.5M-1994
DIMENSIONAL LIMITS APPLY AFTER APPLICATION OF FINISH
DRAWING NOT TO SCALE
TOLERANCE UNLESS OTHERWISE NOTED:
ANGULAR +/- 1–
XXXX +/- .010
XXX +/- .015
XX +/- .030
X FOR REF ONLY

THIRD ANGLE PROJECTION

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES

PART NUMBER: CBB19
QTY PER UNIT: 1
MATERIAL TYPE: -
MATERIAL GAUGE: -
FINISH: -
DRAWN: Jaye DATE: 9/9/2005
CHECKED & APP: WSS DATE: 9-13-05

TITLE: 19.0"L x 1.0"W COPPER BUS BAR, TAPPED #10-32 - ASSEMBLY

GREAT LAKES CASE & CABINET CO., INC.
P.O. BOX 551 EDINBORO, PA 16412
PHONE (814) 734-7303 FAX (814) 734-3907
E-MAIL glcc@greatcabinets.com

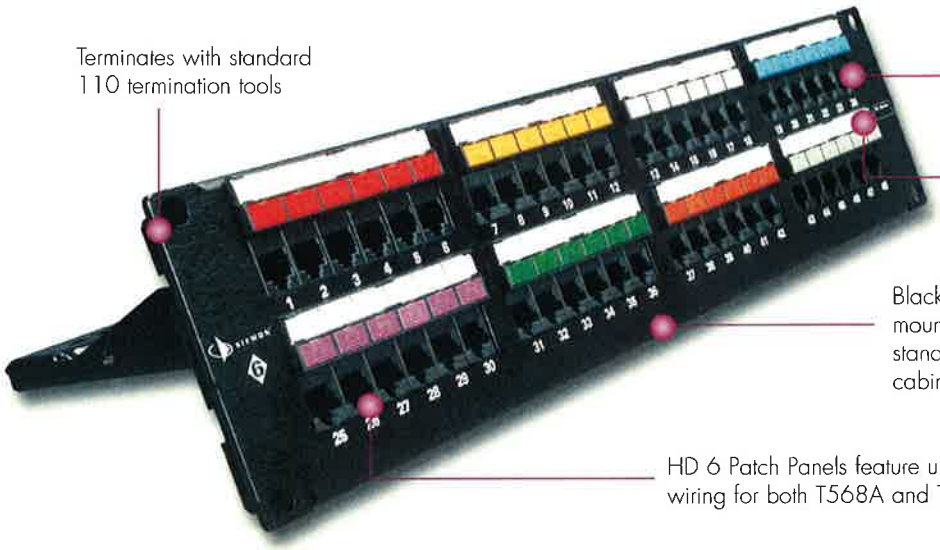
DWG NO: I003460 REV: 3 SHEET: 1 OF 1

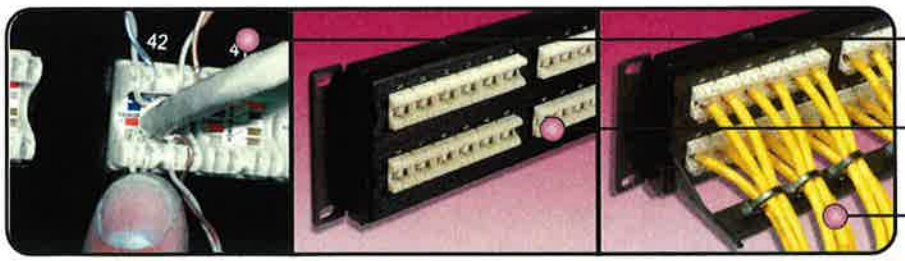
HD® 6 PATCH PANELS

A breakthrough in patch panel performance. Siemon's HD 6 was the industry's first patch panel to exceed category 6 connecting hardware specifications for all pair combinations up to 250 MHz. Get revolutionary performance and user-friendly termination, labeling, and cable management features with Siemon's popular HD 6 patch panel.

Combine the MC® 6 modular cords with the MAX® 6 modules and HD 6 patch panels for a complete category 6 channel solution.

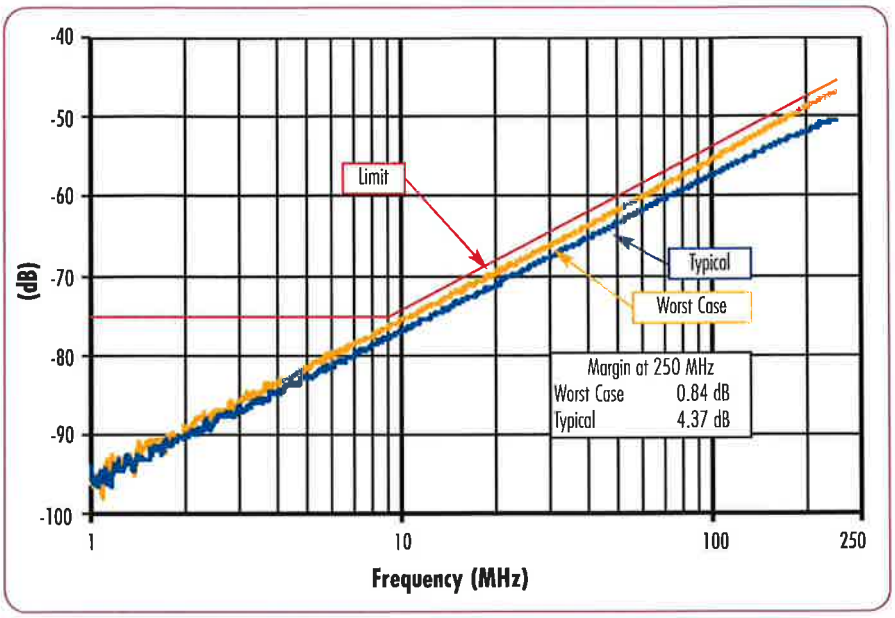
PATENTED

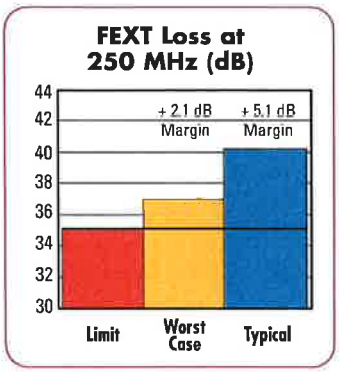


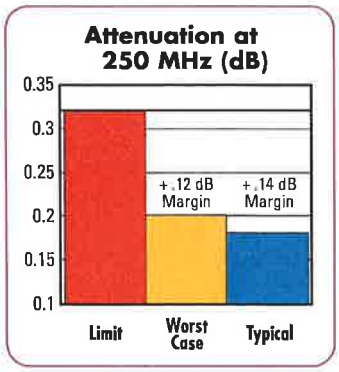


Category 6 Test Data:

Near-End Crosstalk Performance:

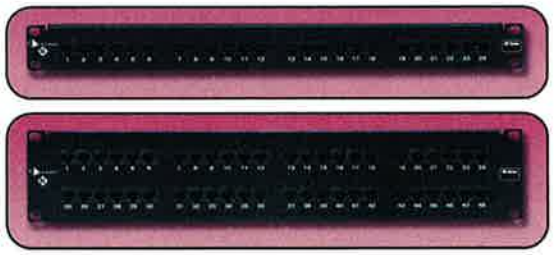






HD® 6 Patch Panels:

HD6-16.....16-port panel, T568A/B wiring, 1 RMS
HD6-24.....24-port panel, T568A/B wiring, 1 RMS
HD6-32.....32-port panel, T568A/B wiring, 2 RMS
HD6-48.....48-port panel, T568A/B wiring, 2 RMS
HD6-96.....96-port panel, T568A/B wiring, 4 RMS



Panels include rear cable manager, icon label holders, designation labels, cable ties, and mounting hardware.

Add "B" to end of part number for bulk project pack of 5 panels (rear cable managers and icon label holders not included but can be ordered separately).

Note: 1 RMS = 44.5mm (1.75 in.)
S310® termination blocks are not compatible with S110® termination tools

Because we continuously improve our products, Siemon reserves the right to change specifications and availability without prior notice.

For related product information request Spec Sheet(s):
MC® 6 Patch Cords (PROD-SS-MC6)
MAX® 6 Modules (PROD-SS-MX6)

The Americas
Watertown, CT USA
Phone (1) 860 945 4200

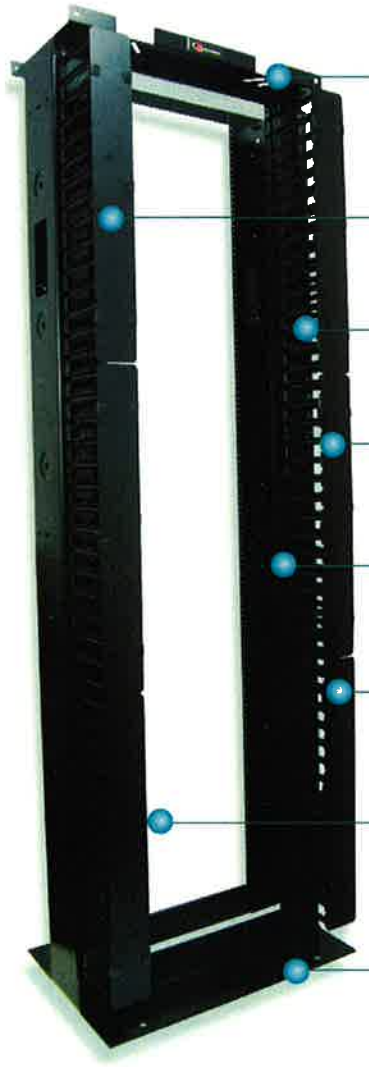
Europe/Middle East/Africa
Surrey, England
Phone (44) 0 1932 571771

Asia Pacific
Shanghai, P.R. China
Phone (86) 21 6390 6778

RS3 CABLE MANAGEMENT RACK SYSTEM

Siemon's new RS3 series cable management rack system provides high capacity cable management for routing of both horizontal/backbone cabling and patch cords. Vertical channels with hinged cable manager covers conceal and route patch cables for a clean, professional installation.

NEW



Header bars incorporate unique slotted holes for securing cable trays routed perpendicularly or parallel to RS3 racks

76mm x 152mm (3 in. x 6 in.) front vertical managers provide capacity for approximately 190 category 6 patch cords

RS3 design allows racks to be side-stacked without interference between adjacent racks

116.8mm x 152.4mm (4.6 in. x 6 in.) vertical side rails provide higher cable capacity over standard rack designs

Side rails compatible with Siemon's quarter-turn hook and loop cable managers for proper management of cable bundles

Access holes on side rails allow cables to be routed between adjacent racks

Mounting holes on rear of RS3 accommodate Siemon's vertical power strip (p/n RS-P04) to provide power to active equipment mounted in rack

Mounting holes provided for anchoring racks to floor

Front covers fully conceal all vertical patch cord routing through an easy to use, modular design. Each section can be individually hinged in either direction to facilitate quick and easy changes. Covers include positive securing snap latches for trouble-free fastening

The individual managers on the vertical channels are rounded to allow patch cords to seamlessly enter and exit the managers without risk of cable deformation

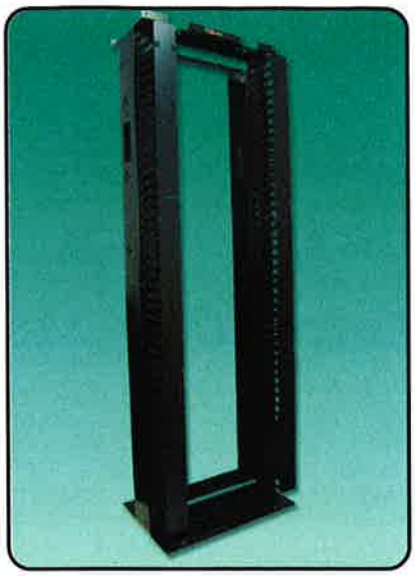
Siemon's new RS3 series horizontal cable managers provide a fully integrated appearance and hinging design for comprehensive management of patch cords

ORDERING INFORMATION

RS3 Cable Management Rack System:

RS3-07.....2.1m x 0.48m (7 ft. x 19 in.) aluminum enhanced cable management rack system, 45 RMS. Includes rack assembly hardware, vertical cable management channels with hinged covers, and ground lug

height: 2.1m (7 ft.)
width: 685.0mm (27 in.)
depth: 457.2mm (18 in.)



Add "-S" for steel.

Note: Aluminum racks are intended for use with connecting hardware and cable managers only. For mounting active equipment, steel racks are recommended.

Note: 1 RMS = 44.5mm (1.75 in.)

Related Products:

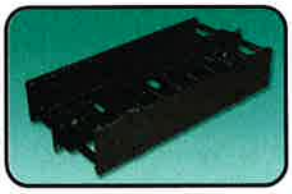
RS3 Series Horizontal Cable Managers

These new horizontal cable managers are designed for use with Siemon's RS3 series racks and use the same covered design as the vertical managers. The hinged front cover snaps easily over cable managers and provides a concealed routing patch into the vertical cable management of the RS3, providing a clean patching environment.

RS3-RWM-2.....Single-sided 19 in. cable manager, 2 RMS

RS3-RWM-2DS.....Double-sided 19 in. cable manager, 2 RMS

RS3-RWM-2



RS3-RWM-2DS

Rack Accessories

RS-P04.....1.2m (4 ft.) power strip for rear of rack, ten 15A outlets, resettable fuse (includes mounting hardware)

RS-TRAY.....Rack top cable tray [includes roll of 9 black 457.2mm (18 in.) hook and loop cable managers and 9 quarter-turn mounting clips]

SCREW-1224.....#12-24 Slotted head screws with washers, black, bag of 200

RS-P04

RS-TRAY

SCREW-1224

CABLE MANAGER CAPACITY TABLE

The following capacity table is provided for planning purposes. The values shown reflect a combination of actual and calculated capacity and represent a 100% fill. These values were derived using properly dressed cables and can be adversely affected by poor cable routing practices.

PART NUMBER	CABLE DIAMETER (SQ. IN.) 0.15	0.17	0.19	0.21	0.23	0.25	0.27	0.29	0.31
HORIZONTAL MANAGERS									
RS3-RWM-2	332	258	207	169	141	119	102	88	77
RS3-RWM-2DS	332	258	207	169	141	119	102	88	77
RACKS & VERTICAL CABLE MANAGERS									
RS3 (Channel)	834	649	519	425	354	300	257	223	195
RS3 (Front)	527	410	329	269	224	190	162	141	123

Because we continuously improve our products, Siemon reserves the right to change specifications and availability without prior notice.

The Americas
Watertown, CT USA
Phone (1) 860 945 4200

Europe/Middle East/Africa
Surrey, England
Phone (44) 0 1932 571771

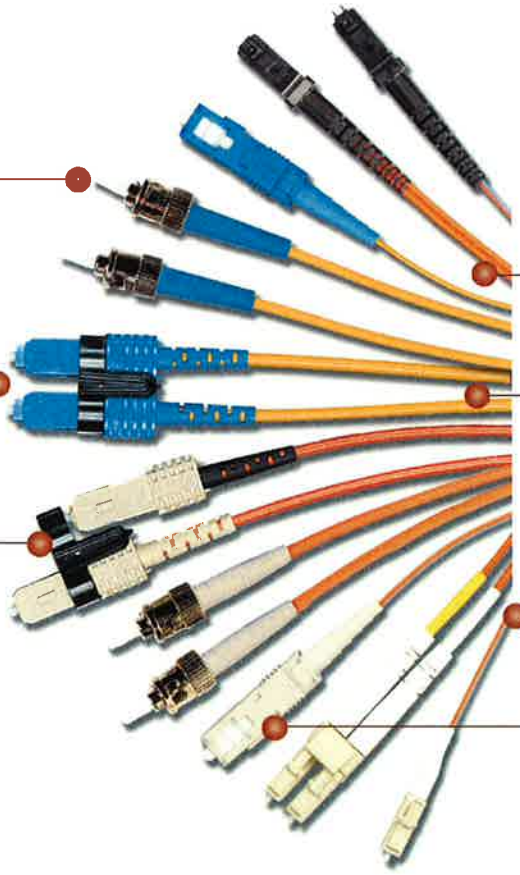
Asia/Pacific
Shanghai, P.R. China
Phone (86) 21 6390 6778

PROD-SS-RS3 Rev. A 2/05

LIGHTSYSTEM® JUMPERS & PIGTAILS

Siemon offers a comprehensive line of LightSystem fiber jumpers for connecting Gigabit fiber links. Each and every terminated connector is optically tested so that you can be assured that 100% of Siemon-built cable assemblies meet stringent performance specifications (shown below). All jumpers are manufactured using the finest quality connectors and OFNR (UL 1666) riser grade fiber.

Supports Gigabit Ethernet



Singlemode jumpers and pigtails feature an Ultra polish with a minimum return loss of 55 dB

Multimode has orange jacket; singlemode fiber has yellow jacket, compliant with TIA/EIA-598-AB

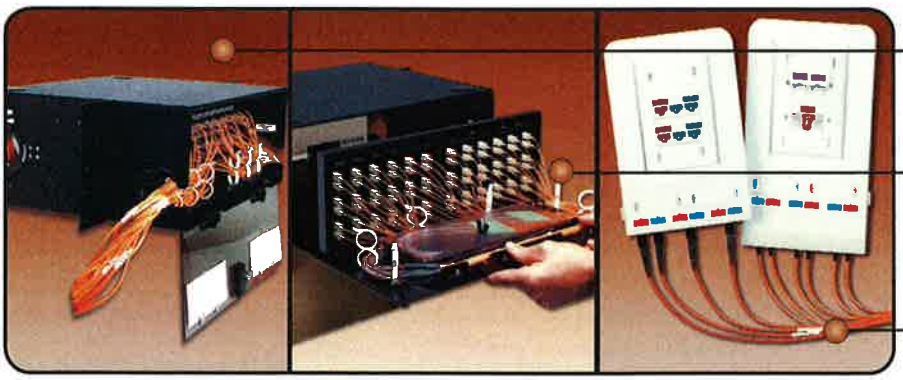
Connectors color coded per TIA/EIA-568-B.3

Jumpers available in 1, 2, 3, and 5 meter standard lengths

SC duplexing clip allows for polarity correction

Pigtails available in 1 meter lengths

Exceeds TIA/EIA and ISO/IEC requirements for aging, exposure to humidity, temperature extremes, impact, vibration, coupling strength, and cable resistance to stress and strain



Jumpers are ideal for patching applications in the telecommunications room

Pigtails with buffered fiber are ideal for fusion splice applications in telecommunications room

Jumpers are ideal for patching applications in the work area

Use, Care and Maintenance:

This procedure is a general guide for the use, care, and maintenance of fiber jumpers sold by Siemon and is included on each fiber jumper/pigtail bag.

- Keep all connectors clean. Replace protective dust caps on connectors when not in use.
- Clean the connector ferrule with a lint-free wipe soaked in isopropyl alcohol, followed with a dry lint-free wipe.
- Do not touch the connector ferrule tip prior to installation.
- Observe a minimum bend radius of 30mm (1.2 in.) during handling, installation and use.

PERFORMANCE SPECIFICATIONS

	50/125µm Multimode		62.5/125µm Multimode	
Wavelength (nm)	850	1300	850	1300
Min. Cable Bandwidth (MHz-km)	500	500	200	500
Max. Insertion Loss (dB)	0.65 (0.15 Typical)			
Min. Return Loss (dB)	25 (30 Typical)			

LightSystem® Multimode Duplex Jumpers

FJ2-SCSC(X)MM-(XX) .....SC-SC orange duplex jumper, OFNR
FJ2-SASA(X)MM-(XX).....ST-ST orange duplex jumper, OFNR
FJ2-SASC(X)MM-(XX).....ST-SC orange duplex jumper, OFNR
FJ2-LCLC(X)MM-(XX) .....LC-LC orange duplex jumper, OFNR
FJ2-LCSC(X)MM-(XX).....LC-SC orange duplex jumper, OFNR
FJ2-LCSA(X)MM-(XX).....LC-ST orange duplex jumper, OFNR
FJ2R-MTMT(X)MM-(XX) .....MT-RJ to MT-RJ orange duplex jumper, OFNR
FJ2R-MTSC(X)MM-(XX).....MT-RJ to SC orange duplex jumper, OFNR
FJ2R-MTSA(X)MM-(XX).....MT-RJ to ST orange duplex jumper, OFNR

LightSystem Multimode Simplex Pigtails

FP1B-SC(X)MM-01 .....SC simplex pigtail, orange, 900 micron, buffered, 1m (3.3 ft.)
FP1B-SA(X)MM-01 .....ST simplex pigtail, orange, 900 micron, buffered, 1m (3.3 ft.)
FP1B-LC(X)MM-01 .....LC simplex pigtail, orange, 900 micron, buffered, 1m (3.3 ft.)

Use (X) to specify multimode fiber type: 6 = 62.5/125µm fiber; 5 = 50/125µm fiber
Use (XX) to specify length: 01 = 1m (3.3 ft.), 02 = 2m (6.6 ft.), 03 = 3m 9.8 ft.), 05 = 5m (16.4 ft.)
Custom cable lengths are available upon request. Contact our Customer Service Department for more information.
Note: ST and SC jumpers use 3.0mm (0.12 in.) zipcord cable. LC, MT-RJ and associated hybrid jumpers use 1.6mm (0.06 in.) mini zipcord cable.

For related product information request Spec Sheet(s):
ST & SC Fiber Connectors (PROD-SS-SFC)
LC Connector Products (PROD-SS-LCC)
MT-RJ Connector (PROD-SS-MTR)
Rack Mount Interconnect Center (PROD-SS-RIC)

The Americas
Watertown, CT USA
Phone (1) 860 945 4200

Europe/Middle East/Africa
Surrey, England
Phone (44) 0 1932 571771

Asia/Pacific
Shanghai, P.R. China
Phone (86) 21 5385 0303

Japan
Tokyo, Japan
Phone (81) (3) 5437 1580

PROD-SS-FJ1 Rev. I 10/07 (US)

Dell PowerEdge T110

The Dell™ PowerEdge™ T110 compact, entry 1-socket tower server offers your small businesses the features you need to take productivity and performance to the next level.

The PowerEdge T110 features include the performance of Intel® processors, DDR3 memory, e-SATA external storage expandability, and enhanced security and protection including cost-effective RAID options.

The PowerEdge T110 was developed with a purposeful design, energy-optimized technology, basic systems management, and the reliability you need. The PowerEdge T110 is a great first server for the small business looking to increase office productivity.

Right-Sized, Flexible Technology and Business Value

The PowerEdge T110 was designed to meet the needs of your small business environment. Customizable with up to four hard drives for your important data, cost-effective RAID options for added data protection, e-SATA external storage connectivity options, and basic systems management for easy system monitoring, the T110 is an ideal first server for the small business needing to increase productivity and collaboration.

Dell aims to add value to your business by providing the features you need without a lot of the unnecessary extras. Our goal is to deliver value through tailored solutions based on industry standards, as well as purposeful, innovative design.

Purposeful Design

Built with the latest Intel® processors inside, the PowerEdge T110 can easily handle day-to-day computing and file storage demands. Our highly efficient fans are designed to spin faster in accordance with server workload demands. This helps to reduce unnecessary noise when possible and keeps the server cooler in your office environment. In addition, the T110 features up to four hard drives for your most important data and customer information. It also features basic systems management features designed to enable easy system monitoring and alerts to help ensure reliable performance day after day.

Solid Security

Dell provides standard security features in the PowerEdge T110 to help keep your data secure. The included Trusted Platform Module (TPM) provides hardware-based encryption and authentication. A chassis-intrusion switch alerts you when internal system components have been accessed. The internal locked-down USB ports help give IT administrators or small business owners an opportunity to implement other security and recovery options such as a password verification process to help prevent unauthorized system access. And finally, the PowerEdge T110 features cost-effective RAID options that can help prevent data loss by further protecting the way your data is stored on your internal hard drives.

Dell Services

Dell Services can help reduce IT complexity, lower costs, and eliminate inefficiencies by making IT and business solutions work harder for you. The Dell Services team takes a holistic view of your needs and designs solutions for your environment and business objectives while leveraging proven delivery methods, local talent, and in-depth domain knowledge for the lowest TCO.

Ideal for collaboration, file sharing, and centralization, the T110 is an ideal first server for small businesses.

Feature	Technical Specification
Form Factor	Tower
Processors	Quad-core Intel® Xeon® processor 3400 series Dual-core Intel® Celeron® G1101 Intel® Pentium® G6950 Dual-core Intel® Core® i3 processor 500 series
Processor Sockets	1
Front Side Bus or HyperTransport	DMI (Direct Media Interface)
Cache	8MB
Chipset	Intel® 3400
Memory[1]	Up to 16GB (4 DIMM slots) 1GB/2GB/4GB DDR3 up to 1333MHz
I/O Slots	**4 PCIe G2 slots:** Two x8 slots One x4 slot One x1 slot
RAID Controller	**Internal:** PERC H200 (6Gb/s) SAS 6/iR PERC S100 (software based) PERC S300 (software based) **External HBAs (non-RAID):** 6Gbps SAS HBA LSI2032 PCIe SCSI HBA
Drive Bays	Up to four 3.5" SAS or SATA drives
Maximum Internal Storage	Up to 4TB
Hard Drives[1]	**Cabled Hard Drive Options:** 3.5" SAS (15K, 10K), nearline SAS (7.2K), SATA (7.2K)
Communications	Broadcom® NetXtreme® 5709 Dual Port Gigabit Ethernet NIC, Copper, w/TOE PCIe x4 Broadcom® NetXtreme® 5709 Dual Port Gigabit Ethernet NIC, Copper, TOE/iSCI PCIe x4 Intel® PRO/ 1000PT Single Port Adapter, Gigabit Ethernet NIC, PCIe x1 Intel® Gigabit ET Dual Port Adapter, Gigabit Ethernet NIC, PCIe x4
Power Supply	Single-cabled power supply (305W)
Availability	Quad-pack LED diagnostics, ECC Memory, add-in RAID, TPM/TCM
Video	Matrox® G200eW w/ 8MB memory
Remote Management	N/A
Systems Management	Dell™ OpenManage™ BMC, IPMI 2.0 compliant Unified Server Configurator
Operating Systems	Microsoft® Windows® Small Business Server 2011 Microsoft® Windows® Small Business Server 2008 Microsoft® Windows Server® 2008 R2 Foundation Microsoft® Windows Server® 2008 SP2, x86/x64 (x64 includes Hyper-V™) Microsoft® Windows Server® 2008 R2, x64 (includes Hyper-V™ v2) Microsoft® Windows® HPC Server 2008 Novell® SUSE® Linux® Enterprise Server Red Hat® Enterprise Linux® For more information on the specific versions and additions, visit www.dell.com/OSsupport.
Featured Database Application	Microsoft® SQL Server® solutions (see Dell.com/SQL)

* GB means 1 billion bytes and TB equals 1 trillion bytes; actual capacity varies with preloaded material and operating environment and will be less.
[2] Windows Server® 2008 R2 Foundation allows only 15 user accounts and requires certain Active Directory (AD) configurations. If not configured according to the product documentation, the software will generate warnings to correct the configuration. After a certain amount of time, the software will only run for one hour at a time until the configuration is corrected. For more information about these features review the product documentation located at: http://go.microsoft.com/fwlink/?LinkId=143551

Learn more at Dell.com/PowerEdge

Dell PowerConnect 6200 Series

Dell™ PowerConnect™ 6200 offers advanced switching capabilities including Power Over Ethernet (PoE), high-density, high-performance stacking and 10 Gigabit Ethernet capabilities scalable from the small business to the Enterprise Edge.

With 24 or 48 built-in copper Gigabit Ethernet ports in a 1U form factor, as well as a 24 port Fiber GbE version for backbone or long-haul connectivity, the PowerConnect 6200 series gives users the flexibility to maximize server and workstation connectivity in a 1U form factor. The switches also offer support up to four 10 Gigabit Ethernet uplinks for connectivity directly to 10GbE servers, enterprise backbones and distributed campus wiring closets (IDF and MDF).

High-performance stacking with 10GbE

The PowerConnect 6200 series supports high-performance resilient stacking for up to twelve systems and almost 2 Terabits of capacity in a single stack (each switch supports up to 184 Gbps in switch capacity). The unique modular design allows you to upgrade to advanced stacking or 10 Gigabit Ethernet only when you need it. Plus the 6200 series offers further flexibility with optional modules that allow for either 10 Gigabit copper interfaces, or both. The optional stacking interfaces allow for high availability stacking with sub-100ms failover times, even in the event of a master unit failure.

Advanced switching features with robust security

The PowerConnect 6200 series supports advanced Layer 3 routing and multicast protocols to help reduce congestion and manage traffic in the network. The PowerConnect 6200 series supports frequently used LAN routing protocols such as RIPv1/v2, OSPFv2/v3, VRRP, IGMP v1/v2/v3, DVMRP, PIM and LLDP-MED. The PowerConnect 6200 offers flexibility in Quality of Service (QoS) by giving network administrators the ability to prioritize time-critical Layer 2 or Layer 3 network traffic.

Support for L2-L4 Access Control Lists (ACLs) on the switch allows the user to perform deep packet inspection. 802.1x port authentication offers both single and multiple host access. Further security is provided through Denial of Service (DoS) Attack Prevention, whereby the switch can protect against common network attacks. PowerConnect 6200 switches are IPv6 ready.

Power Over Ethernet (PoE) support

The PowerConnect 6200 series PoE switches offer PoE-per-port support for power-dependent network applications including WLAN Access Points (WAPs), Voice over IP (VoIP) handsets, video conferencing and badge reading. The 6224P and 6248P switches can provide up to 15.4 watts of power for network-attached devices.

Lifetime Warranty*

Select PowerConnect switches are backed by an industry-leading, lifetime warranty which guarantees Basic Hardware Service (repair or replacement) for life. PowerConnect switches not only provide the quality, reliability and capability you expect from Dell, but also the peace of mind that comes with a true lifetime warranty.

Details at Dell.com/LifetimeWarranty

Product	Dell™ PowerConnect™ 6224 & 6224P	Dell ™ PowerConnect ™ 6224F	Dell ™ PowerConnect ™ 6248 & 6248P
Port types	24 10/100/1000BASE-T auto-sensing Gigabit Ethernet switching ports, 4 SFP combo ports for fiber media support, 10 Gigabit Ethernet uplink modules (optional) 6224P: Up to 15.4 watts per port (with optional external power supply) on all 24 ports	24 1000-SX or 1000-LX GigabitEthernet ports, 4 Combo (SFP or 10/100/1000) Gigabit Ethernet ports;Up to 4 10-Gigabit Ethernet Ports; Distances 1000BASE-SX: Up to 500m 1000BASE-LX: Up to 2 km	48 10/100/1000BASE-T auto-sensing Gigabit Ethernet switching ports,4 SFP combo ports for fiber media support, 10 Gigabit Ethernet uplink modules (optional) 6248P: Up to 15.4 watts per port (with optional external power supply) on all 48 ports
Port configuration	Resilient stacking up to 12 systems (with optional module); Auto-negotiation for speed, duplex mode and flow control; Auto MDI/MDIX; Port mirroring; Flow-based port mirroring; Broadcast storm control		
Performance	Switch Fabric Capacity 136 Gb/s Forwarding Rate 95 Mpps Up to 8,000 MAC Addresses		Switch Fabric Capacity 184 Gb/s Forwarding Rate 131 Mpps Up to 8,000 MAC Addresses
Availability	Spanning Tree (IEEE 802.1D) and Rapid Spanning Tree (IEEE 802.1w) with Fast Link Support; Multiple spanning trees (IEEE 802.1s); Supports Virtual Redundant Routing Protocol (VRRP); External redundant power support with PowerConnect RPS-600 (sold separately); Cable diagnostics; SFP transceiver diagnostics		
Layer 3 routing protocols	Static Routes; Routing Information Protocol (RIP) v1/v2; Open Shortest Path First (OSPF) v1/v2/v3; Classless Inter-Domain Routing (CIDR); Internet Control Message Protocol (ICMP); ICMP Router Discover Protocol (IRDP); Virtual Redundant Routing Protocol (VRRP); Address Resolution Protocol (ARP); Internet Group Management Protocol (IGMP) v2; Distance-Vector Multicast Routing Protocol (DVMRP)		
VLAN	VLAN support for tagging and port-based as per IEEE 802.1Q; Double VLAN tagging (QinQ); Up to 1024 VLANs supported; Dynamic VLAN with GVRP support		
Quality of service	Layer 2 Trusted Mode (IEEE 802.1p tagging); Layer 3 Trusted Mode (DSCP); Layer 4 Trusted Mode (TCP/UDP); Advanced Mode using Layer 2/3/4 flow-based Policies, including metering/rate limiting, marking and bandwidth guarantees; up to 100 ACLs can be used for QoS flow identification via Class-maps; 8 Priority Queues per Port; Adjustable Weighted-Round-Robin (WRR) and Strict Queue Scheduling; Port-based QoS Services Mode; Flow-based QoS Services Mode		
Layer 2 multicast	IGMP v1/v2/v3; Static IP Multicast; Dynamic Multicast Support – 256 Multicast groups supported in IGMP Snooping; IGMP snooping for IP multicast support; IGMP Querier, Protocol Independent Multicast (PIM-DM, PIM-SM)		
Security	IEEE 802.1x-based edge authentication; Switch access password protection; User-definable settings for enabling or disabling Web, SSH, Telnet, SSL management access; Port-based MAC Address alert and lock-down LLDP-MED; IP Address filtering for management access via Telnet, HTTP, HTTPS/SSL, SSH and SNMP; RADIUS and TACACS+ remote authentication for switch management access; Up to 100 Access Control Lists (ACLs) supported; up to 127 Access Control Entries (ACEs) per ACL; SSLv3 and SSHv2 encryption for switch management traffic; Management access filtering via Management Access Profiles		
Other switching features	Link Aggregation with support for up to 18 static aggregated links, 8 dynamic aggregated links per switch and up to 8 member ports per aggregated link; LACP support (IEEE 802.3ad); Link Layer Discovery Protocol support (IEEE 802.1AB); Support for unicast NLB (multicast NLB not supported)		
Management	Web-based management interface; Industry-standard CLI accessible via Telnet or Local Serial Port; SNMPv1, SNMPv2c and SNMPv3 supported; four RMON groups supported (history, statistics, alarms and events); TFTP transfers of firmware and configuration files; Dual firmware images on-board; Multiple configuration file upload/download supported; Statistics for error monitoring and performance optimization including port summary tables; BootP/DHCP IP address management supported; Syslog remote logging capabilities; Temperature sensors for environmental monitoring; iSCSI Auto Configuration		
Chassis	Approximate weight (without modules) 12.1lbs, 5.49 kg 440 x 387 x 43.2 mm (W x D x H) 17.3" x 15.2" x 1.7" 1U, rack-mounting kit included		Approximate weight (without modules) 12.87lbs, 5.84 kg 440 x 387 x 43.2 mm (W x D x H) 17.3" x 15.2" x 1.7" 1U, rack-mounting kit included
Environmental	Operating Temperature: 0° C to 45° C (0° F to 113° F), Storage Temperature: -20° C to 70° C (-4° F to 158° F)		
Power	Internal Power Supply Voltage AC 110/240 V +- 10% (50/60Hz) Power Consumption Max (Watts): 6224 (69.9W), 6224F (67.6W); 6224P (477W, if all ports drive PoE connections), 6248 (120W), 6248P (499W, if all ports drive PoE connections)		
Optional peripheral products	RPS-600 Redundant Power Supply EPS 470 Redundant Power Supply for POE models SFP Optical Transceivers, 1000BASE-SX, LC Connector SFP Optical Transceiver, 1000BASE-LX, LC Connector CX-4 Module (Max. length supported is 12 meters) XFP Module 10GBase -T Module Stacking Module with 1 Meter Dell Stacking cable 3 meter stacking cable		

*Select PowerConnect products carry a Lifetime Limited Warranty with Basic Hardware Service (repair or replacement) for life. Repair or replacement does not include troubleshooting, configuration, or other advanced service provided by Dell ProSupport. For more details see dell.com/warranty.

Learn more at Dell.com/PowerConnect

Tripp Lite
1111 West 35th Street
Chicago, IL 60609 USA
Telephone: +(773) 869 1234
E-mail: saleshelp@tripplite.com

Model #: SMART3000RMXL2U

SmartPro 3kVA Line Interactive Sine Wave UPS, 2880 watts, SNMPWEBCARD option, 2U Rack/Tower, USB, Serial, EPO, 120V

Highlights

- 3kVA / 3000VA / 2880W line interactive 2U rack/tower UPS; 0.96 power factor
- 120V nominal output during brownouts to 83V and overvoltages to 145V
- USB, RS232, EPO & optional SNMP/Web card are available for simultaneous use
- Front panel status LEDs with load level and battery capacity display
- Expandable runtime; 96% line-mode efficiency; 3 switched output load banks
- NEMA L5-30P input; 8 NEMA 5-15/20R & 1 L5-30R outlets

Description

3000VA / 3kVA 120V line interactive 2U rack / tower UPS offers complete network-grade power protection with full support for hot-replacement of separate internal battery and electronics modules. High .96 power factor supports loads up to 2880 watts. High efficiency rating of 96% reduces electrical operating cost and BTU emissions. Supports 120V 60Hz operation. Maintains battery derived sine wave AC output during power failures. Line-interactive dual-boost, single cut automatic voltage regulation (AVR) provides regulated 120V nominal output during brownouts and overvoltages. Includes NEMA L5-30P input plug and 9 UPS-supported output receptacles (8 x 5-15/20R, 1 x L5-30R). Includes two individually controllable switched outlets for advanced remote-reboot and load-shedding applications. Network-grade AC surge and noise suppression. Network management interfaces support simultaneous communications via USB, DB9 serial and card slot for optional SNMPWEBCARD and other card accessories. HID-compliant USB interface enables integration with built-in power management and auto shutdown features of Windows and Mac OS X. Supports detailed monitoring of equipment load levels, self-test data and utility power conditions via all three network interfaces at once. Advanced LED indicators offer 3-stage metering of UPS load and battery charge levels, plus single-LED status indicators for utility power, voltage regulation, on-battery and replace battery. Audible alarms provide notification of on-battery, low-battery and overload conditions. Includes PowerAlert auto-shutdown and management software for complete monitoring, reporting and logging of all site and UPS operational conditions, plus support for advanced configurations involving load-shedding, remote-reboot and redundant dual-UPS applications. Internal batteries offer runtime of 10 minutes half load (1440 watts) and 3 minutes at full load (2880 watts). Runtime is expandable with optional BP48V24-2U (limit 1) and BP48V60RT3U (unlimited) external battery packs. Supports installation in 4 post racks with included accessories. 2 post rackmount, wall mount and tower stand accessories sold separate.

Applications

Ideal for server, networking and telecommunications applications in rackmount, wallmount or tower format

Package Includes

- UPS power module with internal batteries
- PowerAlert Software with USB, DB9 and EPO cabling
- 4 post rackmount installation accessories
- Owner's manual

Features

- 3000VA / 3kVA 120V line interactive 2U rack / tower UPS for networks
- High power factor of .96 offers support for loads to 2880 watts
- High efficiency line power operation of 96% reduces UPS electrical operating cost and BTU emissions
- Supports selectable 120V nominal voltage operation at 60 Hz
- Sine wave AC output in AC and battery modes
- Line interactive UPS with Automatic Voltage Regulation (AVR)
- L5-30P input plug connects to 120V 30A utility receptacle
- Includes 9 UPS supported outlets (8 5-15/20R and 1 L5-30R)

- L5-30R outlet is ideal for the connection of a 120V 30A PDU to distribute the full UPS capacity to rack equipment
- Two designated 5-15/20R outlets are individually controllable to support remote reboot or automated load shedding of less critical items
- Network-grade 570 joule AC surge suppression
- USB, DB9 serial and card-slot accessory are all available for simultaneous use in advanced network configurations
- HID compliant USB interface enables integration with built-in power management and auto shutdown features of Windows and Mac OS X
- Includes PowerAlert auto-shutdown and management software for complete monitoring, reporting and logging of all site and UPS operational conditions, plus support for advanced configurations involving load-shedding, remote-reboot and redundant dual-UPS applications
- Advanced LED indicators offer 3-stage metering of UPS load and battery charge levels, plus single-LED status indicators for utility power, voltage regulation, on-battery and replace battery. Audible alarms provide notification of on-battery, low-battery and overload conditions
- Audible alarms provide notification of on-battery, low-battery and overload conditions
- Internal batteries offer runtime of 10 minutes half load (1440 watts) and 3 minutes at full load (2880 watts)
- Runtime is expandable with optional BP48V24-2U (limit 1) and BP48V60RT3U (no limit) external battery packs
- Some external battery configurations require the use of Tripp Lite's External Battery Configuration Software (see manual)
- Supports 4 post rackmount installation with included accessories; add 2POSTRMKITWM for 2 post and wallmount applications; add 2-9USTAND accessory for upright tower support

Specifications

OUTPUT	
Output Volt Amp Capacity (VA)	3000
Output kVA capacity (kVA)	3
Output Watt Capacity (watts)	2880
Output kW capacity	2.88
Output power factor	1
Nominal Output Voltage(s) Supported	120V
Frequency compatibility	60 Hz
Output voltage regulation (line mode)	120V (+6%, -14%)
Output voltage regulation (Battery mode)	+/-5%
Built-in UPS output receptacles	8 5-15/20R outlet(s); 1 L5-30R outlet(s)
Built-in controllable switched load banks	Two switchable single outlet 5-15/20R load banks
Output circuit breaker	15A (x2) - 4 5-15/20R outlets each; L5-30R outlet is non-breakered
Output AC waveform (AC mode)	Sine wave
Output AC waveform (battery mode)	Pure Sine wave
INPUT	
Rated input current (at maximum load)	24A
Nominal Input Voltage(s) Supported	120V AC
UPS input connection type	L5-30P

UPS Input cord length (ft.)	10 ft.
UPS Input cord length (m)	3.05
Recommended Electrical Service	30A 120V
Input cord length (ft.)	10
Input cord length (m)	3
BATTERY	
Full load runtime (minutes)	3 min. (2880w)
Half load runtime (minutes)	10 min. (1440w)
Expandable battery runtime	Extended runtime supported via optional external battery packs
External battery pack compatibility	BP48V24-2U (limit 1); BP48V60RT-3U (multi-pack compatible)
DC system voltage (VDC)	48
Battery recharge rate (included batteries)	Less than 5 hours to 90%
Replacement battery cartridge (internal UPS battery replacement)	RBC58-2U
Battery Access	Front panel battery access door
Battery replacement description	Hot-swappable, replaceable batteries
VOLTAGE REGULATION	
Voltage regulation description	Automatic voltage regulation (AVR) maintains line power operation with an input voltage range of 83 to 147
Overvoltage correction	Input voltages between 127 and 145 are reduced by 12%
Undervoltage correction	Input voltages between 108 and 96 are boosted by 12%
Severe undervoltage correction	Input voltages between 83 and 95 are boosted by 24%
LEDS ALARMS & SWITCHES	
LED Indicators	LEDs indicate line power, power fail, avr, load level and replace battery conditions; includes tri-color LED load and battery charge metering
Alarms	Audible alarm indicates on battery, low battery and overload warnings
Alarm cancel operation	Power-fail alarm can be silenced by pressing the on/test/mute switch
Switches	2 Switches control off/on power status and alarm-cancel/self-test operation, rear panel dipswitch controls low/high charger settings (see manual)
SURGE / NOISE SUPPRESSION	
UPS AC suppression joule rating	570 joules
EMI / RFI AC noise suppression	Yes

AC suppression response time	Instantaneous
PHYSICAL	
Installation form factors supported with included accessories	4 post 19 inch rackmount (mounting rail kit included)
Installation form factors supported with optional accessories	2 post rackmount (2POSTRMKITWM); Wallmount (2POSTRMKITWM); Tower (2-9USTAND)
Primary form factor	Rackmount
UPS / Power Module dimensions in primary form factor (height x width x depth / inches)	3.5 x 17.5 x 19
UPS / Power Module dimensions in primary form factor (height x width x depth / cm)	8.9 x 44.4 x 48.3
Installed whole system total rack space height (rack spaces)	2U
Secondary form factor	Tower (requires 2-9USTAND)
UPS / Power Module weight (lbs)	64
UPS / Power Module weight (kg)	29.1
UPS Shipping dimensions (height x width x depth / inches)	9 x 23.5 x 20
UPS Shipping dimensions (height x width x depth / cm)	22.9 x 59.7 x 50.8
Shipping weight (lbs)	72
Shipping weight (kg)	32.7
UPS housing material	Steel
Cooling method	Fan
ENVIRONMENTAL	
Operating Temperature Range	+32 to +104 degrees Fahrenheit / 0 to +40 degrees Celsius
Storage Temperature Range	+5 to +122 degrees Fahrenheit / -15 to +50 degrees Celsius
Relative Humidity	0 to 95%, non-condensing
AC mode BTU / hr. (full load)	433
Battery mode BTU / hr. (full load)	1594
COMMUNICATIONS	
Communications interface	USB (HID enabled); DB9 Serial; EPO (emergency power off); Slot for SNMP/Web interface

Network monitoring port description	Supports detailed monitoring of UPS and site power conditions
PowerAlert software	Included
Communications cable	USB, DB9 and EPO cabling included
LINE / BATTERY TRANSFER	
Transfer time	5 ms (line to battery) / 2 ms (battery to line)
Low voltage transfer to battery power (setpoint)	83
High voltage transfer to battery power (setpoint)	145
SPECIAL FEATURES	
Cold Start (startup in battery mode during a power failure)	Cold-start operation supported
High availability UPS features	Hot swappable batteries
Green & high efficiency features	Greater than 95% efficiency - GREEN UPS; Individually controllable load banks
CERTIFICATIONS	
UPS Certifications	Tested to UL1778 (USA); Tested to CSA (Canada); Tested to NOM (Mexico); Meets FCC Part 15 Category A (EMI)
WARRANTY	
Product Warranty Period (U.S., Canada & Puerto Rico)	2-year warranty, 3 year with registration. Note: registration is required for 3-year warranty.
Connected Equipment Insurance (U.S., Canada & Puerto Rico)	$250,000 Ultimate Lifetime Insurance

Related Items

Optional Products

Product Type	Related Model	Description	Qty.
Cables and Accessories	U022-010	10-ft. USB2.0 A/B Gold Device Cable (A Male to B Male)	1
Extended Warranties	WEXT5-2200-3000	5-Year Extended Warranty - For Smart Line-Interactive and Online Tower or Rack models, 2200-3000VA or less	1
External Battery Packs	BP48V24-2U	BP48V242U - External Battery Pack for UPS System	1
External Battery Packs	BP48V60RT-3U	External Battery Pack and Cable. 3U, Expandable, Blue 2-Point Connector	1
Power Distribution	PDU1220	Basic PDU / Power Distribution Unit - Safe, reliable power distribution for critical networking equipment	1
Power Distribution	PS7224-20	Tripp Lite Power Strip - Multiple outlets wherever you need them	1
Rack Accessories	SRSWITCH	Magnetic Door Switch Kit (2-pack for front and rear doors; requires ENVIROSENSE.)	1
Rackmount/Wallmount Kits	2POSTRMKITWM	Enables 2-Post Rackmount or Wallmount Installation of Select Rackmount UPS Systems	1

Replacement Batteries	RBC58-2U	2U UPS Replacement Battery Cartridge for select Tripp Lite UPS systems	1
SNMP Accessories	ENVIROSENSE	Monitors temperature, humidity and contact-closure inputs. (Requires SNMPWEBCARD or switched PDU.)	1
SNMP Accessories	SNMPWEBCARD	For remote monitoring and control via SNMP, Web, or Telnet.	1
Surge Protectors	DNET1	Network Surge Suppressor - Essential protection for data and communication lines	1
Surge Protectors	DTEL2	Network Surge Suppressor - Essential protection for data and communication lines	1
Tower Stands	2-9USTAND	Enables Tower Placement of Rackmount UPS Systems	1
UPS Accessories	MODBUSCARD	For remote monitoring and control via MODBUS protocol	1

More information, including related products, owner's manuals, and additional technical specifications, can be found online at www.tripplite.com/en/products/model.cfm?txtModelID=4418.

Tripp Lite
1111 West 35th Street
Chicago, IL 60609 USA
Telephone: +(773) 869 1234
E-mail: saleshelp@tripplite.com

Model #: SNMPWEBCARD

For remote monitoring and control via SNMP, Web, or Telnet.

Highlights

- NEW firmware version 12.04.0055 now available! - supports SNMPv3
- Internal SNMP/Web management accessory card
- Simple installation and setup
- Data Logging
- Event Logging
- Flash Upgradeable
- Scheduling
- Email Notification
- NOTE: Existing 12.04.0048, 12.04.0049, 12.04.0051 and 12.04.0052 cards can be upgraded to the new firmware to provide SNMPv3 support

Description

Tripp Lite's SNMPWEBCARD allows network users to operate any expansion slot-equipped Tripp Lite SmartPro or SmartOnline UPS as a managed device on the network. Enables remote monitoring and control of UPS and site electrical conditions using the SNMP network management platform or a web browser. Provides remote viewing of site electrical data, UPS status information and self-test logs. Supports selective rebooting of locked network equipment without disrupting power to other devices when used with customized load management receptacles available on select Tripp Lite UPS systems. Optional ENVIROSENSE module provides remote temperature/humidity monitoring and a dry contact interface to control and monitor alarm, security and telecom devices. NEW firmware version 12.04.0055 now available! - supports SNMPv3. Firmware is not applicable with cards running firmware version 12.04.0047 or earlier. NOTE: Existing 12.04.0048, 12.04.0049, 12.04.0051 and 12.04.0052 cards can be upgraded to the new firmware to provide SNMPv3 support

Applications

- Ideal for remote management and control of UPS and power data in LAN/WAN racks, computer rooms and datacenter environments

Package Includes

- SNMPWEBCARD
- Quick Start Installation Guide
- Configuration Cable
- Software CD including Owner's Manual & MIB files
- Cover Plates (secures card in UPS system's SNMP accessory slot)

Features

- NEW firmware version 12.04.0055 now available! - supports SNMPv3 - NOTE: Existing 12.04.0048, 12.04.0049, 12.04.0051 and 12.04.0052 cards can be upgraded to the new firmware to provide SNMPv3 support
- Makes any slot-equipped Tripp Lite UPS a managed device on the network, controllable using SNMP network management platforms or a web browser
- Web interface provides remote viewing of current site electrical data, UPS self-test and alert logs, as well as logged power events such as blackouts, brownouts, overvoltages, and other electrical problems
- Offers the ability to control UPS output power and remote reboot of locked network devices without interrupting power to other loads when used with any Tripp Lite UPS equipped with load management receptacles
- DHCP/Manual configuration support provides the ability to have network settings automatically assigned to the card, or manually assigned via permanent IP addresses
- 10/100 Mbps auto-sensing allows optimal communication compatibility with your current 10/100 Base-T network
- Real-time clock support maintains the time of day and date even if the UPS is shut down
- NTP (Network Time Protocol) support gives the card the ability to receive automatic updates to its real-time clock from a NTP server

- 2-tier level access allows an administrator and a guest to log into the web browser for monitoring and/or management of slot-equipped Tripp Lite UPS systems
- Multiple user support allows for viewing by a number of users at the same time
- Full Telnet access gives you the ability to remotely monitor and manage your UPS system via a TELNET session
- Optional SSL (Secure Socket Layer) security setting provides the capability to create an encrypted connection to the card via a web browser
- Offers the ability to shut down remote operating systems through your networks. (Supported operating systems must have Power Alert 12 installed. SeePowerAlert section for software support)
- Alert notifications via email or SNMP traps give users the added advantage of having an immediate event notification sent to them as a result of a site electrical or UPS problem.
- Protocols supported include HTTP, HTTPS, PowerAlert Network Management System, SMTP, SNMPv1, SNMPv2, Telnet, SSH, FTP, DHCP, BOOTP
- RoHS Compliant
- 2-year product warranty

Specifications

OVERVIEW	
Model Type	Hardware
WARRANTY	
Product Warranty Period (U.S., Canada & Puerto Rico)	2-year limited warranty

Related Items

Optional Products

Product Type	Related Model	Description	Qty.
Environmental Monitoring	ENVIROSENSE	Monitors temperature, humidity and contact-closure inputs. (Requires SNMPWEBCARD or switched PDU.)	1
Extended Warranties	WEXT3-SNMP	3-Year Extended Warranty - For All SNMP Products	1
Extended Warranties	WEXT5-SNMP	5-Year Extended Warranty - For All SNMP Products	1

More information, including related products, owner's manuals, and additional technical specifications, can be found online at www.tripplite.com/en/products/model.cfm?txtModelID=3968.

Cisco Aironet 1040 Series Access Points

Performance with Investment Protection
- Six times faster than 802.11a/g networks
- Backward-compatible with 802.11a/b/g clients

Easy Installation and Power Efficient
- 802.11n performance with existing PoE switches
- Sleek design blends into a variety of indoor environments

Secure Interoperability
- 802.11n compliant
- Intel Connect with Centrino Certified

Simplified Network Management
- Controller-based or standalone deployment options

Secure Connections
- Supports rogue access point detection and denial of service attacks
- Management frame protection detects malicious users and alerts network administrators

Greater Network Capacity
- Dynamic frequency selection 2 (DFS-2) compliant

Easy-to-Install, Multipurpose Mounting Bracket
- Designed for easy replacement of existing access points
- UL 2043 plenum rated for above ceiling installation options or suspended from drop ceilings
- Locks for theft protection

The Cisco® Aironet® 1040 Series Access Point is an enterprise-class, entry-level 802.11n access point designed to address the wireless connectivity needs of small and medium-sized enterprises.

Business Ready 802.11n Performance

With 2x2 multiple-input multiple-output (MIMO) technology providing at least six times the throughput of existing 802.11a/g networks, the Cisco Aironet 1040 Series offers the performance advantage of 802.11n enterprise-class quality at an entry-level price for small and medium-sized enterprises.

As part of the Cisco Unified Wireless Network, the 1040 Series provides low total cost of ownership and investment protection by integrating seamlessly with the existing network.

RF Excellence

Building on the Cisco Aironet heritage of RF excellence, the 1040 Series delivers secure and reliable wireless connections. Enterprise-class chipsets and optimized radios deliver a robust mobility experience with:

- Optimized antenna and radio designs: Consistent network transmit and receive for optimized rate versus range
- Radio resource management (RRM): Automated self-healing optimizes the unpredictability of RF to reduce dead spots and help ensure high-availability client connections

Environmentally Responsible

Designed for sustainability, the Cisco Aironet 1040 Series offers 802.11n performance with standard 802.3af Power over Ethernet (PoE). At only 12.95 watts of power, the 1040 Series combines the power of dual-radio 802.11n with the efficiency of standard PoE. The sleek industrial design of the 1040 Series blends seamlessly into any indoor enterprise environment.

For quicker staging and installation, you can order the 1040 Series in multiunit eco-packs, which offer 10 controller-based or 5 standalone access points in a single, easy-to-open carton. Eco-packs reduce product packaging by 50 percent, preserving natural resources and reducing emissions. By eliminating unnecessary components and offering digital instead of paper documentation, the 1040 Series eco-packs will save over 2200 trees per year, which is equal to the amount of power required to heat over 65 homes for an entire year.

The Cisco Aironet 1040 Series is a component of the Cisco Unified Wireless Network, which can scale to up to 18,000 access points with full Layer 3 mobility across central or remote locations on the enterprise campus, in branch offices, and at remote sites.

Cisco Aironet 1040 Series Access Points come with a Limited Lifetime Hardware Warranty that includes 10-day advance hardware replacement.

Product Specifications

Table 1 lists the product specifications for Cisco Aironet 1040 Series Access Points.

Table 1. Product Specifications for Cisco Aironet 1040 Series Access Points

Item	Specification			
Part Numbers	**Cisco Aironet 1040 Series Access Point** • AIR-LAP1042N-x-K9: Dual-band Controller-based 802.11a/g/n • AIR-LAP1041N-x-K9: Single-band Controller-based 802.11g/n • AIR-AP1042N-x-K9: Dual-band Standalone 802.11a/g/n • AIR-AP1041N-x-K9: Single-band Standalone 802.11g/n • AIR-LAP1042-xK9-10: Eco-pack (dual-band 802.11a/g/n) 10 quantity controller-based access points • AIR-AP1042-xK9-5: Eco-pack (dual-band 802.11a/g/n) 5 quantity standalone access points **Regulatory domains: (x = regulatory domain)** Customers are responsible for verifying approval for use in their individual countries. To verify approval and to identify the regulatory domain that corresponds to a particular country, please visit: http://www.cisco.com/go/aironet/compliance. Not all regulatory domains have been approved. As they are approved, the part numbers will be available on the Global Price List.			
Software	• Cisco Unified Wireless Network Software Release 7.0 or later • Cisco IOS® Software Release to follow (available in Q4CY10)			
802.11n	• 2x2 multiple-input multiple-output (MIMO) with two spatial streams • Maximal ratio combining (MRC) • 20- and 40-MHz channels • PHY data rates up to 300 Mbps • Packet aggregation: A-MPDU (Tx/Rx), A-MSDU (Tx/Rx) • 802.11 dynamic frequency selection (DFS) (Bin 5) • Cyclic shift diversity (CSD) support			
Data Rates Supported	**802.11a: 6, 9, 12, 18, 24, 36, 48, and 54 Mbps**			
	802.11g: 1, 2, 5.5, 6, 9, 11, 12, 18, 24, 36, 48, and 54 Mbps			
	802.11n data rates (2.4 GHz and 5 GHz):			
	MCS Index[1]	**GI[2] = 800ns**		**GI = 400ns**
		20-MHz Rate (Mbps)	**40-MHz Rate (Mbps)**	**20-MHz Rate (Mbps)**	**40-MHz Rate (Mbps)**
	0	6.5	13.5	7.2	15
	1	13	27	14.4	30
	2	19.5	40.5	21.7	45
	3	26	54	28.9	60
	4	39	81	43.3	90
	5	52	108	57.8	120
	6	58.5	121.5	65	135
	7	65	135	72.2	150
	8	13	27	14.4	30
	9	26	54	28.9	60
	10	39	81	43.3	90

[1] MCS Index: The Modulation and Coding Scheme (MCS) index determines the number of spatial streams, the modulation, the coding rate, and data rate values.
[2] GI: A Guard Interval (GI) between symbols helps receivers overcome the effects of multipath delays.

Item	Specification				
	11	52	108	57.8	120
	12	78	162	86.7	180
	13	104	216	115.6	240
	14	117	243	130	270
	15	130	270	144.4	300
Frequency Band and 20-MHz Operating Channels	**A Regulator Domain:** • 2.412 to 2.462 GHz; 11 channels • 5.180 to 5.320 GHz; 8 channels • 5.500 to 5.700 GHz, 8 channels (excludes 5.600 to 5.640 GHz) • 5.745 to 5.825 GHz; 5 channels **C Regulatory Domain:** • 2.412 to 2.472 GHz; 13 channels • 5.745 to 5.825 GHz; 5 channels **E Regulatory Domain:** • 2.412 to 2.472 GHz; 13 channels • 5.180 to 5.320 GHz; 8 channels • 5.500 to 5.700 GHz; 11 channels **I Regulatory Domain:** • 2.412 to 2.472 GHz, 13 channels • 5.180 to 5.320 GHz; 8 channels **K Regulatory Domain:** • 2.412 to 2.472 GHz; 13 channels • 5.180 to 5.320 GHz; 8 channels • 5.500 to 5.620 GHz; 7 channels • 5.745 to 5.805 GHz; 4 channels	**N Regulatory Domain:** • 2.412 to 2.462 GHz; 11 channels • 5.180 to 5.320 GHz; 8 channels • 5.745 to 5.825 GHz; 5 channels **P Regulatory Domain:** • 2.412 to 2.472 GHz; 13 channels • 5.180 to 5.320 GHz; 8 channels **S Regulatory Domain:** • 2.412 to 2.472 GHz; 13 channels • 5.180 to 5.320 GHz; 8 channels • 5.745 to 5.825 GHz; 5 channels **T Regulatory Domain:** • 2.412 to 2.462 GHz; 11 channels • 5.280 to 5.320 GHz; 3 channels • 5.500 to 5.700 GHz, 11 channels • 5.745 to 5.825 GHz; 5 channels			
Note: This varies by regulatory domain. Refer to the product documentation for specific details for each regulatory domain.					
Maximum Number of Nonoverlapping Channels	**2.4 GHz** • 802.11b/g: ◦ 20 MHz: 3 • 802.11n: • 20 MHz: 3	**5 GHz** • 802.11a: ◦ 20 MHz: 21 • 802.11n: ◦ 20 MHz: 21 • 40 MHz: 9			
Note: This varies by regulatory domain. Refer to the product documentation for specific details for each regulatory domain.					
Receive Sensitivity	**802.11b** -89 dBm @ 1 Mb/s -89 dBm @ 2 Mb/s -89 dBm @ 5.5 Mb/s -86 dBm @ 11 Mb/s	**802.11g** -84 dBm @ 6 Mb/s -84 dBm @ 9 Mb/s -84 dBm @ 12 Mb/s -84 dBm @ 18 Mb/s -83 dBm @ 24 Mb/s -81 dBm @ 36 Mb/s -76 dBm @ 48 Mb/s -75 dBm @ 54 Mb/s	**802.11a** -88 dBm @ 6 Mb/s -88 dBm @ 9 Mb/s -88 dBm @ 12 Mb/s -88 dBm @ 18 Mb/s -86 dBm @ 24 Mb/s -83 dBm @ 36 Mb/s -78 dBm @ 48 Mb/s -77 dBm @ 54 Mb/s		
	2.4-GHz **802.11n (HT20)** -86 dBm @ MCS0 -85 dBm @ MCS1 -84 dBm @ MCS2 -82 dBm @ MCS3 -78 dBm @ MCS4 -74 dBm @ MCS5 -72 dBm @ MCS6 -71 dBm @ MCS7 -85 dBm @ MCS8 -83 dBm @ MCS9 -81 dBm @ MCS10	**802.11n (HT40)** -83 dBm @ MCS0 -83 dBm @ MCS1 -81 dBm @ MCS2 -78 dBm @ MCS3 -75 dBm @ MCS4 -70 dBm @ MCS5 -69 dBm @ MCS6 -68 dBm @ MCS7 -83 dBm @ MCS8 -80 dBm @ MCS9 -78 dBm @ MCS10	**5-GHz** **802.11n (HT20)** -89 dBm @ MCS0 -89 dBm @ MCS1 -88 dBm @ MCS2 -85 dBm @ MCS3 -82 dBm @ MCS4 -77 dBm @ MCS5 -75 dBm @ MCS6 -74 dBm @ MCS7 -88 dBm @ MCS8 -87 dBm @ MCS9 -84 dBm @ MCS10	**5-GHz** **802.11n (HT40)** -76 dBm @ MCS0 -76 dBm @ MCS1 -76 dBm @ MCS2 -76 dBm @ MCS3 -76 dBm @ MCS4 -73 dBm @ MCS5 -71 dBm @ MCS6 -70 dBm @ MCS7 -74 dBm @ MCS8 -74 dBm @ MCS9 -74 dBm @ MCS10

Item	Specification			
	-78 dBm @ MCS11 -75 dBm @ MCS12 -71 dBm @ MCS13 -69 dBm @ MCS14 -68 dBm @ MCS15	-74 dBm @ MCS11 -71 dBm @ MCS12 -67 dBm @ MCS13 -65 dBm @ MCS14 -64 dBm @ MCS15	-81 dBm @ MCS11 -78 dBm @ MCS12 -73 dBm @ MCS13 -72 dBm @ MCS14 -70 dBm @ MCS15	-74 dBm @ MCS11 -74 dBm @ MCS12 -69 dBm @ MCS13 -67 dBm @ MCS14 -66 dBm @ MCS15
Maximum Transmit Power	**2.4GHz** • 802.11b ◦ 20 dBm with one antenna • 802.11g ◦ 20 dBm with two antenna • 802.11n (HT20) ◦ 20 dBm with two antennas ◦		**5GHz** • 802.11a ◦ 20 dBm with two antennas • 802.11n non-HT duplicate mode ◦ 20 dBm with two antennas • 802.11n (HT20) ◦ 20 dBm with two antennas • 802.11n (HT40) ◦ 20 dBm with two antennas	
Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.				
Available Transmit Power Settings	**2.4GHz** 20 dBm (100 mW) 17 dBm (50 mW) 14 dBm (25 mW) 11 dBm (12.5 mW) 8 dBm (6.25 mW) 5 dBm (3.13 mW) 2 dBm (1.56 mW) -1 dBm (0.78 mW)		**5GHz** 20 dBm (100 mW) 17 dBm (50 mW) 14 dBm (25 mW) 11 dBm (12.5 mW) 8 dBm (6.25 mW) 5 dBm (3.13 mW) 2 dBm (1.56 mW) -1 dBm (0.78 mW)	
Note: The maximum power setting will vary by channel and according to individual country regulations. Refer to the product documentation for specific details.				
Integrated Antenna	• 2.4 GHz, gain 4.0 dBi, horizontal beamwidth 360° • 5 GHz, gain 3.0 dBi, horizontal beamwidth 360°			
Interfaces	• 10/100/1000BASE-T autosensing (RJ-45) • Management console port (RJ-45)			
Indicators	• Status LED indicates boot loader status, association status, operating status, boot loader warnings, boot loader errors			
Dimensions (W x L x H)	• Access point (without mounting bracket): 8.7 x 8.7 x 1.84 in. (22.1 x 22.1 x 4.7 cm)			
Weight	• 2.3 lbs (1.04 kg)			
Environmental	• Nonoperating (storage) temperature: -22 to 185°F (-30 to 85°C) • Operating temperature: 32 to104°F (0 to 40°C) • Operating humidity: 10 to 90% percent (noncondensing)			
System Memory	• 128 MB DRAM • 32 MB flash			
Input Power Requirements	• AP1040: 44 to 57 VDC • Power Supply and Power Injector: 100 to 240 VAC; 50 to 60 Hz			
Powering Options	• 802.3af Ethernet Switch • Cisco AP1040 Power Injectors (AIR-PWRINJ4=) • Cisco AP1040 Local Power Supply (AIR-PWR-B=)			
Power Draw	• AP1040: 12.95 W Note: When deployed using PoE, the power drawn from the power sourcing equipment will be higher by some amount dependent on the length of the interconnecting cable. This additional power may be as high as 2.45W, bringing the total system power draw (access point + cabling) to 15.4W.			
Warranty	Limited Lifetime Hardware Warranty			

Item	Specification
Compliance	**Standards** • **Safety**: ◦ UL 60950-1 ◦ CAN/CSA-C22.2 No. 60950-1 ◦ UL 2043 ◦ IEC 60950-1 ◦ EN 60950-1 • **Radio approvals:** ◦ FCC Part 15.247, 15.407 ◦ RSS-210 (Canada) ◦ EN 300.328, EN 301.893 (Europe) ◦ ARIB-STD 33 (Japan) ◦ ARIB-STD 66 (Japan) ◦ ARIB-STD T71 (Japan) ◦ AS/NZS 4268.2003 (Australia and New Zealand) ◦ EMI and susceptibility (Class B) ◦ FCC Part 15.107 and 15.109 ◦ ICES-003 (Canada) ◦ VCCI (Japan) ◦ EN 301.489-1 and -17 (Europe) ◦ EN 60601-1-2 EMC requirements for the Medical Directive 93/42/EEC • **IEEE Standard:** ◦ IEEE 802.11a/b/g, IEEE 802.11n, IEEE 802.11h, IEEE 802.11d • **Security:** ◦ 802.11i, Wi-Fi Protected Access 2 (WPA2), WPA ◦ 802.1X ◦ Advanced Encryption Standards (AES), Temporal Key Integrity Protocol (TKIP) • **EAP Type(s):** ◦ Extensible Authentication Protocol-Transport Layer Security (EAP-TLS) ◦ EAP-Tunneled TLS (TTLS) or Microsoft Challenge Handshake Authentication Protocol Version 2 (MSCHAPv2) ◦ Protected EAP (PEAP) v0 or EAP-MSCHAPv2 ◦ Extensible Authentication Protocol-Flexible Authentication via Secure Tunneling (EAP-FAST) ◦ PEAPv1 or EAP-Generic Token Card (GTC) ◦ EAP-Subscriber Identity Module (SIM) • **Multimedia:** ◦ Wi-Fi Multimedia (WMM™) • **Other:** ◦ FCC Bulletin OET-65C ◦ RSS-102

Service and Support

Realize the full business value of your Cisco® Unified Wireless Network more quickly with intelligent, personalized services from Cisco and our partners. Cisco Services offer proven wireless architectures aligned to your business goals and tightly integrated with media-rich, real-time mobility applications. With our breadth and depth of expertise, we support your success every step of the way as you deploy, manage, and scale integrated wireless solutions for optimized performance, security, and management. Sharing knowledge and leading practices, we can help you create a secure, mobile, and interactive business environment to provide a foundation for innovation, agility, and differentiation.

Cisco recommends the following services for the Cisco Aironet 1040 Series Access Points implementation:

Cisco Wireless LAN 802.11n Readiness Assessment Service

Prevent common challenges and reduce deployment costs by determining the readiness of your wired and wireless infrastructure.

Cisco Wireless LAN 802.11n Migration Service

Simplify the migration to high-performance, next-generation 802.11n.

Cisco Wireless LAN Optimization Service

Evolve your 802.11n network to meet ever-changing network demands through planning and assessments, design, performance tuning, and ongoing support for system changes.

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