KVM Over the NET™

KN2124v/KN2140v/KN4124v/KN4140v • KN2132/KN4116/KN4132
KH1508i/KH1516i • KN2108/KN2116 • KN9108/KN9116

The KVM Over the NET™ series consists of IP-based KVM control units. They allow both local and remote operators to monitor and access multiple computers from remote locations using a standard Internet browser. Since KVM Over the NET™ products use TCP/ IP for their communications protocol, they can be accessed from any computer on the Net — whether that computer is located down the hall, down the street, or halfway around the world.

ALTUSEN offers a range of KVM Over the NET™ products. The KN9108 and KN9116 feature SPHD computer port connectors instead of the usual 25 pin connectors. The KH1508i, KH1516i, KN2108, KN2116, KN2132, KN4116, andKN4132 are all equipped with RJ-45 connectors – which allows them to use Cat 5e cable to link to the computers.

The new generation KN2124v/KN2140v/KN4124V/KN4140v series also uses RJ-45 connectors, but, in addition, brings more advanced features to meet enterprise data center needs. These switches use TCP/IP for their communications protocol, so remote operators can log in over the internet with their browsers. For added security, standalone Windows or Java GUI applications are provided for non-browser remote access. Java allows the switches to work with Sun Java Runtime Environment (JRE) enabled operating systems – ensuring multi-platform operability.

With advanced virtual media features, the KN2124v / KN2140v / KN4124v / KN4140v series let you map DVD/CD drives and other storage media to a remote server. This function allows you to conduct file transfers, install applications and OS patches, and perform diagnostics remotely. You can upgrade your entire installation from a single remote console located anywhere in the world. Also, Redundant Power support provides system reliability – the backup power system automatically takes over if the primary power system fails.

Standard Features

Multiple Sessions, Concurrent Access

KVM Over the Net switches allow up to 5 administrators – one logged in at a local console and the others logged in remotely from any IP-connected web browser – and up to 32 concurrent users to securely monitor, manage, troubleshoot, or run applications for up to 40 connected devices.

Configuration and Operation Ease

An easy-to-navigate graphical user interface makes for convenient, intuitive configuration and operation. A web-based implementation allows the remote equipment to be controlled from industry-standard web browsers. Windows and Java AP client software – using the same, convenient, GUI – are also included to provide access where a browser environment is not desired

Panel Array Mode

Panel array mode permits simultaneous monitoring of the video output of the installation's servers. Operators can monitor the screen display of four, nine, or even forty servers. Selecting the panels is easy using the intuitive graphical OSD (On Screen Display).

External Authentication Support

management from external sources. External authorization sources include CC Management, and RADIUS.

Message Board

To alleviate the problem of access conflicts arising from multiple logins, the Message Board functions like an Internet chat program, allowing users who are logged in to instantly communicate with each other.

Share Mode Support

Three types of Share Mode are available for each port: Exclusive, Occupy and Share, Exclusive: The first user to switch to the port has exclusive control over the port. Occupy: The first user to switch to the port has control over the port. Up to 32 users may view the port's video output. Share: Up to 32 users simultaneously share control.

Advanced Features

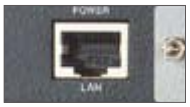
Dual NIC Design – Dual IP Configuration

The dual on-board NICs can be configured for Redundant LAN operation or Dual IP operation. If Redundant LAN is enabled, if the primary NIC goes offline, the secondary NIC seamlessly takes over. Under Dual IP operation, each NIC is assigned its own IP address – users can log in to either IP address when accessing.

Magic Panel

A special hideaway Control Panel to control and configure the appearance and operation of the OSD. The panel never interferes with your work area – it can be dragged to any convenient location; it can be iconized, made transparent, or even made to disappear – only to reappear when moused over.

Local console support



Remote access

External Power Over the NET™ available

Panel array mode

Advanced Features (Continued)

Full-screen or sizable remote desktop window

The remote desktop can appear full-screen, or in a window. In windowed mode, the display can be dynamically scaled by dragging the window borders or selecting pre-set percentages. In full-screen mode the remote desktop display scales to the full screen display size of the user's monitor.

Multi-Keyboard Language Support – On-Screen Keyboard

The switches supports multiple keyboard language input – including English, French, German, Italian, Spanish, Japanese, Korean, and Traditional Chinese. There is no need to have a separate keyboard for each language

Superior Video

With enhanced fps throughput for crisp responsive video display, the switches offer resolutions of up to 1600 x 1200 @ 60Hz; vibrant 24-bit color depth for rich remote session display.

Low Bandwidth Optimization

Video Quality, and Tolerance settings allow users to tailor the size of the video data stream to optimize throughput in low bandwidth situations.

Network Transfer Rate

This network setting allows you to streamline data throughput by adjusting the size of the data stream to match network traffic conditions.

Mouse DynaSync

DynaSync is the latest in KVM mouse synchronization. With USB mice and DynaSync, your local console mouse movement actually becomes the remote unit's mouse movement.

Dual Power Supply

The switches offer redundant power supplies so that if one power supply fails, the second power supply automatically takes over. In addition, if one server room power supply loses power, the switches will automatically adjust the power it draws from the second to keep functioning.

Independent Bus Switching

With Independent Bus Switching, if a user switches to a port that is being utilized by someone on a different bus, only the user that switches ports goes to the new port and the new bus – the other users remain on the original port and the original bus.

Virtual Media

Virtual Media support lets you map CD-ROMs and other storage media to a remote server. This function allows you to conduct file transfers, application and OS patches, and CD-ROM diagnostics remotely.

Adapter ID

The Adapter ID Function stores port information like the adapter ID, OS, keyboard language, adapter name, operation modes and more, so that when you move an adapter cable from one port to another, the switch recognizes the same adapter cable at the new location.

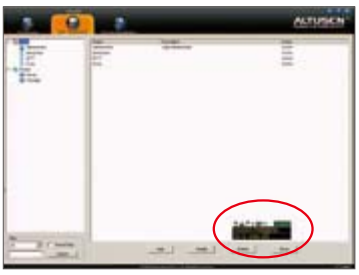
Green IT-Variable Fan Speed

The switches have support for four temperature sensors that can control up to six fans. The sensors regulate the fans to run at optimum speed, using energy more efficiently and prolonging the life of both the fans and the switch.

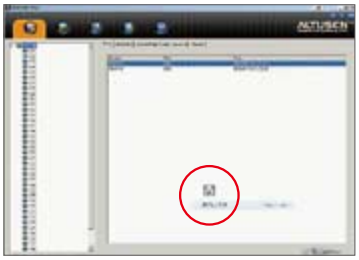
Audio Enabled

The switches are audio enabled. On the local unit, speakers and a microphone are supported; while remote units offer support for speakers only.

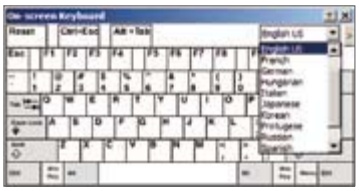
* Not all products support these features. Please see the comparison table for difference.



Magic Panel- Adjustable tool bar transparency



Magic Panel- Tool bar can be minimized to a desktop icon.

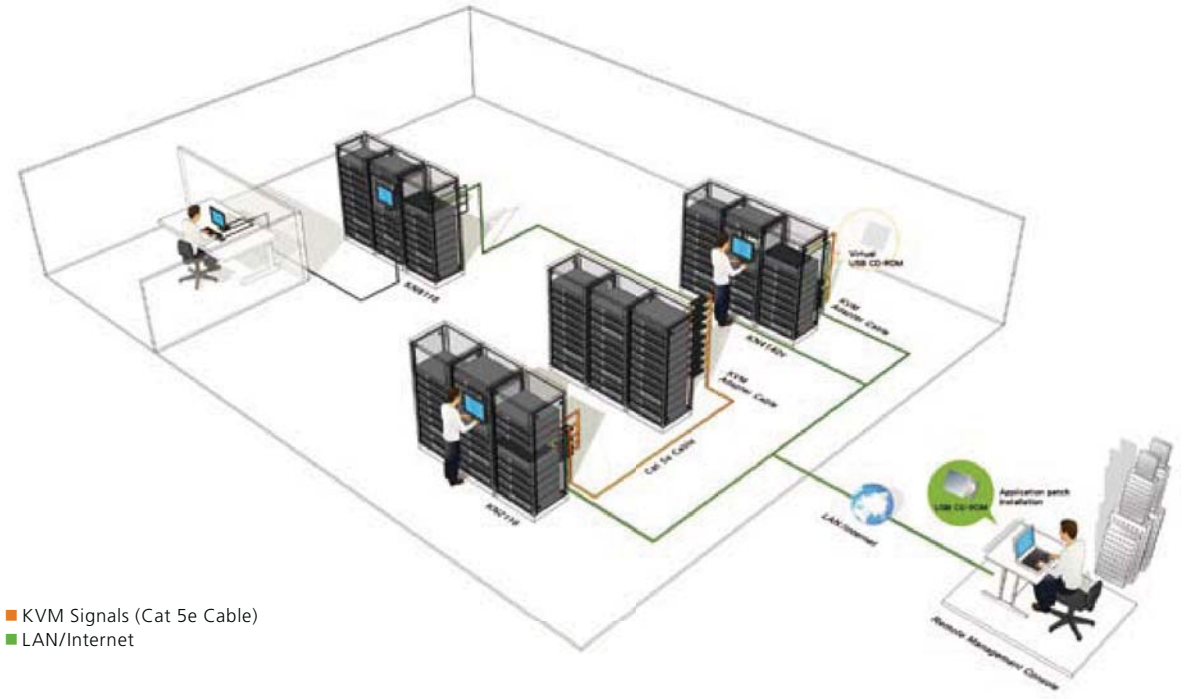


On-Screen Keyboard

Sizable remote desktop window

Application Diagram

KVM Over the NET™



■ KVM Signals (Cat 5e Cable)
■ LAN/Internet

Comparison Table

		KH1508i / KH1516i	KN2124v, KN2140v, KN4124v, KN4140v	KN2132 /KN4116 / KN4132	KN2108/KN2116	KN9108 / KN9116
Computer Connections	Direct	8/16	24/40	16/32	8/16	8/16
	Max.	128/256 Daisy-Chain	384/640* Cascade	256/512* Cascade	128/256* Cascade	64/128** Cascade
Multiple Sessions	Local	1 (share)	1	1	1	1
	Remote		2/4	2/4	2	1
Computer	Connector	RJ-45	RJ-45	RJ-45	RJ-45	SPHD-15
	Platform	PS/2, USB, Sun, Serial	PS/2, USB, Sun, Serial©	PS/2, USB, Sun, Serial©	PS/2, USB, Sun, Serial	PS/2, USB***, Sun****, Serial*****
Local Console		PS/2	PS/2, USB	PS/2, USB	PS/2	PS/2
Advanced Security		•	•	•	•	•
RADIUS Support		•	•	•	•	•
BIOS Level Control		•	•	•	•	•
Multi-level User Authorization		• (Remote)	•	•	•	•
Concurrent Access		32	32	32	32	32
User Accounts		64	64	64	64	64
Share Mode Support		•	•	•	•	•
Panel Array Mode		•	•	•	•	•
Log Server and Log Event		•	•	•	•	•
Detachable Front Panel						•
External PON		•	•	•	•	•
LDAP/AD			•	•		
External Modem Support			•	•		
On-Screen Keyboard Support			•	•		
Mouse DynaSync			•	•		
Remote Desktop Scaling			•	•		
Magic Control Panel			•	•		
Dual Power			•			
Virtual Media			•			
Audio			•			
Independent Bus Switching			•	• ******		
Adapter ID			•	• ******		
Green IT (Fan Speed)			•			

* Compatible KVM Switches: CS9134, CS9138, CS88A, KH1508, KH1516
** Compatible KVM Switches: CS9134, CS9138, CS88A
*** Custom KVM cables are available to allow PS/2 , and USB systems to exist on the same installation.
**** SUN to PS/2 converters are available to allow SUN systems to exist on the same installation.
***** Requires KA9140 Serial KVM Adapter Cable.
****** Available in Q2
©Requires KA9140 or KA7140 Serial KVM Adapter Cable
Depending on KVM Adapter Cable type

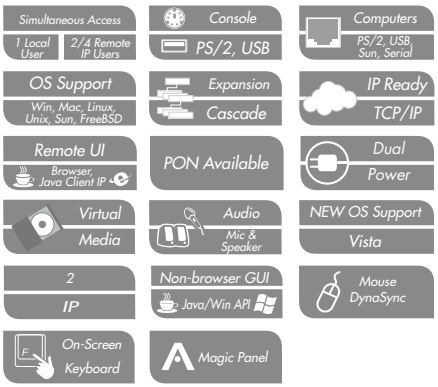
KN2124v/KN2140v/KN4124v/KN4140v

KVM Over the NET™

Cat 5 KVM Switch with 1 Local 2/4 Remote User Access

- Audio enabled
- Redundant power support
- Virtual Media support
- Fan speed adjusts according to temperature

NEW



Features

- Macro support (Exit and Settings) – User configurable combo-keys
- Adapter ID Function supported when moving adapter to a different port or switch
- Total web solution, administrators can log in from their browsers and perform administrative tasks without having Java or Active X installed.
- Flexible port switching- users can let the built-in viewer choose an Active X or Java session depending on their browser- or they can choose to always use Java even with an IE browser.
- Flexible encryption design- users can choose DES, 3DES, AES, RC4, or Random to encrypt KB/Mouse, video, and virtual media data independently of each other
- End Session feature: administrators can terminate running sessions
- Windows-based Log Server, event logging and Syslog support
- SNMP trap and SMTP alert notification; Private CA support
- RTC support to keep the timer running during times of no power
- PPP mode (Modem) dial-in/dial-back support – users can dial in/dial back and operate in low bandwidth mode
- Supports up to 5 bus sessions – 1 local and 2 (KN2124v / KN2140v) or 4 (KN4124v / KN4140v) remote administrators can simultaneously access separate ports
- 24, or 40 port over IP access – monitor and control up 24, or 40 computers on a single level, or control up to 640 computers in a two-level cascade*
- Two 10/100/1000 Mbps NICs for redundant LAN or two IP operation
- Two IP design supports 2 (KN2124v/KN2140v) or 4 (KN4124v/KN4140v) remote bus sessions
- Full-screen graphical OSD, Magic Control Panel and toolbars for convenient, user friendly operation
- Full-screen or sizable and scalable remote desktop window – in full-screen mode the remote desktop display scales to user's monitor display size
- Remote authentication support: RADIUS, LDAP, LDAPS, and MS Active Directory
- High video resolution: up to 1600 x 1200 @ 60Hz – 32 bit color depth for the local console; up to 1600 x 1200 @ 60Hz with 24 bit color depth for remote sessions
- Mouse DynaSync for USB mice- local and remote mouse movement are the same – no need to constantly resync the two movements.
- Multi-language support- English, German, Traditional Chiense, Simplified Chinese and Japanese.
- Browser access can be disabled – Windows and Java GUI AP programs provided for non-browser connectivity- Java works with practically all operating systems
- Panel Array Mode – view up to 40 ports at the same time, or view up to 42 ports for cascaded installations
- Software (On-screen) keybaord, ALTUSEN (CC) Control Center
- Bandwidth control – video quality and video tolerance can be adjusted to optimize data transfer speed – monochrome color depth setting and threshold and noise settings for compression of the data bandwidth in low bandwidth situations
- Advanced security features include password protection and advanced encryption technologies – 1024 bit RSA; 56 bit DES; 256 bit AES; and 128 bit SSL

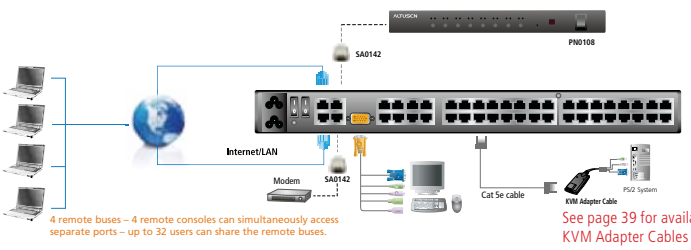
* Compatible KVM Switches: CS9134, CS9138, CS88A, KH1508, KH1516

Specifications

Function			KN2124v	KN2140v	KN4124v	KN4140v
Computer Connections		Direct	24	40	24	40
		Max	384* (via Cascade)	640* (via Cascade)	384* (via Cascade)	640* (via Cascade)
Console Connections		Local	1		1	
		Remote	2		4	
Port Selection			OSD, Hotkey, Pushbutton			
Connectors	Console Ports	Keyboard	1 x SPHD-18(M)			
		Video				
		Mouse				
	KVM Ports		24 x RJ-45 (F)	40 x RJ-45 (F)	24 x RJ-45 (F)	40 x RJ-45 (F)
	Power		2 x 3-prong AC Socket			
	LAN		2 x RJ-45 (F)			
	Modem		1 x RJ-45 (F)			
	USB		3 x USB (F)			
	PON		1 x RJ-45 (F)			
	Audio		2 x mini stereo			
Switches			2 x Power, Port Selection, Reset			
LEDs			On Line, Selected, Power, Link, 10/100/1000 Mbps			
Emulation		Keyboard/ Mouse	PS/2, USB (PC, Mac, Sun); Serial			
Video Resolution			1600 x 1200; DDC2B			
Scan Interval			1-255 Seconds			
I/P Rating			100-240 VAC; 50-60Hz; 1A			
Power Consumption			TBA			
Environment		Operating Temp.	0-50°C			
		Storage Temp.	-20-60°C			
		Humidty	0-80% RH, Non-condensing			
Physical Properties		Housing	Metal			
		Weight	5.99kg	6.08kg	6.04kg	6.12kg
		Dimensions	43.36 x 41.35 x 4.40 cm (19"/1U)			

Product specifications and appearance are subject to change without notice.

Setup



4 remote buses – 4 remote consoles can simultaneously access separate ports – up to 32 users can share the remote buses.

See page 39 for available KVM Adapter Cables

KVM Adapter Cables:

KVM Adapter Cables are necessary in KN2124v/ KN2140v/KN4124v/KN4140v installations

Connect to system with PS/2 ports	KA9120, KA7120
Connect to systems with USB ports (PC/Mac/Sun)	KA9170, KA7170
Connect to SUN Legacy systems (with 13W3 port)	KA9130, KA7130
Connect to serial based devices	KA9140, KA7140
Connect to systems with USB 2.0 ports	KA7175
Connect to systems with USB 2.0 ports + Audio	KA7176

KN2132/KN4116/KN4132

KVM Over the NET™

Cat 5 KVM Switch with 1 Local and 2/4 Remote User Access

Features

- Supports up to 5 bus sessions- 1 local and 2 (KN2132) or 4 (KN4116 / KN4132) remote administrators can simultaneously access separate ports
- 16 or 32 port over IP access – monitor and control up to 16 or 32 computers – up to 512 computers in a two-level cascade**
- Two 10/100/1000 Mbps NICs for redundant LAN or two IP operation (New)
- Two IP design supports 2 (KN2132) or 4 (KN4116/KN4132) remote sessions (New)
- Full-screen graphical OSD for the local console-local console port switching accomplished simply by clicking with the mouse (New)
- Full-screen or sizable and scalable remote desktop window – in full-screen mode the remote desktop display scales to user's monitor display size (New)
- Remote authentication support: RADIUS, LDAP, LDAPS, and Active Directory (New)
- Magic Control Panel (New)
- High video resolution: up to 1600 x 1200 @ 60Hz – 32 bit for the local console; up to 1600 x 1200 @ 60Hz for remote sessions (New)
- Mouse DynaSync for USB mice- local and remote mouse movement are the same- no need to constantly resync the two movements.
- Multi-language OSD support- English, German, Traditional Chinese, Simplified Chinese, and Japanese (New)
- Local console supports both PS/2 and USB keyboards and mice (combo console)
- Ports can be individually configured for Exclusive, Occupy, and Share modes
- RJ-45 connectors and CAT 5e cable for a neat and tidy, efficient installation- up to 40m between computer and switch
- Web-based Windows and Java implementations allow the switch to be accessed from an internet browser
- Browser access can be disabled – Windows and Java GUI AP programs provided for non-browser connectivity – Java works with practically all operating systems
- Panel Array Mode – view up to 32 ports at the same time – up to 42 ports for cascaded installations
- Software (On-screen) keyboard, Altusen CC (Control Center) support
- External modem support for PPP dial in- remote users can dial in and operate in low bandwidth mode
- Bandwidth control – Video quality and video tolerance can be adjusted to compensate for bandwidth variations in order to optimize data transfer Speed
- Windows-based Log Server
- Multi platform support- (Win, Linux, Sun) and VT100 based serial devices KVM Adapters provide multi interface access – PS/2, USB, SUN and RS-232
- Supports 10Base-T, 100Base-T, 1000Base-T, Auto-Sense, TCP/IP, HTTP, DNS, DHCP, PPP, UDP, ARP, Ping
- Multi-level authentication: super administrator; administrator; user; viewer – no limit on the number of each type
- Advanced security features include password protection and advanced encryption technologies – 1024 bit RSA; 56 bit DES; 256 bit AES; and 128 bit SSL
- BIOS level troubleshooting

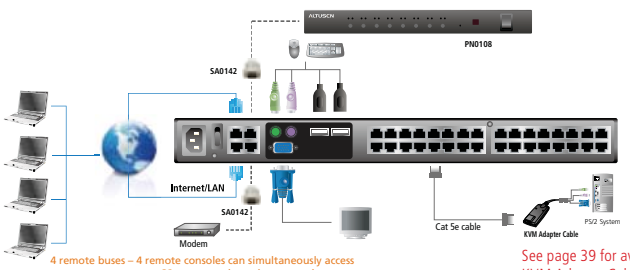
** Compatible KVM Switches: CS9134, CS9138, CS88A, KH1508, KH1516

Specifications

Function			KN2132	KN4116	KN4132
Computer Connections		Direct	32	16	32
		Max	512* (via Cascade)	256* (via Cascade)	512* (via Cascade)
Console Connections		Local	1	1	1
		Remote	2	4	4
Port Selection			OSD, Hotkey, Pushbutton		
Connectors	Console Ports	Keyboard	1 x PS/2 / 1 x USB (F)		
		Video	1 x HDB-15 (F)		
		Mouse	1 x PS/2 / 1 x USB (F)		
	KVM Ports		32 x RJ-45 (F)	16 x RJ-45 (F)	32 x RJ-45 (F)
	Power		1 x 3-prong AC Socket		
	LAN		2 x RJ-45 (F)		
	Modem		1 x RJ-45 (F)		
	USB		3 x USB (F)		
	PON		1 x RJ-45 (F)		
Switches			Power, Port Selection, Reset		
LEDs			On Line, Selected, Power, Link, 10/100/1000 Mbps		
Emulation	Keyboard/Mouse		PS/2, USB (PC, Mac, Sun); Serial		
Video Resolution			1600 x 1200; DDC2B		
Scan Interval			1-255 Seconds		
I/P Rating			100-240 VAC; 50-60Hz; 1A		
Power Consumption			110V/33.40W 230V/33.60W	110V/39.60W 230V/40.00W	110V/45.80W 230V/46.60W
Environment		Operating Temp.	0-50°C		
		Storage Temp.	-20-60°C		
		Humidty	0-80% RH, Non-condensing		
Physical Properties		Housing	Metal		
		Weight	5.59 kg	5.52 kg	5.63 kg
		Dimensions	43.36 x 41.35 x 4.40 cm (19"/1U)		

Product specifications and appearance are subject to change without notice.

Setup



4 remote buses – 4 remote consoles can simultaneously access separate ports – up to 32 users can share the remote buses.

See page 39 for available KVM Adapter Cables

KVM Adapter Cables:

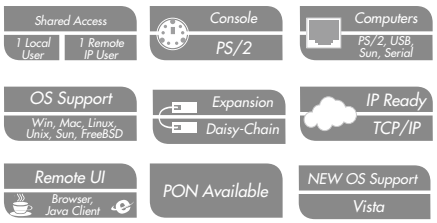
KVM Adapter Cables are necessary in KN4132 installations.

Connect to systems with PS/2 ports	KA9120,KA7120
Connect to all systems with USB ports (PC/Mac/Sun)	KA9170,KA7170
Connect to Sun Legacy systems (with 13W3 port)	KA9130,KA7130
Connect to Serial based devices	KA9140,KA7140

KH1508i/KH1516i

Cat 5 High-Density KVM Over the NET™

Cat 5 KVM Switch with 1 Local/Remote User Access



Features

- 8/16-port remote access KVM switch – monitor and control up to 8/16 computers from a single KVM (Keyboard, Video, Mouse) console
- Remotely access computers via LAN, WAN, or the Internet; control your installation when and where you want
- Internet browser access; Windows client and Java client provided; Java client works with most operating systems
- No software required – convenient computer selection via port selection switches, hotkeys and intuitive On Screen Display (OSD) menus
- Supports all major server platforms and VT100 based serial devices
- Supports multiplatform server environments including PS/2, USB, Sun, and Serial
- RJ-45 connectors allow a full 16 port implementation – Cat 5e cable reduces cable bulk
- Dedicated chain ports – daisy-chain up to 15 additional units – control up to 256 computers from a single console
- Extends the distance between computers and switch – up to 40 m
- Up to 64 user accounts – up to 32 concurrent logins
- Panel Array Mode – view all 8 or 16 ports at the same time
- Message board feature allows logged in users to communicate with each other and allows a user to take exclusive control of the KVM functions
- Windows-based Log Server
- Remote power control for attached Power Over the NET™ devices
- Three-level security – multi-administrator, multi-user, and multi-viewer
- Advanced security features include password protection and advanced encryption technologies – 1024-bit RSA, 256-bit AES, 56-bit DES, and 128-bit SSL
- RADIUS server support
- Firmware upgradeable
- Network Interfaces – TCP/IP, HTTP, HTTPS, UDP, RADIUS, DHCP, SSL, ARP, DNS, 10Base- T/100Base-TX, auto sense, Ping
- High video resolution – up to 1600 x 1200 @ 60Hz

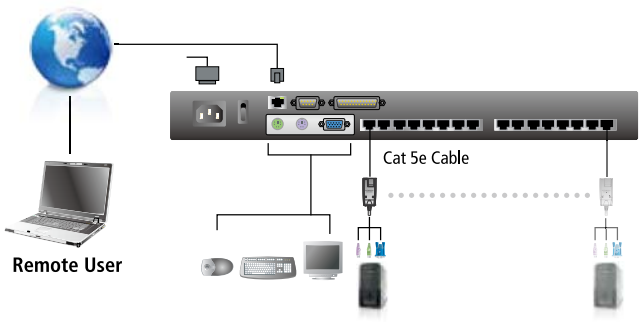
* Compatible KVM Switches: ACS1208A, ACS1216A, KH1508, KH1516

Specifications

Function			KH1508i	KH1516i
Computer Connections		Direct	8	16
		Max.	128* (via Daisy-chain)	256* (via Daisy-chain)
Port Selection			OSD, Hotkey, Pushbutton	
Connectors	Console Ports	Keyboard	1 x PS/2 (F)	
		Video	1 x HDB-15 (F)	
		Mouse	1 x PS/2 (F)	
	KVM Ports		8 x RJ-45 (F)	16 x RJ-45 (F)
	Daisy-Chain Ports		1 x DB-25 (M)	
	Power		1 x 3-prong AC Socket	
	LAN		1 x RJ-45 (F)	
	PON		1 x DB-9 (M)	
Switches			Reset, Power, Port Selection, F/W Upgrade	
LEDs			On Line, Selected, Power, Station ID, Link, 10/100Mbps	
Emulation	Keyboard/Mouse		PS/2; USB(PC, Mac, Sun); Serial	
Video Resolution	Local		1600 x 1200@60Hz (30m)	
	Remote		1280 x 1024@75Hz	
Scan Interval			1–255 Seconds	
I/P Rating			100–240V AC; 50/60Hz	
Power Consumption			120V/12W; 230V/12W	
Environment	Operating Temp.		0–50° C	
	Storage Temp.		-20–60° C	
	Humidity		0–80% RH; Non-condensing	
Physical Properties	Housing		Metal	
	Weight		2.80 kg	
	Dimensions (L x W x H)		43.72 x 16.10 x 4.40 cm (19"/ 1U)	

Product specifications and appearance are subject to change without notice.

Setup



KVM Adapter Cables:

KVM Adapter Cables are necessary in KH1508i/KH1516i installations.

Connect to systems with PS/2 ports	KA9520
Connect to systems with USB ports	KA9570
Connect to Sun Legacy systems (with 13W3 port)	KA9130
Connect to all systems with USB ports (PC/Mac/Sun)	KA9170
Connect to Serial based devices	KA9140

KN2108/KN2116

8/16-Port KVM Over the NET™

Cat 5 KVM Switch with 1 Local 2 Remote User Access

TAIWAN EXCELLENCE 2006

Simultaneous Access: 1 Local User, 2 Remote IP Users
Console: PS/2
Computers: PS/2, USB, Sun, Serial
OS Support: Win, Mac, Linux, Unix, Sun, FreeBSD
Expansion: Cascade
IP Ready: TCP/IP
Remote UI: Browser, Java Client
PON Available

Features

- 8/16-port remote access KVM switch – monitor and control up to 8/16 computers from a single KVM (Keyboard, Video, Mouse) console
- Remotely access computers via LAN, WAN, or the Internet; control your installation when and where you want
- Supports 3 bus sessions – 1 Local and 2 Remote administrators can simultaneously access separate ports
- Internet browser access; Windows client and Java client provided; Java client works with most operating systems
- Graphical OSD and graphical toolbars for convenient, user friendly operation
- Supports all major server platforms and VT100 based serial devices
- Supports multiplatform server environments including PS/2, USB, Sun, and Serial
- RJ-45 connectors allow a full 16 port implementation – Cat 5e cable reduces cable bulk
- Cascadable up to 2 levels* – provides up to 128/256 computers
- Extends the distance between computers and switch – up to 40 m
- Up to 64 user accounts – up to 32 concurrent logins
- Panel Array Mode – view all 8 or 16 ports at the same time
- Message board feature allows logged in users to communicate with each other and allows a user to take exclusive control of the KVM functions
- Windows-based Log Server
- Remote power control for attached Power Over the NET™ devices
- Three-level security – multi-administrator, multi-user, and multi-viewer
- Advanced security features include password protection and advanced encryption technologies – 1024-bit RSA, 256-bit AES, 56-bit DES, and 128-bit SSL
- RADIUS server support
- Flash upgradeable firmware over the network connection
- Ports can be set to Exclusive, Occupy and Share
- Network Interfaces – TCP/IP, HTTP, HTTPS, UDP, RADIUS, DHCP, SSL, ARP, DNS, 10Base- T/100Base-TX, auto sense, Ping.
- Detachable front panel for easy access to front and rear of unit
- High video resolution – up to 1280 x 1024 @ 60Hz

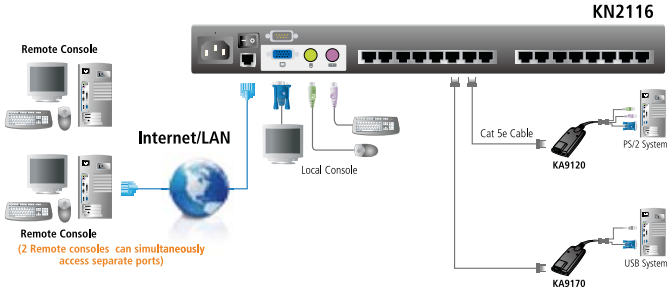
* Compatible KVM Switches: CS9134, CS9138, CS88A, KH1508, KH1516.

Specifications

Function			KN2108	KN2116
Computer Connections	Direct		8	16
	Max.		128* (via Cascade)	256* (via Cascade)
Console Connections	Local		1	
	Remote		2	
Port Selection			OSD, Hotkey, Pushbutton	
Connectors	Console Ports	Keyboard	1 x PS/2 (F)	
		Video	1 x HDB-15 (F)	
		Mouse	1 x PS/2 (F)	
	KVM Ports		8 x RJ-45 (F)	16 x RJ-45 (F)
	Power		1 x 3-prong AC Socket	
	LAN		1 x RJ-45 (F)	
	PON		1 x DB-9 (M)	
Switches			Reset, Power, Port Selection,	
LEDs			On Line, Selected, Power, Link, 10 / 100 Mbps	
Emulation	Keyboard/Mouse		PS/2; USB(PC, Mac, Sun); Serial	
Video Resolution			1280 x 1024 @60Hz	
Scan Interval			1–255 Seconds	
I/P Rating			100–240 VAC; 50/60Hz; 1A	
Power Consumption			120V/12 W ; 230V/ 12W	
Environment	Operating Temp.		0–40°C	
	Storage Temp.		-20–60°C	
	Humidity		0–80% RH, Non-condensing	
Physical Properties	Housing		Metal	
	Weight		3.65 kg	3.70 kg
	Dimensions (L x W x H)		43.36 x 28.40 x 4.40 cm (19"/1U)	

Product specifications and appearance are subject to change without notice.

Setup



KVM Adapter Cables:

KVM Adapter Cables are necessary in KN2108/KN2116 installations.

Connecs to systems with PS/2 ports	KA9120
Connecs to all systems with USB ports (PC/Mac/Sun)	KA9170
Connecs to Sun Legacy systems (with 13W3 port)	KA9130
Connecs to Serial based devices	KA9140

KVM Adapter Cables

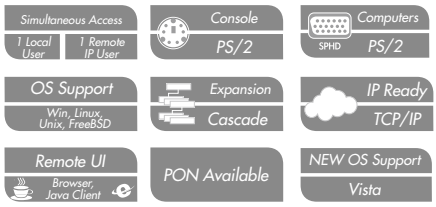
The following KVM Adapter cables are required for use with the KVM Over the NET Switches:

Model No.		Function	Interface	Compatible Products
KA9120		Connect to system with PS/2 ports	6-pin Mini-DIN Male 6-pin Mini-DIN Male HDB-15 Male	KN2124v, KN2140v, KN4124v, KN4140v, KN2132, KN4116, KN4132, KN2108, KN2116
KA7120				KN2124v, KN2140v, KN4124v, KN4140v, KN2132, KN4116, KN4132
KA9520				KH1508i, KH1516i
KA9170		Connect to systems with USB ports	USB Type A Male HDB-15 Male	KN2124v, KN2140v, KN4124v, KN4140v, KN2132, KN4116, KN4132, KN2108, KN2116
KA7170				KN2124v, KN2140v, KN4124v, KN4140v, KN2132, KN4116, KN4132
KA9570				KH1508i, KH1516i
KA7130		Connect to SUN Legacy systems (with 13W3 port)	13W3 Male 8-pin Mini-DIN Male	KN2124v, KN2140v, KN4124v, KN4140v
KA9130				KN2124v, KN2140v, KN4124v, KN4140v, KN2132, KN4116, KN4132, KN2108, KN2116, KH1508i, KH1516i
KA7140		Connect to serial based devices	RS-232 DB-9 Female	KN2124v, KN2140v, KN4124v, KN4140v, KN2132, KN4116, KN4132
KA9140		Connect to serial based devices	RS-232 DB-9 Female	KN2124v, KN2140v, KN4124v, KN4140v, KN2132, KN4116, KN4132, KN2108, KN2116, KN9108, KN9116, KH1508i, KH1516i
KA7175		Connect to systems with USB 2.0 ports	USB Type A Male HDB-15 Male	KN2124v, KN2140v, KN4124v, KN4140v
KA7176		Connect to systems with USB 2.0 ports + Audio	USB Type A Male HDB-15 Male 2 Audio Plugs	KN2124v, KN2140v, KN4124v, KN4140v

KN9108/KN9116

8/16-Port KVM Over the NET™

PS/2 KVM Switch with 1 Local 1 Remote User Access



Features

- 8/16-port remote access KVM switch – monitor and control up to 8/16 computers from a single KVM (Keyboard, Video, Mouse) console
- Remotely access computers via LAN, WAN, or the Internet – control your installation when and where you want
- Dual-bus – one local and one remote administrator can simultaneously control separate ports
- Internet browser access, Windows Client and Java Client provided; Java Client works with most operating systems
- Graphical OSD and graphical toolbars for convenient, user-friendly operation
- Cascadable up to 2 levels* – provides up to 64/128 computers
- Up to 64 user accounts – up to 32 concurrent logins
- Panel Array Mode – view all 8 or 16 ports at the same time
- Message board feature allows logged in users to communicate with each other and allows a user to take exclusive control of the KVM functions
- Windows-based Log Server
- Remote power control for attached Power Over the NET™ devices
- Three-level security – multi-administrator, multi-user, and multi-viewer
- Advanced security features include password protection and advanced encryption technologies – 1024-bit RSA, 256-bit AES, 56-bit DES, and 128-bit SSL
- RADIUS server support
- Flash upgradable firmware over network connection
- Ports can be set to Exclusive, Occupy and Share
- Network Interfaces – TCP/IP, HTTP, HTTPS, UDP, RADIUS, DHCP, SSL, ARP, DNS, 10Base- T/100Base-TX, auto sense, Ping.
- Detachable front panel for easy access to front and rear of unit
- High video resolution – up to 1280 x 1024 @ 75Hz; 1600 x 1200 @ 60Hz

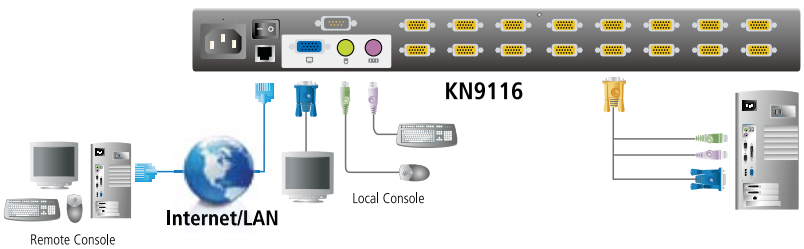
* Compatible KVM Switches: CS9134, CS9138, CS88A.

Specifications

Function			KN9108	KN9116
Computer Connections	Direct		8	16
	Max.		64 (via Cascade)*	128 (via Cascade)*
Console Connections	Local		1	
	Remote		1	
Port Selection			OSD, Hotkey, Pushbutton	
Connectors	Console Ports	Keyboard	1 xPS/2 (F)	
		Video	1 x HDB-15 (F)	
		Mouse	1 x PS/2 (F)	
	KVM Ports		8 x SPHD-15 (F)	16 x SPHD-15 (F)
	Power		1 x 3-prong AC Socket	
	LAN		1 x RJ-45 (F)	
	PON		1 x DB-9 (M)	
Switches			Reset, Power, Port Selection	
LEDs			On Line, Selected, Power, Link, 10 / 100 Mbps	
Emulation	Keyboard/Mouse		PS/2	
Video Resolution			1600 x 1200 @60Hz; DDC2B	
Scan Interval			1–255 Seconds	
I/P Rating			100–240 VAC; 50/60Hz; 0.25A	
Power Consumption			120V/12 W ; 230V/ 12W	
Environment	Operating Temp.		0–40 °C	
	Storage Temp.		-20–60 °C	
	Humidity		0–80% RH, Non-condensing	
Physical Properties	Housing		Metal	
	Weight		4.00 kg	4.20 kg
	Dimensions (L x W x H)		43.72 x 26.00 x 4.40 cm (19"/1U)	

Product specifications and appearance are subject to change without notice.

Setup



Detachable front panel

Port Up/Port Down pushbuttons

Custom SPHD connectors

Power Over the NET™

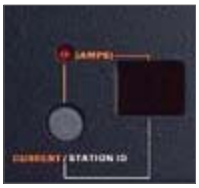
PN0108 • PN9108

Power Over the NET™ products are control units that offer remote power management for up to eight devices (computers, hubs, routers, etc.). The PN9108, for example, supports remote power management for AC outlets via a TCP/IP connection, while the PN0108 can be connected to an ALTUSEN or ATEN TCP/IP accessible module via its PON (RS-232) port. Both models allow administrators to control the power off, power on, and reboot status for each attached device from any computer connected to the Internet, whether down the hall, or half way around the world.

The power status of each outlet can be set individually, allowing users to establish on/off schedules for each device. Up to 15 additional Stations can be daisy-chained down from the original one, providing remote power management for up to 128 devices. Installation and operation is fast and easy: plugging cables into their appropriate ports and simple GUI management is all that is entailed.

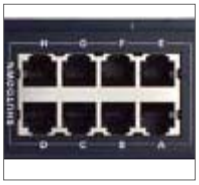
Since the Power Over the NET™ firmware is upgradable, you can stay current with the latest functionality improvements simply by downloading firmware updates from our website as they become available. With its advanced features and ease of operation, Power Over the NET™ products are the most convenient, reliable, cost effective way to remotely manage power access for multiple computer installations.

■ Expandability



■ Station ID LED display

■ Power control buttons two function choices: Remote Access Enabled/ Disabled; Power On/Off (Local Mode)



■ Safe Shutdown Ports Safe shutdown and rebooting for Windows NT, 2000, XP and 2003 Server

Robust power management features

ALTUSEN's Power Over the NET™ products are equipped with eight hot pluggable ports for easy server room management. Each port can be individually controlled so that users can set the power On sequence and delay time for each port so that equipment to can be turned on in the proper order. On/Off scheduling allows administrators to start, shutdown, and restart times on a daily, weekly, or monthly basis.

Expansion

To control even more devices, up to 15 additional stations can be daisy-chained. We at ALTUSEN understand that your business may start conservatively and need to expand over time. Daisy chain expansion allows you to manage a small number of devices in the beginning, and easily add on when your business needs increase. As many as 128 stations can be added using specific ports built-in to the PN0108/ PN9108. No outlets are lost as the result of daisy chaining. ALTUSEN's Power Over the NET™ products offer flexible solutions for businesses of all sizes. More importantly, they offer solutions for your future.

Overcurrent Protection

An intuitive, user friendly GUI enables users to monitor the current status of the devices on their installation remotely*, using any standard Internet browser. Built in overcurrent protection and recovery saves our money by eliminating costly onsite service calls. With Power Over the NET™ products, you have the ability to access your server room any time and deal with any situation that may occur – entirely immediately and effectively.

OOBC (Out of Band Configuration)

In case the LAN that the Power Over the NET™ device resides on goes down, or it cannot be accessed with the browser for some other reason, OOBC allows you to use the RS-232 interface to access it – either locally or via dial in modem – so that you can still manage all the connected devices. With it's advanced features and ease of operation, Power Over the NET™ is the most convenient, reliable and cost effective way to remotely manage your server room's power requirements.*

Authentication Network Management Service

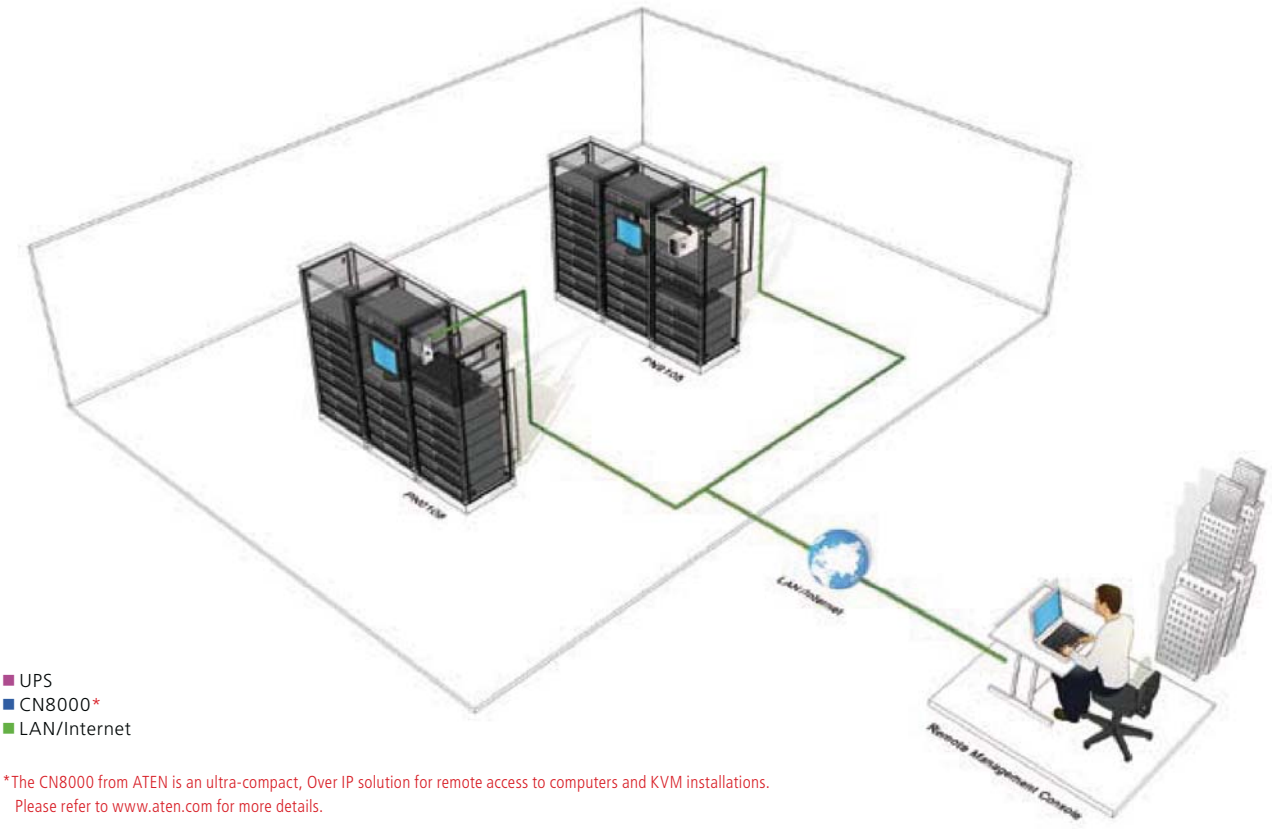
ANMS (Authentication Network Management Service) supports login authorization management from external sources. External authorization sources include CC Management**, RADIUS, and SNMP settings.

* The PN0108 is not a stand-alone unit; it must be connected to an ATEN or ALTUSEN TCP/IP accessible module to access these features.

**Allows authorization for the Power Over the NET™ products via a Control Center server (CC2000).

Application Diagram

Power Over the NET™



- UPS
- CN8000*
- LAN/Internet

*The CN8000 from ATEN is an ultra-compact, Over IP solution for remote access to computers and KVM installations. Please refer to www.aten.com for more details.

Comparison Table

	PN0108	PN9108
Power Outlets	8	8
Daisy-Chain	●	●
Power Control Button	●	●
Safe Shutdown Ports	●	●
Overcurrent Protection	●	●
RS-232 Port*		●
TCP/IP accessible module Built In		●
Detachable front Panel		●
Current Display		●

*Supports UPS, modem, or PC terminal connections.

PN0108

8-Port Power Over the NET™

Expansion Daisy-Chain | Remote UI Browser, Java Client | NEW OS Support Vista

Features

- Remote power on / off / reboot control for eight outlets via TCP/IP and a built in RS-232 PON (Power Over the NET™) port
- Local power on / off / reboot control via the PN0108's PON port to the computer's RS-232 port
- Daisy-chain up to 15 additional stations to control up to 128 outlets
- Manual switching between Local and Remote access for each port via front panel push button switches
- Individual control of each port – users can set the power on sequence and delay time for each port to allow equipment to be turned on in the proper order
- Easy setup and operation via a GUI interface
- Provides three configuration/management methods: Browser; Telnet; or Console Terminal
- Safe shutdown and rebooting for Windows systems*
- Overcurrent protection and recovery for each AC port (110 V model only); total port overcurrent protection (both models) – remote users can monitor the outlet status via the GUI interface
- Separate circuits for the unit's power and the power to the devices – the power control status menu is still accessible even when an overcurrent condition trips the devices' circuit breaker
- On/Off scheduling – allows everything from a onetime start/shutdown, to daily, weekly, etc. starts/ shutdowns at user-specified times
- Port grouping – perform the same action on a specified group of ports
- LEDs for easy status monitoring
- Two-level security – Administrator and User
- Configuration can be reset
- Firmware upgradeable – daisy-chained stations receive the upgrade via the daisy-chain bus

*Safe shutdown and rebooting is supported if the Power Monitor utility has been installed.

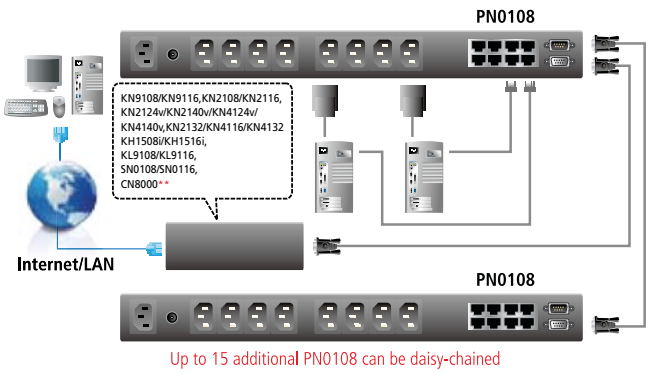
**The CN8000 from ATEN is an ultra-compact, Over IP solution for remote access to computers and KVM installations. Please refer to www.aten.com for more details.

Specifications

Function		PN0108
Power Inlet		1 x IEC 60320/C14 (M)
Power Outlets		8 x IEC 60320/C13 (F)
Connectors	PON In	1 x DB-9 (F)
	PON Out	1 x DB-9 (M)
	Safe Shutdown	8 x 6-pin Safe Shutdown Jacks
Switches		Reset, Power, F/W Upgrade, Outlet On/Off, Remote On/Off
LEDs		Outlet Power, Remote Access, Station ID
I/P Rating (Total input)		100 – 120V; 50/60Hz,12A 220 – 240V; 50/60Hz,10A
O/P Rating	Per Port	100 – 120V; 50/60Hz, 9A (Max.) 220 – 240V; 50/60Hz, 9A (Max.)
	Total	100 – 120V; 50/60Hz, 11A (Max.) 220 – 240V; 50/60Hz, 9A (Max.)
Power Consumption	No Load	120V/15W; 230V/15W
	Max Load	120V/1440W; 230V/2300W
Environment	Operating Temp.	0–40 °C
	Storage Temp.	-20–60 °C
	Humidity	0–80% RH, Non-condensing
Physical Properties	Housing	Metal
	Weight	3.70 kg
	Dimensions (L x W x H)	43.24 x 20.98 x 4.40 cm(19"/1U)

Product specifications and appearance are subject to change without notice.

Setup



Up to 15 additional PN0108 can be daisy-chained

■ Multi-function PON Input Port - Supports daisy-chaining, TCP/IP accessible module connections, or a local administrator console.

■ Circuit breaker for overcurrent protection and recovery

PN9108

8-Port Power Over the NET™

Expansion Daisy-Chain | IP Ready TCP/IP | Remote UI Browser, Java Client | NEW OS Support Vista

Features

- Remote power on / off / reboot control for eight outlets via TCP/IP and a built in 10/100 Ethernet port
- Local power on / off / reboot control via the PN9108's RS-232 port to the computer's RS-232 port
- Daisy-chain up to 15 additional stations to control up to 128 outlets*
- Manual switching between Local and Remote access for each port via front panel push button switches
- Individual control of each port – users can set the power on sequence and delay time for each port to allow equipment to be turned on in the proper order
- Easy setup and operation via a browser interface
- Provides three configuration/management methods: Browser; Telnet; or Console Terminal
- Safe shutdown and rebooting for Windows systems**
- Overcurrent protection and recovery for each AC port (110 V model only) plus total port overcurrent protection (both models) – remote users can monitor the outlet status via the GUI interface on their browsers
- Separate circuits for the unit's power and the power to the devices – the power control status menu is still accessible even when an overload condition trips the devices' circuit breaker
- Cumulative load measurement – remote users can view load information in amperes via the GUI on their browsers
- On/Off scheduling – allows everything from a onetime start/ shutdown, to daily, weekly, etc. starts/ shutdowns at user-specified times
- Port grouping – perform the same action on a specified group of ports
- Current Display for easy current status monitoring
- Out of Band (OOB) operation via terminal or dialup connection
- Two-level security – Administrator and User
- Detachable front panel for convenient rack mounting

*Compatible switches: PN0108

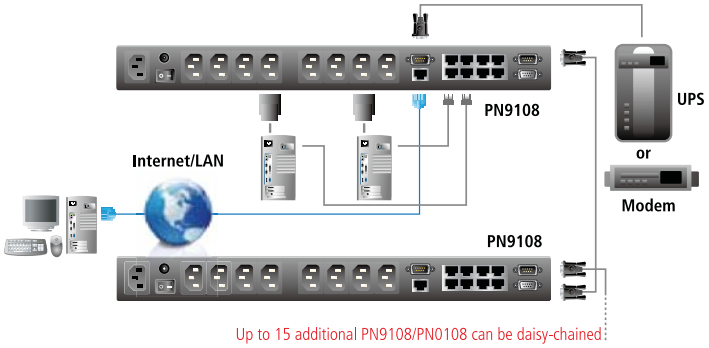
** Safe shutdown and rebooting is supported if the Power Monitor utility has been installed

Specifications

Function		PN9108
Power Inlet		1 x IEC 60320/C14 (M)
Power Outlets		8 x IEC 60320/C13 (F)
Connectors	PON In	1 x DB-9 (F)
	PON Out	1 x DB-9 (M)
	Safe Shutdown	8 x 6-pin Safe Shutdown Jacks
	LAN	1 x RJ-45 (F)
	RS-232	1 x DB-9 (M)
Switches		Reset, Power, Station ID Display, Outlet On/Off, Remote On/Off
LEDs		Outlet Power, Remote Access, Link, 10/100 Mpbs, Power, Current, Station ID
I/P Rating (Total input)		100 – 120V; 50/60Hz,12A 220 – 240V; 50/60Hz,10A
O/P Rating	Per Port	100 – 120V; 50/60Hz, 9A (Max.) 220 – 240V; 50/60Hz, 9A (Max.)
	Total	100 – 120V; 50/60Hz, 11A (Max.) 220 – 240V; 50/60Hz, 9A (Max.)
Power Consumption	No Load	120V/16W; 230V/16W
	Max Load	120V/1440W; 230V/2300W
Environment	Operating Temp.	0–40°C
	Storage Temp.	-20–60°C
	Humidity	0–80% RH, Non-condensing
Physical Properties	Housing	Metal
	Weight	4.20 kg
	Dimensions (L x W x H)	43.24 x 25.42 x 4.40 cm(19"/1U)

Product specifications and appearance are subject to change without notice.

Setup



Up to 15 additional PN9108/PN0108 can be daisy-chained

■ Current Display – The current status (in amps) displays here when the Current Display Switch is toggled ON

■ RS-232 Support – This port can be used to attach a UPS, modem, or PC terminal.

■ Remote Access – connects the PN9108 to the Internet via Ethernet cable.

■ Detachable front panel

Serial Over the NET™

SN3101 (Serial Device Server)
SN0108 • SN0116

Serial Over the NET™ products are control units that provide both In-Band and Out-of- Band remote serial access to up to 8/16 servers or other serial IT devices (hubs, routers, power management devices, etc.), via a Telnet or SSH TCP/ IP connection. Serial Over the NET also provides one port Serial Device Server that supports RS-232, RS-422, and RS-485 data transfers, as well as providing Ethernet connectivity for a wide variety of serial devices used in commercial applications. These include industrial control, data acquisition, access control, environment monitoring, banking, telecoms, remote site management, etc. This total serial data transfer system transforms the capability of legacy serial devices, and allows them to take advantage of the speed and reliability of today's modern communication techniques.

By making your industrial serial devices Internet ready, the Serial Over the NET™ enables users to access and control those devices from any computer connected to the Internet, whether down the hall, or half way around the world.

Installation is fast and easy: plugging cables into their appropriate ports is all that is entailed. A choice of browser based GUI, Telnet (SSH), and VT console terminal sessions make configuration and operation smooth and convenient.

The Serial Over the NET™ firmware is upgradeable over the Net, so you can stay current with the latest improvements simply by downloading updates from our website. With its advanced features and ease of operation, the Serial Over the NET ™ solution is the most convenient, reliable, cost effective way to centrally manage your remote, serially connected, IT products.

■ RJ-45 Interface — The Cat 5e cables that connect to the RJ-45 to Serial adapters plug in here.(SN0108/SN0116)

Virtual Port Management

Serial Over the NET™ products offer Real COM Port support. Devices connected to this type of virtual port appear as if they were directly connected to a COM port on the local computer. Data transmission between the device and the local computer takes place over the virtual COM port to the Serial Over the NET™ device. This mode is especially convenient for use with POS terminals, Bar Code Readers, Serial printers, etc.

Simultaneous Control

Multiple users can log in at the same time via a TCP/IP connection from any computer connected to the Internet. Since the first 8/16 users are able to control separate ports, all attached devices (up to 8/16) can be accessed concurrently. The other concurrent login users may view the port's video output.

Individual Port Configuration

The administrator, as well as users with port configuration permission, can set up a specific operating mode for each port: Console Management, Raw TCP Mode, or Real COM Port.

Alert Settings Support

Serial Over the NET™ products can inform you via email about problems that may occur on the devices that are connected to them. Up to 10 types of alert for each port can be emailed to you. For example, when a device encounters a problem — such as a critical error that requires a reboot — a debug message is sent through its COM port. When the Serial Over the NET™ device receives the message, it sends an email to inform the user.

SN3101
Serial Device Server

Multiple Communication Modes

The Serial Over the NET™ supports a wide variety of serial communication modes, such as Real COM, TCP Server, TCP Client, UDP, Modbus, and Serial Tunnel – offering versatile and diversified serial data access methods to meet a broad range of application requirements.

Out of Band Configuration

OOBC (Out of Band Configuration), provides the ability to access Serial Over the NET™ devices over a serial connection. This can either be a direct serial connection from a local computer, or a dial in connection via modem. OOB connection support includes HyperTerminal, PPP, Telnet, and SSH.

Advanced Security features

Serial Over the NET™ devices are equipped with internal and external user authentication methods and port-specific access rights. The administrator may set different port access rights to specific users on a port-by-port basis, allowing for customized security. Each port can be accessed individually by up to eight or sixteen users. Login security is port specific and supports secure multi-user and multi-level login.

Complete Serial and Power Management Solution

Serial Over the NET™ products can work in tandem with other remote management products — such as the ALTUSEN PN9108/ PN0108 Power Over the NET™ remote power management system to provide convenient, reliable, and effective, remote data center device management.

Authentication Network Management Service

ANMS (Authentication Network Management Service) supports login authorization management from external sources. External authorization sources include CC Management*, RADIUS, and SNMP settings.

*Allows authorization for the Serial Over the NET™ products via a Control Center server (CC2000).

Standard TCP/IP interface -- broad choice of operation modes

The SN3101 offers versatile, diversified serial data access operations to meet a broad range of application requirements – these include Console Management, Real COM, TCP Server, TCP Client, UDP, Modbus, Serial Tunnel and Virtual Modem

More convenient, more efficient serial device management across the entire installation

The Serial Network Device Management – a windows-based configuration and management utility – proves convenient and efficient management of your SN3101 installation.

Convenient, Flexible, Access and Configuration

The SN3101 offers a variety of "over IP" methods to control your serial devices – from browser login, to a stand-alone Serial Network Device Management AP program, to Telnet/SSH terminal access.

Secure data transmission

Recognizing the importance of secure data transmission to your operations, powerful safety features have been designed into the SN3101. With 128-bit SSL serial data encryption for TCP Server, TCP Client, Virtual Modem and Serial Tunnel operation modes, you can feel confident that your data is adequately safeguarded.

Centralized Access Control

The SN3101 makes security policy enforcement smooth and easy. Administrators can authenticate user logins and authorize individual user rights via RADIUS, LDAP, LDAPS and Microsoft Active Directory servers.

Modbus Ethernet –to –Serial support

The SN3101's support for Modbus Ethernet-to-serial data transmission provides a bridge that seamlessly integrates Modbus devices (such as PLCs, DCSs, HMIs, etc.) into your serial network.

Comparison Table

Model No.		SN3101	SN0108	SN0116
Device Connection		1	8	16
Concurrent Access		1	8	16
Device	Interface	Serial (RS-232/ RS-485/ RS-422)	Serial (RS-232)	Serial (RS-232)
	Connector	DB-9	RJ-45	RJ-45
Remote Access		●	●	●
LAN Connection		RJ-45	RJ-45	RJ-45
Out of Band Configuration			●	●
PON Support		●	●	●
Real COM Port Support		●	●	●
Power		AC, DC Power	AC, DC Power*	
Communication Modes		Real COM, TCP Server (RAW TCP), TCP Client, UDP Server/Client, Modbus, and Serial Tunnel	Real COM, TCP Server (RAW TCP), TCP Client	

* Available with DC power at customer's request.(SN0108D/SN0116D)

SN3101

Serial Device Server

Simultaneous Access: 16 Users

Serial Device: DB-9

IP Ready: TCP/IP

Remote UI: Browser, Telnet, Virtual COM

PON Available

NEW OS Support: Vista

Features

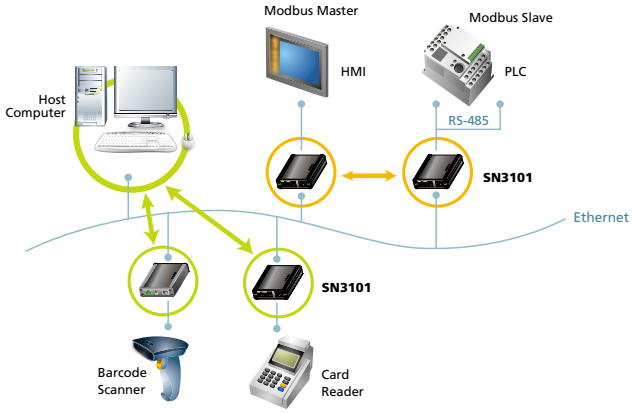
- Provides over IP access for industrial serial devices.
- Software selectable RS-232/422/485 3-in-1 serial port
- Built-in 15KV ESD serial port protection
- Max. baud rate: 460 Kbps
- Wide range of versatile serial operation modes
- High security via 128-bit SSL encryption for serial data transmission
- Redundancy support via multiple simultaneous Real COM, TCP Server, and TCP Client connections
- 64 Kbyte port buffer prevents data loss when the network is down
- Real COM driver for Windows 2000/XP/2003/Vista
- Fixed TTY driver for Linux
- Modbus Ethernet-to-Serial support
- Modem emulation enables existing modem-based applications to make connections over IP networks
- Virtual Terminal support (VT320, VT52, VT100, VT220)
- System configuration via Web Console (HTTP/HTTPS), Telnet/SSH Console and Windows utility
- Backup/restore and firmware upgrading via Web Console (HTTP/HTTPS) and Windows utility
- Easy-to-use Windows utility (2000/XP/2003/Vista) for auto discovery, multiple device setting and monitoring
- Centralized external authentication support for RADIUS, LDAP(S), MS Active Directory
- SNMP MIB II and RS-232 MIB for network management
- SMTP and SNMP trap event notification
- Choice of power input: AC–DC adapter or DC IN direct

Specifications

Function			SN3101
Connectors	Serial		1 x DB-9 M (Black)
	Network		1 x RJ-45 (Black)
	Power	PWR1	1 x 2-pin Terminal Block (Green)
		PWR2	1 x DC Jack (Black)
Switches	Reset		1 x Semi-recessed Pushbutton
LEDs	Power		1 x Green
	Link		1 x Green
	10/100 Mbps		1 x Orange/Green
	TxRx (ACT)		1 x Green
Power Input	PWR1		12—48V DC (2-pin Terminal Block)
	PWR2		9—30V DC (Power Adapter Jack)
	Power Adapter		100—240V AC; 50/60 Hz
	Power Line Protection		4KV burst (EFT), EN61000-4-4 2KV surge, EN61000-4-4
Power Consumption			9V, 2.7W
Interfaces	Serial	Standards	RS-232/422/485; Software selectable
		Baud Rate	460Kbps
		RS-232 Signals	TxD, RxD, RTS, CTS, DTR, DSR, DCD, GND
		RS-422 Signals	Tx+, Tx-, Rx+, Rx-, RTS+, RTS-, CTS+, CTS-, GND
		RS-485 Signals	Data+, Data-, GND
		Serial Protection	15 KV ESD Protection for the serial port
		Parity	None, Even, Odd, Mark, Space
		Stop Bits	5, 6, 7, 8
		Flow Control	None, XON/XOFF, RTS/CTS
	Network	Standards	10/100BaseTX; Autosensing
		Protection	1.5 KV Magnetic Isolation
		Protocols	ARP, DHCP, DNS, HTTP, HTTPS, ICMP, IP, TCP, UDP, NTP, PPP, RADIUS, Telnet, SNMP, SNMP Trap, SMTP, SSH
Regulatory Approval			FCC Class A, CE Class A, RoHS
Environment	Operating Temp.		0–60°C
	Storage Temp.		-20–85°C
	Humidity		0–95% RH,Non-Condensing
Physical Properties	Housing		Metal
	Weight		218 g
	Dimensions (L x W x H)		10.69 x 0.79 x 0.24 cm

Product specifications and appearance are subject to change without notice.

Setup



DC power support

Cat 5e connection

SN0108/SN0116

8/16-Port Serial Over the NET™

Simultaneous Access 8/16 Users

Serial Device DTE, DCE

IP Ready TCP/IP

Remote UI Browser, Java Client

PON Available

NEW OS Support Vista

Features

Complete Centralized Remote Serial Management:

- Remote serial access over the Internet for up to 8 (SN0108) or 16 (SN0116) servers or other serial IT devices
- Works in tandem with other Altusen/Aten appliances - such as the PN0108 and PN9108 - allowing administrators to manage a wide range of data center devices through IP connections
- Remote access to Serial over IP appliances, and attached devices, in centralized manner
- Session history; DC Operation* (SN0108D/SN0116D)

Security:

- Multi level secure user logins; Port-specific access rights
- Supports Active Directory (via CC management); RADIUS

Convenient Access:

- Browser access with an intuitive GUI – Java applet provides SSH connectivity with cut and paste and print screen capability
- Telnet client plus third party (PuTTY, etc.) client support – SSH connectivity available via PuTTY
- Console terminal
- Direct port addressing - via SSH to any Serial Over IP port (bypassing the SN0108 / SN0116)
- Dial in Modem and Direct Access via serial applications (such as HyperTerminal and PPP), or IP applications (such as SSH and Telnet)
- Modem sharing capability via IP-forwarding [Modem support]

Sun Ready:

- Hardware break suppression ensures uninterrupted Solaris server operation

Network Interfaces:

- TCP/IP, UDP/IP, HTTP, HTTPS, NTP, SNMP, Telnet, SSH, SSL, PPP
- 10Base-T/100BaseTX, auto sense
- DNS, DHCP, ARP, RADIUS; Ping

Serial Connectivity:

- Virtual Terminal Support (VT320. VT52, VT100. VT220)
- Hardware and software flow control
- Real COM port support**
- Raw TCP Mode support with file-based sessions

Alarms and Alerts:

- Client applications; Buzzer; SNMP Traps

OS Support:

- Windows, Mac, Sun, Linux, Unix, AIX, DOS 6.2+

Code Set Support:

- ISO646 - US (US ASCII); ISO8859 - 15 (Latin -9)

General:

- Hot-pluggable - add and remove servers without rebooting
- Rack mountable in 1U system rack

* Available with DC power at customer's request. (SN0108D/SN0116D)
** With supplied Virtual COM port driver.

Specifications

Function		SN0108	SN0116
Connectors	To Devices	8 x RJ-45 (F)	16 x RJ-45 (F)
	To LAN	1 x RJ-45 (F)	
	Power*	1 x 3-prong AC Socket	
Switches		Power, Reset	
LEDs		Link (LAN), 10/100 Mbps, Power, RS-232 Ports	
I/P Rating		100–240VAC; 50/60Hz; 1A	
Power Consumption		120V/8W; 230V/8W	
Environment	Operating Temp.	0–40 °C	
	Storage Temp.	-20–60 °C	
	Humidity	0–80% RH, Non-condensing	
Physical Properties	Housing	Metal	
	Weight	3.30 kg	3.40 kg
	Dimensions(L x W x H)	43.72 x 21.40 x 4.40 cm (19"/1U)	

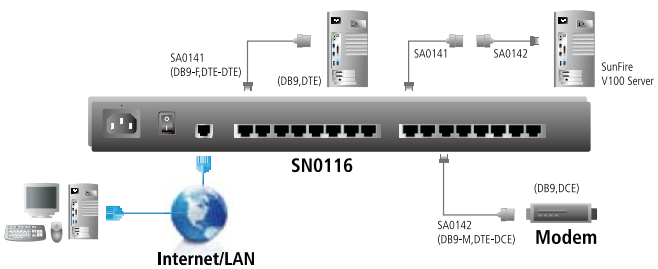
Product specifications and appearance are subject to change without notice.

RJ-45 to Serial Adapters

Serial Over the NET™ devices feature RJ-45 connectors and Cat 5e cable to link to serial IT devices via RJ-45-to-serial adapters. The various interface adapters ALTUSEN offers are shown in the table below:

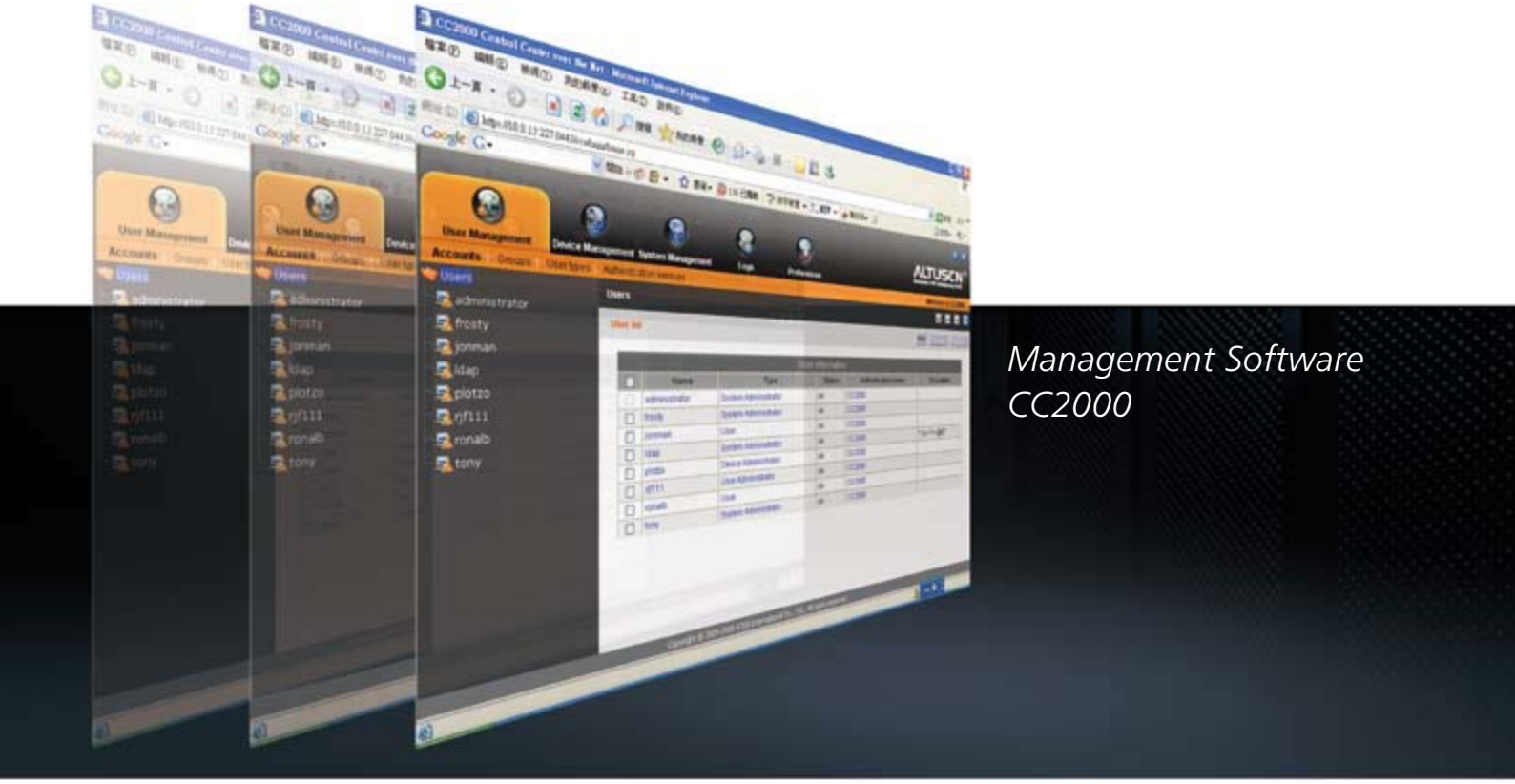
Model No.	Connector	Interface
SA0141	RJ45-F to DB9-F (Black Connector)	DTE to DTE
SA0142	RJ45-F to DB9-M (Black Connector)	DTE to DCE
SA0143	RJ45-F to DB25-F (Black Connector)	DTE to DTE
SA0144	RJ45-F to DB25-M (Black Connector)	DTE to DCE
SA0145	RJ45-F to DB9-M (Blue Connector)	DTE to DTE
SA0146	RJ45-F to DB9-F (Blue Connector)	DTE to DCE
SA0147	RJ45-F to DB25-M (Blue Connector)	DTE to DTE
SA0148	RJ45-F to DB25-F (Blue Connector)	DTE to DCE

Setup



■ Remote access

■ Port LED display



Control Center Over the NET™

The CC2000 Control Center Over the NET™ provides single-portal, singlelogin, secure, centralized, access, administration and management of your entire network—local and worldwide – anywhere; anytime.

By consolidating the management of your ATEN/ALTUSEN IT devices, the CC2000 allows every device to be securely accessed and controlled by means of a single IP address. Servers and network equipment are integrated into a single tree view, making the CC2000 ideal for enterprises with data centers and branch offices, located in several remote locations.

The CC2000's Master-Slave architecture allows multiple CC2000 units to be linked in a communication network to create an integrated web of devices – all of which can be accessed with a single login from a web browser.

Recognizing the broad spectrum of computing environments, the CC2000's Java software implementation allows it to work with Sun Java Runtime Environment (JRE) enabled operating systems – ensuring multi-platform integration and mutual operability

Features

Secure Centralized Management

- Complete control of your enterprise – consolidates the management of all ATEN/ALTUSEN IT devices
- Single portal, single sign-on, single IP address to securely access every device on the installation
- Master/Slave topology provides redundancy-including real-time database updating; and user access and authentication
- All devices are integrated into a single tree view for centralized access, administration, and management of a worldwide network from anywhere at anytime
- Web browser access over Internet/Intranet provides secure remote connections to all installed devices
- Centralized security information and configuration
- Email notification of traps and specified system events
- Automatic scheduling of system and maintenance tasks
- Provides log server services to connected ATEN/ALTUSEN IT devices
- Concurrent – managed – upgrading of user-selected devices

Extensive Logging

- Logging and auditing of system events with searchable, logs for all events occurring on all connected devices
- Flexible filtering options – view logs, or by category (User Management log, System Tasks log, Traps log, etc.), by severity, by server, etc.
- Provides log server services to connected ATEN/ALTUSEN IT devices
- Session logs also provide serial device history

Network Interfaces

- TCP/IP
- HTTP / HTTPS
- SSL
- DNS
- LDAP / LDAPS

Powerful Security

- Powerful security features include both internal and external authentication - external authentication support includes LDAP, LDAPS, Active Directory, RADIUS, TACACS+, and NT Domain - only after being authenticated can users gain access to the devices
- Option to force authentication to all CC managed devices to go through the CC - users cannot directly log in to the devices directly
- Robust security policies for individual user authorization to the port level-users only see nodes that they are authorized for
- Compliant with the X.509 Digital Certificate Standard
- 128-bit SSL encryption of all data on the network
- Flexible session time-outs
- "Strong" administrator configured user name and password authentication
- Devices can identify themselves by Name, MAC address, or IP in the browser - device's IP can remain hidden from people passing by

Highlights

- CC2000 Server comes in Java-based Windows and Linux versions for multiplatform support
- Master-Slave architecture with a common user interface provides an integrated web of devices - all of which can be accessed with a single login from a web browser - ideal for enterprises with one or more data centers, or a number of remote offices
- Easy to use - intuitive browser-based GUI for simplified access to IT equipment in global data centers and remote offices
- System scalability - multi-user access to hundreds of ATEN/ALTUSEN IT appliances and more than ten thousand servers and serially controlled devices - upgrade licenses to add more devices and servers
- A single login provides secure, centralized management of multiple data centers, branch offices and remote locations
- Provides centralized management, Role-Based Access and Control (RBAC), and Reporting Capabilities

Software Features

- All features - including access, configuration and administration -accessible over the Net
- Powerful portal-like interface provides customized permission-based groupings and device views
- Multi-browser support includes IE, Firefox, Mozilla, Netscape, Opera and Safari
- ATEN/ALTUSEN IT appliance auto-discovery with device-availability status, and alarms
- Generic Device support – non self-registering data center devices can be manually added – users can authenticate with the CC2000 credentials or the device's own user management credentials
- Multi-language support – includes the ability to name ports and devices with the local language
- Direct serial access via a Java-based Telnet or SSH viewer

Device Specific Features

- BIOS level support
- Scalable video sessions
- Flexible encryption alternatives for keyboard/mouse, video, and virtual media data – choose any combination of DES; 3DES; AES; or a Random cycle of any or all of them
- Grayscaling of video display

Access and Control from Anywhere at Anytime

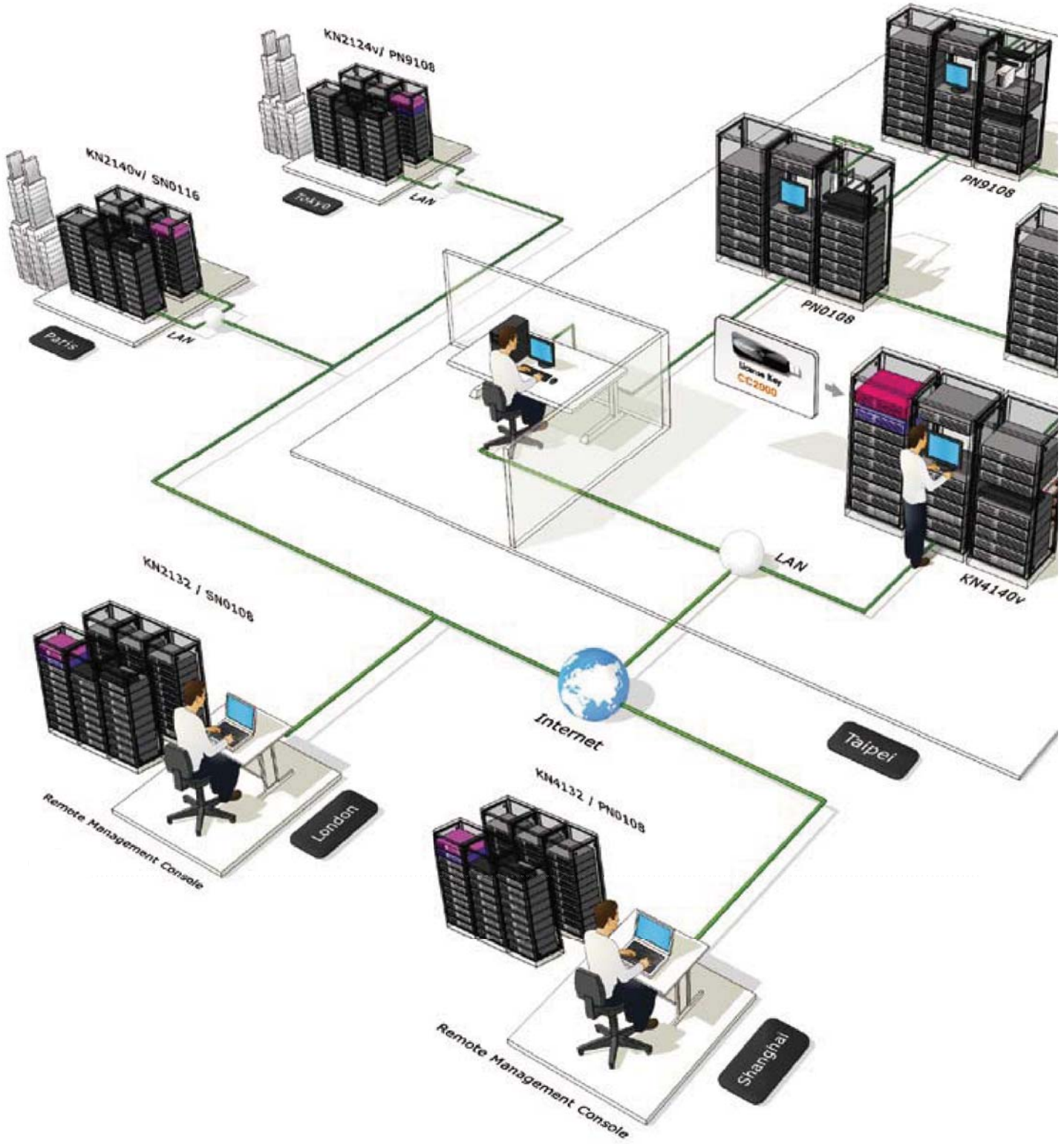
- An array of flexible logging and reporting options with audit trails for diagnostics and troubleshooting
- Troubleshoot problems remotely
- View and manage active user sessions and active ports in real time

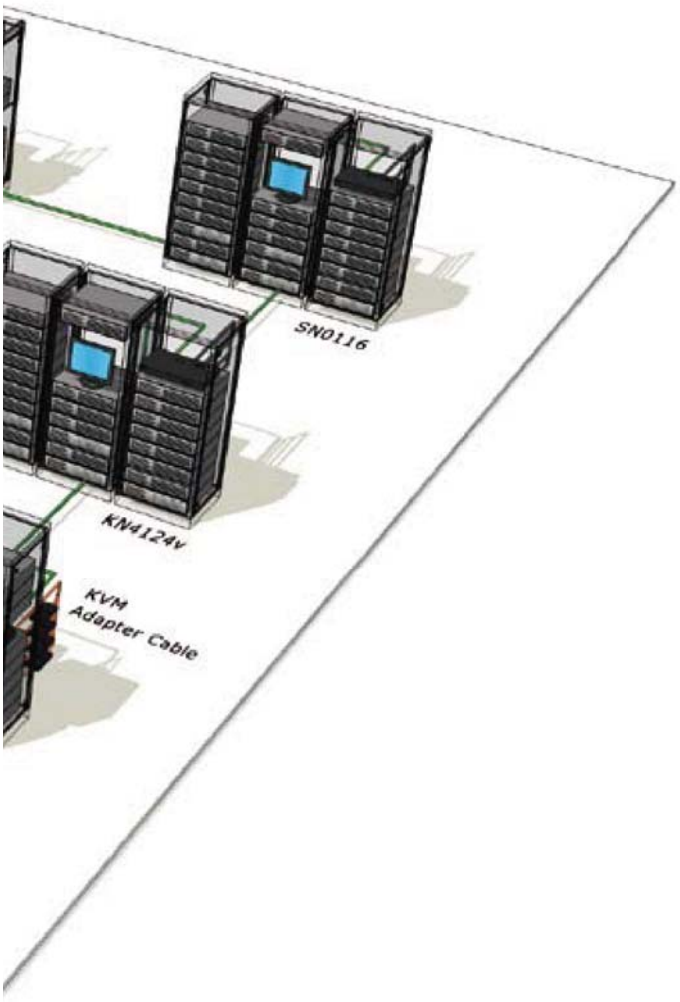
USB License Key

The CC2000 comes with a demo license that allows up to 16 nodes (but no slave servers). A license key authorizes you to add slave servers and additional devices.

Application Diagram

Control Center Over the NET™





- CC2000 Master
- CC2000 Slave
- CC2000 Slave (Redundant)
- KVM Signals (Cat 5e Cable)
- LAN/Internet

CC2000 has one master and up to 31 slave servers. Each of them can have a second, redundant server to take over, in case its master server goes down. All of the CC2000 servers on the installation can view and manage each other's devices, providing 24-hour reliability all year long

Single Portal, Single Sign-on

Permits a single sign-on via a Web browser interface for devices that can accept automatic username and password authorization, but do not require additional entry fields (such as session ID). Single Sign-on provides secure, centralized, access, administration and management of all your ATEN/ALTUSEN "NET" devices – such as Power Over the NET, Serial Over the NET, and KVM over the NET – as well as many other generic devices

Centralized Control and Management

Provides centralized management of all CC capable devices on your installation. The CC2000's Master-Slave architecture allows multiple CC2000 units to be linked in a communication network to create an integrated web of devices -- all of which can be accessed with a single login from any networked PC or mobile device. The CC2000's OOBC features allow administrators to diagnose and repair problems even when gateways, routers, or other IP connectivity is down.

Role-Based Access and Control (RBAC)

Provides five system default user categories with pre-defined roles and permissions: System Administrator, User Administrator, Device Administrator, User, and Auditor. Allows the creation of any number of Custom user types – offering the convenience and flexibility of assigning various combinations of roles that better suit your requirements to the custom created user type.

Task Scheduling

Allows time and date scheduling of routine tasks, updates and file loading that can be performed across the installation – automatic scheduling of system and maintenance tasks include: exporting event logs, power controlling devices, upgrading the firmware of selected appliances, and the backup of device configuration and account information.

Logging, Audits and Alerts

Offers an array of flexible logging and reporting options with audit trails for diagnostics and troubleshooting. Provides powerful search functions and extensive sorting and filtering of log categories to quickly pinpoint the events you are searching for. Complete logs, as well as log search results can be exported for audit and analysis. Email notification of traps and specified system events is automatically generated and sent to specified users.

User Preferences

Users can set up their own working environment. Browser session preferences for the color scheme, the language that the CC2000 pages display in, the page that appears when first logging in, the screen name, and the format of the welcome message can all be individually set. In addition – with the appropriate permission specified in the user's account settings – users can change their password when they like.

USB License Key Specifications

Function		License Key
Environment	Operating Temp.	0-40°C
	Storage Temp.	-20-60°C
	Humidity	0–80% RH, Non-condensing
Physical Properties	Housing	Metal and Plastic
	Weight	14 g
	Dimensions	8.36 x 1.37cm

Guardian Over the NET™

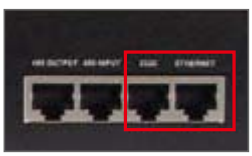
16-Port Guardian Over the NET™

The GN0116 Guardian Over the NET™ is a control unit that offers remote environment monitoring and management of your critical computer systems over TCP/IP. The GN0116 makes it easy to control system health at any time and from virtually anywhere.

The new GN0116 Guardian Monitor Center is our improved software solution that offers remote access to your GN0116 units. Any number of GN0116 units on the same domain can be monitored from the GN0116 Guardian Monitor Center, providing remote environment management to large enterprise centers. Installation is fast and easy; simply install the GN0116 Guardian Monitor Center software suite onto a server connected to your network and start connecting to your GN0116 units.

Since your GN0116 units and Guardian Monitor Center software are upgradeable, you can stay current with the latest functionality improvements simply by downloading firmware updates from our website as they become available. With their advanced features and ease of operation, the GN0116 and Guardian Monitor Center are the most convenient, efficient, reliable, and cost effective way for administrators to monitor and manage their server environment.

■ 4 Digital/Analog I/O ports support up to 16 devices to regulate the health of your equipment



■ Two configuration/management methods
1. Ethernet Port for Remote Access
2. 232C Port for a serial connection (either from a modem or a direct terminal connection from a local console)

■ 485 Output and 485 Input ports for daisy-chain via Cat 5e Cable Up to 255 additional GN0116s can be daisy-chained down from the top level unit.

■ Circuit breaker switches for overcurrent protection

Regulate the Health of your Equipment

The GN0116 Guardian Over the NET™ is equipped with 8 programmable AC power outlets and 4 Digital/Analog I/O ports which support up to 16 devices to regulate the health of your equipment and give proper warning when any of the preset factors are out of bounds. The 4 I/O ports include support for 2 digital inputs, 6 analog inputs (4 resistance type; 2 voltage type), and 8 digital outputs. The GN0116 is the perfect guardian to ensure the ideal environment for your data center. It lets you control and protect your computing environment from anywhere in the world.

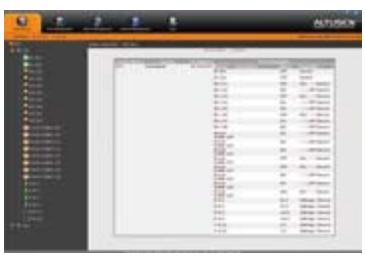
ssConsole Operation Support*

The GN0116 also supports ssConsole to control and configure the GN0116 via a serial connection to its 232C port using the ssConsole software program.

GUI Operation

Your GN0116 devices are monitored and controlled by the powerful Guardian Monitor Center user interface. Accessing your GN0116 installation via its own web server, the Guardian Monitor Center conveniently configures, controls, and monitors all your GN0116 devices over the Internet. Logging into the Guardian Monitor Center user interface is easy with the Windows Internet Explorer web browser.

*ssConsole (Serial Server Console) is an application program provided with the GN0116 (for Windows environment only)



Expansion Daisy Chain | IP Ready TCP/IP | Remote UI Browser

Features

GN0116 Guardian Over the™

- Remote environment control for outlets via TCP/IP
- Daisy-chain up to 255 additional stations
- Individual control of each port – users can set the environment settings (temperature, humidity, voltage and current) to allow equipment to be monitored for irregularities
- Provides two configuration/management methods: Browser or ssConsole*
- Remote users can monitor the current status via the Guardian Monitor Center user interface on their web browsers
- Remote users can monitor the current status via the GUI on their browsers
- LEDs for easy status monitoring
- Multi-user access – 1 Administrator; 4 Users
- Two-level security – 1Administrator and User
- Firmware upgradeable

Guardian Monitor Center focused features

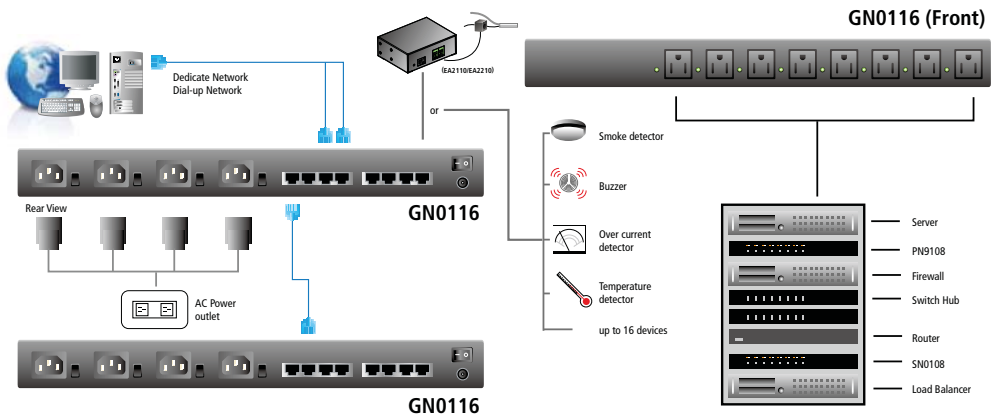
- The GN0116 not only provides a command line, but also a user friendly graphical interface.
- Multilevel user management defines roles and controls access to GN0116 units.
- Back up and restore user and system configuration settings
- Advanced password rules make sure users create strong passwords
- Editable names offer a more intuitive way to organize your GN0116 devices
- Port sensor data can be viewed in a browser or exported to a CSV file
- IP filtering lets you control who has access to your GN0116 devices
- Email notification of system events
- Alarm notifications – Quickly locate problems in larger data centers
- Optional sensors – Add sensors for monitoring temperature, humidity, fluid, vibration, dust particles, etc.

Specifications

Function		GN0116
Connectors	AC Power Inlets	4 x IEC 60320/C14 (M)
	AC Power Outlets (Ports 1-8/109-116)	8 x NEMA 5-15R (F); or 8 x IEC 60320/C13 (F)
	Power	1 x DC Jack (12V, 2.5A)
	LAN	1 x RJ-45 (F)
	232C	1 x RS-232 (F)
	485 Output	1 x RS-485 Chain out Jack
	485 Input	1 x RS-485 Chain In Jack
	Resistance Analog Input/Digital Output (Ports 1&2/101&102)	1 x Sensor Jack
	Resistance Analog Input/Digital Output (Ports 3&4/103&104)	1 x Sensor Jack
	Digital Input/Digital Output (Ports 201&202/105&106)	1 x Sensor Jack
	Voltage Analog Input/Digital Output (Ports 31&32/107&108)	1 x Sensor Jack
Switches		Reset, Power, Circuit Breakers
LEDs		Power, CPLD, MCU, AC Power Outlets (Ports 1-8 / 109-116)
I/P Rating	Power	DC 12V, 2.5A
	Per AC Power Inlet	125V AC; 50/60Hz; 15A (Max.); or 220 – 250 V AC; 50/60Hz; 10A (Max.)
O/P Rating	Total AC Power Outlets (Ports 1&2/109&110)	125V AC; 50/60Hz; 15A (Max.); or 220 – 250 V AC; 50/60Hz; 10A (Max.)
	Total AC Power Outlets (Ports 3&4/111&112)	125V AC; 50/60Hz; 15A (Max.); or 220 – 250 V AC; 50/60Hz; 10A (Max.)
	Total AC Power Outlets (Ports 5&6/113&114)	125V AC; 50/60Hz; 15A (Max.); or 220 – 250 V AC; 50/60Hz; 10A (Max.)
	Total AC Power Outlets (Ports 7&8/115&116)	125V AC; 50/60Hz; 15A (Max.); or 220 – 250 V AC; 50/60Hz; 10A (Max.)
Power Consumption		DC 12V; 30W
Environment	Operating Temp.	0–50 °C
	Storage Temp.	-20–60 °C
	Humidity	0–90% RH, Non-condensing
Physical Properties	Housing	Metal
	Weight	2.30 kg
	Dimensions (L x W x H)	44.00 x 15.40 x 4.50 cm (19"/1U)

Product specifications and appearance are subject to change without notice.

Setup



Sensor Boxes

ALTUSEN provides various sensor boxes to work in tandem with the GN0116. EA2110/EA2210/EA2310 enables you to get status feedback on AC current, AC voltage and humidity. The sensor boxes can simply be connected to the Voltage Analog Input port of the GN0116 via Cat 5e cable, and then configured and monitored over the internet with a web browser.

EA2210

2 x AC Current Sensors

EA2110

1 x AC Current Sensor &
1 x Humidity Sensor

EA2310

1 x AC Current Sensor &
1 x AC Voltage Sensor

Features

- Easy configuration and operation via GN0116's browser GUI interface
- Humidity, voltage and current settings allow equipment to be monitored for irregularities
- Ranges available – 0–25A (RMS) (EA2110/EA2210), 0–15A (RMS) (EA2310)
- Compact size
- Non-powered – sensor boxes are powered by the attached GN0116
- Sensor boxes are connected to the GN0116 via standard Cat 5e cable for environment status monitoring

Specifications

Function		EA2110	EA2210	EA2310	
Connectors	To System	1 x RJ-45 (F)			
	AC Current Sensor	1 x Terminal Block	2 x Terminal Block	N/A	
	Power Inlet	N/A		1 x IEC 60320/C14	
	Power Outlet	N/A		1 x NEMA 5-15R	1 x IEC 60320/C13
Switches	Circuit Breaker	N/A		1 x Pushbutton	
LEDs	Power	1 (Green)			
Humidity Sensor	Measurement Range	0-100% Relative Humidity	N/A	N/A	
AC Current Sensor	Measurement Range	0-25A (RMS)		0-15A (RMS)	
AC Voltage Sensor	Measurement Range	N/A		120V~ 12A (Max.), 50–60Hz	240V~ 10A (Max.), 50–60Hz
Environment	Operating Temp.	0–50°C		0–40°C	
	Storage Temp.	-20–60°C			
	Humidity	0–80% RH, Non-condensing			
Physical Properties	Housing	Metal			
	Weight	0.31 kg	0.31 kg	0.58 kg	
	Dimensions (L x W x H)	10.80 x 9.00 x 3.75 cm	10.80 x 8.10 x 3.75 cm	14.00 x 10.61 x 4.40 cm	

Product specifications and appearance are subject to change without notice.