Enclosure and rack systems

Schneider Electric NetShelter enclosures, open frame racks, and related products provide a complete solution to meet the challenges facing server and networking applications in every environment.

- Best-in-class NetShelter™ enclosures offer the most standard features to facilitate installation and speed of deployment, integrating seamlessly with the full line of Schneider Electric InfraStruxure™ components.

- Rack PDUs, jointly designed with NetShelter enclosures, enable pinpoint control and monitoring of rack-level power.

- Rack accessories provide superior cable management capabilities for high-density networking and blade applications.

Schneider Electric

Schneider Electric enclosure and rack systems

Today's high-density server and networking applications demand a rack infrastructure that can mount a mix of different equipment and support high-capacity cable management in an efficient, flexible design.

Racks and enclosures: the building blocks of every IT environment

Trends like virtualization, consolidation, convergence, and blade server adoption are forcing different types of equipment to share the same space. Today's high-density devices generate tremendous amounts of heat. Rapidly changing business conditions require the IT environment to adapt and adjust faster than ever, and the imperative of uninterrupted uptime now has the corollary demand of efficiency.

Whether it's a network closet, a server room, or a data center of any size, IT operations rely on racks and enclosures for support, organization, and management of the rack-mount equipment. Servers, storage, switches, routers, power distribution units, console port servers, KVM switches — today's racks and enclosures are expected to support a greater number and greater variety of applications and devices.

Check out White Paper #72:
"Five Basic Steps for Efficient Space Organization within High Density Enclosures."

Table of contents

Click here to access the latest electronic version of this brochure.

NetShelter SX applications and selection

The world's most versatile rack enclosure for demanding IT environments

Ready for high-density environments right out of the box, NetShelter SX rack enclosures offer the most standard features on the market today. Influenced by 10 years of customer feedback, Schneider Electric has specifically engineered the next-generation NetShelter SX enclosure to handle today's power-hungry, high-density server and networking applications.

The NetShelter SX is the base building block of the InfraStruxure system. NetShelter SX has many inherent features that facilitate a faster installation and reduce handling after installation, lowering your installation and operating costs. In addition, the homogenous appearance of the NetShelter SX and its sister components in an InfraStruxure solution provides a clean, consistent look that every first-rate data center requires.

Features

Best-in-class design
Offers most standard features to facilitate installation and speed of deployment.

Guarantees compatibility with all EIA standard 19 in. rack-mount equipment — or your money back.

Integrates seamlessly with the full line of InfraStruxure components.

Greatest flexibility
Available in 24U, 42U, 45U, and 48U heights, 600 mm and 750 mm (24 in. and 30 in.) widths, and 825 mm, 1,070 mm, and 1,200 mm (32.5 in., 42 in., and 47.5 in.) depths.

Easily adjustable vertical mounting rails for equipment varying in depth.

Rapid installation of vertical rack PDUs in the rear vertical zero-U accessory channel of NetShelter enclosures.

Superior cable management capabilities
Accommodate high-density networking and blade applications.

Easy installation to enable faster and easier moves, adds, and changes.

Promote proper airflow to improve cooling efficiency.

Rack enclosure systems for converged IT: high-efficiency, high-density, integrated solutions

With IT hardware trending toward Converged Infrastructure (CI) and single-source IT providers, a simplified prebuilt and pretested solution is more standardized, better defined, and quickly becoming preferred over the numerous combinations of IT hardware and software solutions of the past. Customers are looking for solutions that deliver fully populated IT racks — whether to the customer site or a co-location facility.

Schneider Electric rack systems have been pre-engineered as an optimized system for efficiently housing multiple IT equipment types in high-density situations. Special packaging options for NetShelter SX enable integrators to "rack and stack" the solution for a truly end-to-end converged system delivered prebuilt, pretested, racked, and shipped to the end customer.

The packaging provides peace of mind of safe delivery of costly IT investment and the partner provides a choice of simplified, plug-and-play, integrated solutions.

Rack enclosure systems for server applications: high efficiency, high density

Servers are the lifeblood of any organization's IT operations. But keeping today's high-density servers up and running — keeping that lifeblood pumping — has become more challenging than ever. Current trends such as virtualization, consolidation, and adoption of blade servers mean more devices, more power, and more heat packed into each individual enclosure. And that means more cable clutter blocking proper airflow, more hot air recirculation concerns, and more cold air leakage, leading to more inefficiency.

Schneider Electric server enclosure systems have been pre-engineered as an optimized system to provide proper front-to-back airflow to prevent hot air recirculation and promote efficient cable management that permits quick and easy installation of new options as servers change.

Applications for height

24U enclosures — Remote offices and small spaces.

42U enclosures — Standard height used globally, designed to fit through standard doorways.

45U enclosures — Enclosures with additional U-spaces for environments that standardize on a 45U 1,225 mm (7 ft.) enclosure height.

48U enclosures — More U-spaces for more equipment in the same footprint.

Applications for depth

835 mm (32.5 in.) is the preferred depth for AV equipment.

1,070 mm (42 in.) is the standard depth and meets most low- to medium-density applications.

The 1,195 – 1,220 mm (47 – 48 in.) depth enclosures are becoming the new standard because of increasing server depth crowding cable and power space.

Applications for width

600 mm (24 in.) wide enclosures are the standard for most server applications. For higher densities, a deeper enclosure may be required.

750 mm (30 in.) wide enclosures offer more space for high-capacity cable management and power distribution. Typically, wider enclosures are used for networking applications but the extra side space is often requested in blade server applications.

| NetShelter SKU	Height	Width	Depth	Application
AR3100*	42U	600 mm (24 in.)	1,070 mm (42 in.)	Low-/medium-density servers
AR3105*	45U	600 mm (24 in.)	1,070 mm (42 in.)	Low-/medium-density servers
AR3107*	48U	600 mm (24 in.)	1,070 mm (42 in.)	Low-/medium-density servers
AR3150*	42U	750 mm (30 in.)	1,070 mm (42 in.)	Networking and blade applications
AR3155*	45U	750 mm (30 in.)	1,070 mm (42 in.)	Networking and blade applications
AR3157*	48U	750 mm (30 in.)	1,070 mm (42 in.)	Networking and blade applications
AR3300*	42U	600 mm (24 in.)	1,200 mm (47.5 in.)	Medium-/high-density servers
AR3305*	45U	600 mm (24 in.)	1,200 mm (47.5 in.)	Medium-/high-density servers
AR3307*	48U	600 mm (24 in.)	1,200 mm (47.5 in.)	Medium-/high-density servers
AR3350*	42U	750 mm (30 in.)	1,200 mm (47.5 in.)	HD networking and blade applications
AR3355*	45U	750 mm (30 in.)	1,200 mm (47.5 in.)	HD networking and blade applications
AR3357*	48U	750 mm (30 in.)	1,200 mm (47.5 in.)	Networking and blade applications
AR3140	42U	750 mm (30 in.)	1,070 mm (42 in.)	High-density networking
AR3340	42U	750 mm (30 in.)	1,200 mm (47.5 in.)	Very high-density networking
AR3347	48U	750 mm (30 in.)	1,200 mm (47.5 in.)	Very high-density networking
AR3200	42U	600 mm (24 in.)	1,070 mm (42 in.)	2 x 20U compartments for colocation
AR3104	24U	600 mm (24 in.)	1,070 mm (42 in.)	Remote server applications
AR3810	42U	600 mm (24 in.)	825 mm (32.5 in.)	Audiovisual applications
AR3812	42U	600 mm (24 in.)	825 mm (32.5 in.)	Audiovisual applications
AR3814	24U	600 mm (24 in.)	825 mm (32.5 in.)	Audiovisual applications

* Shock packaging available for shipping enclosures with up to 900 kg (2000 lbs) of equipment installed

NetShelter SX enclosure features

More standard features for faster installation

① Cable access roof
- Eight cable entry slots
- Toolless mounting of overhead cable trough system
- Snap-in mounting to allow easy roof removal and installation with cables in place
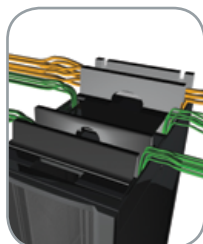
② Integrated baying brackets
- Preinstalled on frame, front and back
- Spacing options at 600 mm (24 in.)
- Bays with other Schneider Electric power and cooling products

③ Preinstalled leveling feet and castors
- Easily adjustable leveling from top-down
- Castors standard on all enclosures

④ Toolless, zero-U accessory channel
- Toollessly mount rack PDUs
- Toollessly mount vertical cable organizers

⑤ Easily adjustable vertical mounting rails
- Simple screw and cam engagement
- Captive screws — no loose hardware
- Easy visual alignment for quick adjustment
- Adjust in 6 mm (0.25 in.) increments through enclosure
- Hole cutouts for 0U installation (AR8469) of Data Distribution Cable (DDC) accessories

⑥ Half-height side panels
- Easy and safe handling
- Quick release latch
- Lockable — same key as doors
- Enclosure width remains the same with or without sides attached

Other standard features include:
- Integrated electrical bonding of sides, doors, roof, and rails to frame
- Ventilated front and rear doors
- Split-rear ventilated rear doors for better clearance in hot aisle
- Numbered U positions front and back
- Open bottom for unobstructed under-floor access
- 1,365 kg (3,000 lb.) static (leveling feet) load, 1,025 kg (2,250 lb.) dynamic (castor) load
- UL Listed
- 482.6 mm (19 in.) rack-mount standard compliant

NetShelter SX networking enclosure

Optimized NetShelter SX design for enhanced networking application support and a superior solution for side airflow Cisco Nexus®, Catalyst®, and MDS networking switches

Cable access roof

- Extra-large cable access slots for high-density cabling and brush strips for air containment
- Two spring-loaded pins allow for easy roof removal and installation with cables in place

Networking-style mounting rails

- Easily align rails that adjust in 6 mm (0.25 in.) increments
- Left vertical mounting rail contains additional cable channel
- Rail position preset to accommodate Cisco switches and cable management

Preinstalled vertical cable managers

- Front vertical mounting rails feature preinstalled, single-sided vertical cable managers
- Smooth plastic fingers provide proper bend radius for cables

Vertical mounting rails for side-to-side airflow

- Front-right vertical mounting rail open for improved side airflow

AR3340 with AR7725 duct kits for Cisco Nexus 7009

AR3140 — 42U x 825 mm (32 in.) W x 1,070 mm (42 in.) D
AR3340 — 42U x 825 mm (32 in.) W x 1,200 mm (47.5 in.) D
AR3347 — 48U x 825 mm (32 in.) W x 1,070 mm (42 in.) D

Side airflow cooling

Support cooling for small and large networking switches mounted within an enclosure.

- Side airflow solution (AR7742/AR7747) for Cisco Nexus 7018
- Side airflow duct kit (AR7715) mounts inside 750 mm (30 in.) wide enclosures for Cisco 6500 and 9500 series switches
- Side airflow duct kit (AR7725) mounts inside 750mm (30 in.) wide enclosures for Cisco Nexus 7009

All solutions:

- Direct cool air at the front of the enclosure directly and predictably to the intake at the side of side airflow switches
- Consist of two duct assemblies that act as diverters, utilizing the existing fan power of the switch
- System of baffles are located throughout the enclosure to mitigate exhaust air from recirculating back into the air intake

AR3340 Networking enclosure and AR7742 side airflow solution for Nexus 7018

AR3140 Networking enclosure and AR7715 internal side airflow duct kit for Catalyst and MDS

Toolless accessories

Vertical cable management

Schneider Electric specializes in toolless-install accessories by the use of the zero-U channels located in the rear of every NetShelter SX enclosure.

1 Vertical 0U accessory channels
- Allows toolless mounting of vertical rack PDUs
- Toollessly mount vertical cable organizers
- Additional vertical 0U accessory channels:
  - **AR7502:** Vertical 0U accessory channel, 42U, qty. 2
  - **AR7572:** Vertical 0U accessory channel, 48U, qty. 2
  - **AR7511:** Narrow vertical 0U accessory channel, 42U
  - **AR7505:** Vertical cable organizer, center rear mount

2 AR8442 — Vertical cable organizer, eight cable rings, zero U
- Supports 35 to 55 CAT 6/CAT 6A data cables
- Mounts toollessly on the vertical 0U accessory channel

3 AR8443A — Vertical fiber organizer
- Installs toollessly
- Takes up one bay of channel
- Fiber spool only kit available (AR8444)

4 AR8457 — Data distribution 0U SX panel
- Installs toollessly
- Takes up one bay of channel
- Toollessly mount up to four DDC cable heads, 24 ports for rack-to-rack connections

5 AR7710 — Cable containment brackets with rack PDU mounting
- Low-profile vertical cable management
- Support 60 to 90 CAT 6/CAT 6A data cables
- Mount toollessly on the vertical 0U accessory channel

6 AR7711 — Zero-U accessory bracket
- Mount rack PDUs in rear-facing orientation
- Supports third-party accessories in numerous mounting configurations
- Mounts 1U or 2U patch panels or other networking accessories

7 AR8621 — Hook-and-loop cable managers, qty. 10
- Mount toollessly on the vertical 0U accessory channel
- Secure and bundle cables with hook-and-loop ties

8 AR7721, 22, 23 — Low-profile vertical cable managers, zero U
- Supports up to 38 CAT 6A or 251 fiber cables
- Mounts toollessly on the vertical 0U accessory channel

AR8444

AR8442

AR8443A

AR7721

AR8457

AR7710

AR7711

AR8621
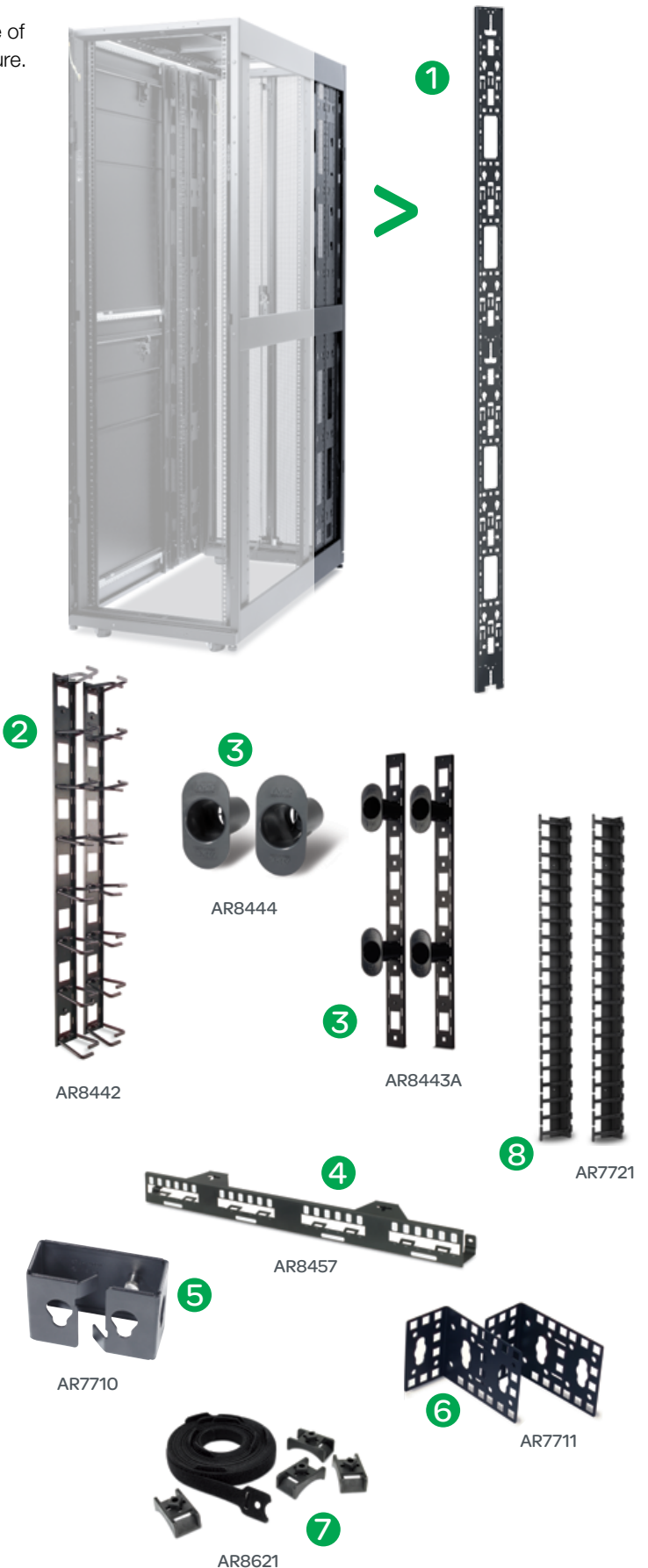
NetShelter SX cable management

Server and networking applications

As the number of IT components within each rack enclosure continues to increase, so do the number of power and data cables. Schneider Electric offers a large selection of vertical and horizontal cable managers to address today's cable routing demands. From toolless-install ring-style managers for server applications, to high-density finger-type managers for supporting patching and switches, Schneider Electric is a leader in innovative, application-driven solutions. Our unique overhead cable management system turns the top of the enclosure into a cable tray, eliminating the need to use space under a raised floor and permitting better organization in non-raised floor environments.
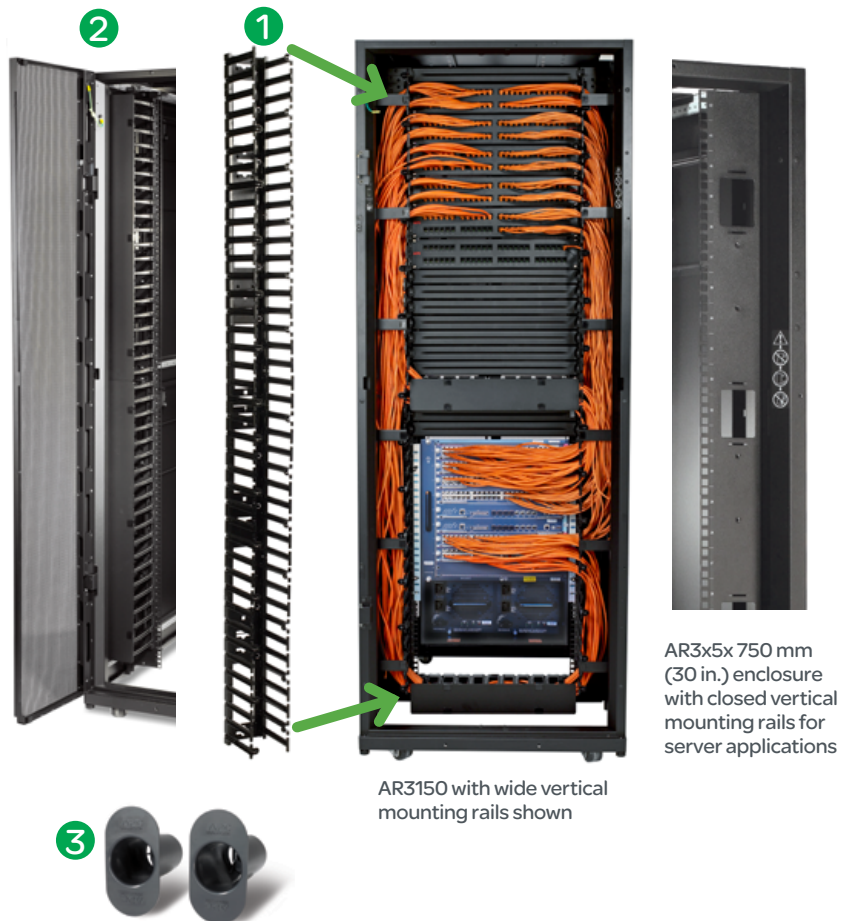
Schneider Electric has a strong history supporting the server applications in data centers around the world. The innovative, toolless, snap-in accessories have become the benchmark for server cable management.

High-capacity cable managers can be used to support fiber and copper cable bundles.

1 **AR7580A** – High-capacity vertical cable manager for NetShelter SX 750 mm (30 in.) wide enclosures (AR3x5x), supports 190 to 250 CAT 6A/CAT 6 data cables per section. 190 CAT 6A (6.4 mm (.25 in.) – 7.6 mm (.30 in.)) per channel section. Each kit covers one corner of the enclosure.

2 **AR7581A** – Hinged covers for AR7580A vertical cable managers.

3 Fiber slack spools for mounting to the vertical mounting rails of NetShelter SX 750 mm (30 in.) wide enclosures (AR3x5x).

Additional high-capacity vertical cable managers and covers available for specific enclosure heights, 42, 45, and 48U. Visit the website for a complete listing.

AR3150 with wide vertical mounting rails shown

AR3x5x 750 mm (30 in.) enclosure with closed vertical mounting rails for server applications

NetShelter SX cable management

Horizontal cable managers

Finger-type horizontal cable managers

Cable managers for patching and crossover applications featuring smooth radius plastic fingers that protect the cable from kinking and binding. Hinged, snap-on covers provide a clean look and retain large cable bundles. Cable managers with 152 mm (6 in.) large cable bundles. These cable managers include hardware for double-sided configurations with two units.

- **AR8602A** — 1U horizontal cable manager with 100 mm (4 in.) fingers and snap-on cover

- **AR8600A** — 2U horizontal cable manager with 100 mm (4 in.) fingers and snap-on cover

- **AR8612** — 1U horizontal cable manager with 152 mm (6 in.) fingers and snap-on cover

- **AR8606** — 2U horizontal cable manager with 152 mm (6 in.) fingers and snap-on cover

- **AR8603A** — 2U horizontal cable manager with 152 mm (6 in.) fingers, snap-on cover, rear cable pass-through holes, and slots for AR8008BLK/AR8016ABLK horizontal cable channel

- **AR8605** — 3U horizontal cable manager with 6 in. fingers, snap-on cover, rear cable pass-through holes, and cable channel slots

AR8603A

AR8605

AR8606

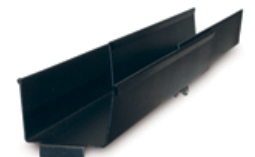### Ring-type horizontal cable managers

Economical cable managers for patching applications featuring various configurations to meet specific needs.

- **AR8425A** — 1U horizontal cable manager with four rings
- **AR8426A** — 2U horizontal cable manager with four rings
- **AR8428** — 2U horizontal cable manager with four rings and pass-through holes
- **AR8427A** — 2U horizontal cable manager with multiple rings and small cable retainers
- **AR8113A** — Cable management rings (qty. 5 large, 5 small)
- **AR7707** — Cable management rings 200 mm (8 in.) deep for 750 mm (30 in.) wide enclosures (AR3x5x), qty. 8

AR8425A

AR8426A

AR8428

AR8427A

Horizontal cable management accessories

- **AR8429** — 1U cable pass-through manager with brush strip
- **AR8129** — Cable management arm for use with sliding shelves
- **AR8008BLK** — Horizontal cable side channel (450 mm (18 in.) to 750 mm (30 in.) adjustment) for routing cable front-to-back between the standard wide rack mounting rails or AR8603 and AR8428 horizontal cable managers
- **AR8016ABLK** — Horizontal cable side channel (250 mm (10 in.) to 450 mm (18 in.) adjustment) for routing cable front-to-back between the standard wide rack mounting rails or AR8603 and AR8428 horizontal cable managers
- **AR7706** — Mounting rail brush strips for 750 mm (30 in.) wide enclosures (AR3x5x), qty. 6

AR8129

AR8429

AR8008BLK/AR8016ABLK

AR7706

NetShelter SX cable management

Overhead cable troughs and partitions

- NetShelter enclosures feature the ability to integrate a system of troughs and partitions for routing power and data cable across the top of the enclosures

- Troughs and partitions reduce the need for expensive suspended cable tray systems

- Troughs and partitions install toollessly with snap-in tabs and have standard attachment points for cable ladder systems

- Enclosure troughs are only shown here; for information on power and cooling troughs and partitions, see the **Schneider Electric website**

1 Power cable trough
- Supports power distribution cables
- Provides separation from data cables
- Data cables pass through underneath to front partitioned area
- **AR8561** — Cable trough, 600 mm (24 in.) enclosures
- **AR8571** — Cable trough, 750 mm (30 in.) enclosures

2 Pass-through data cable partition
- Partitions the top of the enclosure into cable routing areas
- Pass-through hole provides cable access into multiple cable areas
- **AR8163ABLK** — Pass-through data partition, 600 mm (24 in.) enclosures
- **AR8173BLK** — Pass-through data partition, 750 mm (30 in.) enclosures

3 Solid data cable partition
- Partitions the top of the enclosure into cable routing areas
- Solid face provides clean appearance at the front of the enclosure
- **AR8162ABLK** — Solid data partition, 600 mm (24 in.) enclosures
- **AR8172BLK** — Solid data partition, 750 mm (30 in.) enclosures

⭐ **Check out Application Note #133:**
"Cable Trough, Ladder, and Partition Configuration Guide."

4 Cable ladders and accessories

Cable ladders and attachment kits for routing power and data cabling overhead from rack to rack.

| Cable Ladders and Attachment Kits	SKU	Ladder Accessories	SKU
Cable Ladder 150 mm (6 in.) (AR8164AKIT 150 mm (6 in.) ladder with attachment kit)	AR8164ABLK	Ladder Wall Termination	AR8465
		Ladder Clamp Kit	AR8169
Cable Ladder 300 mm (12 in.) (AR8165AKIT 300 mm (12 in.) ladder with attachment kit)	AR8165ABLK	Ladder Corner Clamp	AR8461
		Ladder Angle Clamp	AR8462
Alternate Mounting — Ladder to Power Troughs	AR8576	Ladder Stacking	AR8463
Alternate Mounting — Ladder to Data Partitions	AR8177BLK		
Ladder Elevation Bracket	AR8186		
Ladder to Two-Post Rack	AR8461		

AR8561

AR8162ABLK

AR8163ABLK

AR8186

Shelves and mounting hardware

Mounting accessories to aid in the installation of IT equipment and secure racks into position


AR8105BLK

AR8122BLK

Shelving

Fixed and sliding shelves to enable the mounting of tower units, monitors, and other equipment into the rack environment.
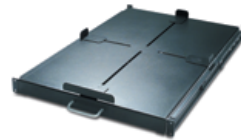
- **AR8105BLK** — Fixed shelf 22.7 kg (50 lb.)
- **AR8122BLK** — Fixed shelf 114 kg (250 lb.)
- **AR8123BLK** — Sliding shelf 45.5 kg (100 lb.)
- **AR8128BLK** — Sliding shelf 91 kg (200 lb.)
- **AR8422** — Double side fixed shelf for two-post rack
- **AR8126ABLK** — 17 in. sliding keyboard shelf
- **AR8127BLK** — 19 in. sliding rotating keyboard shelf
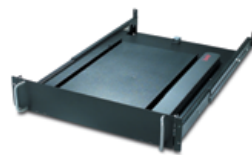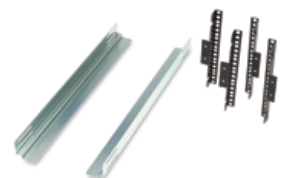- **AR8006A** — Misc. equipment support rails for 600 mm (24 in) wide enclosure
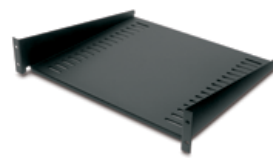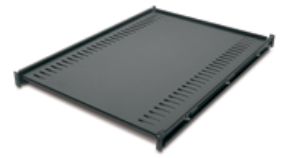
AR8128BLK

AR8422

AR8126ABLK/AR8127BLK

AR8006A

Bolt-down and stabilization

Stabilization plates and hardware to prevent tip-over in stand-alone rack applications and meet specific anchoring requirements.

- **AR7701** — NetShelter SX bolt-down kit — meets IBC® seismic requirements for moderate seismic zones
- **AR7700** — NetShelter SX stabilization plate to prevent tipping when sliding out equipment

AR7701

AR7700

Miscellaneous mounting brackets

Variety of mounting brackets for mounting IT equipment.

- **AR7711**— Zero-U multipurpose accessory mounting bracket for side mounting of 1U/2U products and rack PDUs
- **AR8150BLK** — 23 to 19 in. mounting adapter brackets for use with AR7510 23 in. EIA mounting rails
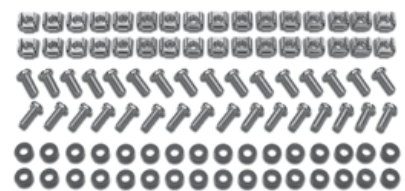

AR7711

AR8150BLK

Hardware kits

Available for additional hardware needs or to accommodate equipment mounted in varying mounting options.

- **AR8100** — M6 cage nuts and screws, qty. 32
- **AR8400** — #12-24 screws, qty. 100
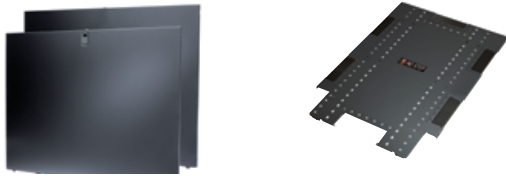- **AR8005** — #10-32 cage nuts, qty. 36

AR8100

Rack components

Replacement doors, side panels, roofs

Standard doors, side panels, and roofs are available for all enclosure sizes. **Check the enclosure product page options tab for a list of these rack components.**

Specialty roofs, side panels, and accessories

- **AR7252** — Networking roof for high-density cabling 750 mm (30 in.) wide x 1,070 mm (42 in.) deep
- **AR7716** — Networking roof for high-density cabling 750 mm (30 in.) wide x 1,070 mm (42 in.) deep
- **AR7215** — NetShelter AV enclosure top mount conduit access adapter
- **AR7209** — Open roof support bridge for overhead troughs and partitions
- **AR7305A** — NetShelter SX pass-through side panel 42U x 1,070 mm (42 in.) deep
- **AR7313** — NetShelter SX pass-through side panel 42U x 1,200 mm (47.5 in.) deep
- **AR7315** — NetShelter SX pass-through side panel 45U x 1,070 mm (42 in.) deep
- **AR7316** — NetShelter SX pass-through side panel 45U x 1,200 mm (47.5 in) deep
- **AR7375** — NetShelter SX pass-through side panel 48U x 1,070 mm (42 in.) deep
- **AR7314** — NetShelter SX pass-through side panel 48U x 1,200 mm (47.5 in.) deep
- **AR7714** — Replacement snap-in brush strips for SX roofs
- **ACF501** — Roof fan for 600 mm (24 in.) wide x 1,070 mm (42 in.) deep enclosures, 120 Vac
- **ACF502** — Roof fan for 600 mm (24 in.) wide x 1,070 mm (42 in.) deep enclosures, 208 – 230 Vac
- **ACF503** — Roof fan for 750 mm (30 in.) wide x 1,070 mm (42 in.) deep enclosures, 120 Vac
- **ACF504** — Roof fan for 750 mm (30 in.) wide x 1,070 mm (42 in.) deep enclosures, 208 – 230 Vac
- **ACF505** — Roof fan for NetShelter AV 600 mm (24 in.) wide x 825 mm (32.5 in.) deep, 115 Vac
- **AR8132A** — Combination lock handle for NetShelter SX enclosures, qty. 2

Rails

Mounting rails

Vertical EIA rail mounting kits for different widths and depths.

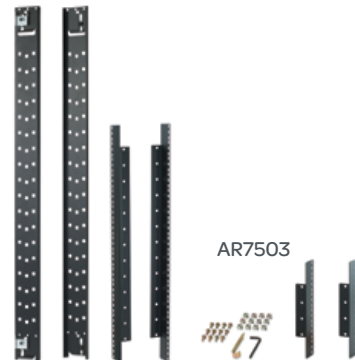- **AR7510** — 585 mm (23 in.) EIA mounting rails for 42U x 750 mm (30 in.) wide enclosures

AR7510

Recessed rail kits

Intermediate mounting rails for supporting shallow depth equipment.

- **AR7503** — 42U x 600 mm (24 in.) wide
- **AR7504** — 48U x 600 mm (24 in.) wide
- **AR7508** — 42U x 750 mm (30 in.) wide
- **AR7578** — 42U x 750 mm (30 in.) wide

AR7503

AR7714

AR7209

AR7215

AR7252/AR7716

ACF503

AR8132A

AR7305A

NetShelter SV features

Essential features for faster installation

NetShelter enclosures offer the most standard features to facilitate installation and speed of deployment.

1 ### Cable access through roof and rack bottom

- Large openings for cables to pass through. Four brushes are preinstalled on 800 mm wide versions.

- Front opening includes removable panel. The rear is always open but can be covered with brush strips (AR7714).

2 ### Adjustable vertical mounting rails with vertical 1U patching (800 mm only)

- Front and rear equipment mounting rails are fully adjustable.

- Adjust in 10 mm increments.

- 800 mm wide versions allow for devices to be vertically mounted between the rail and side panel.

3 ### Lockable doors and side panels

- Flat front door provides 69% ventilation.

- Front door is reversible.

- Split rear doors allow for clearance.

4 ### Integrated rear accessory mounting brackets for easy integration of rack PDUs and cable managers

Accessory mounting brackets are included with the enclosure for mounting a variety of rack PDUs and cable management accessories:

- Brackets provide cable tie-off points and mounting locations for toollessly mounting rack PDUs and cable managers.

- Up to four additional sets can be purchased (AR824002-qty. 2 brackets) to provide additional mounting locations in the rear of the enclosure.

600 mm width

800 mm width

Open frame racks

NetShelter two- and four-post open frame racks

The NetShelter two- and four-post open frame racks offer a quality solution for the economical installation of rack-mountable equipment, where security at the individual rack level is not required. Open frame racks provide unobstructed airflow and fast, easy access to installed equipment, and can be paired with high-density vertical cable managers for maximum cable volume. The two-post rack offers cost-conscious customers a simple solution for supporting networking equipment and patching applications. The four-post rack offers more strength and features for supporting servers and networking equipment. Recent improvements to the four-post racks increase cable management options and flexibility.

Vertical cable management

- Unassembled option for site assembly
- Fits two- and four-post open frame racks
- Cable management backplate for toollessly mounting cable management accessories
- **AR8715** — 2,136 mm (84 in.) height x152 mm (6 in.) width, single-sided
- **AR8725** — 2,136 mm (84 in.) height x 152 mm (6 in.) width, double-sided
- **AR8728** — 2,438 mm (96 in.) height x 152 mm (6 in.) width, single-sided
- **AR8765** — 2,136 mm (84 in.) height x 304 mm (12 in.) width, single-sided
- **AR8768** — 2,438 mm (96 in.) height x 304 mm (12 in.) width, single-sided
- **AR8775** — 2,136 mm (84 in.) height x 304 mm (12 in.) width, double-sided

AR201 — Two-post rack

- Self-squaring design
- 45U mounting spaces, 2,136 mm (84 in.) tall
- Black finish
- 6061-T6 structural grade aluminum
- Weight capacity (static load) 340.19 kg (750 lb.)

AR203A — Four-post rack

- Threaded #12-24 holes (AR204A)
- Square holes for cage nuts and server mounts
- New design for easier assembly
- Steel construction
- 44U mounting spaces, 2,136 mm (84 in.) tall
- Black finish
- Multiple toolless mounting points for hook-and-loop fasteners AR8621 or toolless cable management rings AR7540
- Multi-position rack PDU mounting bracket AR8652 - 152 mm (6 in.), AR8662 - 254 mm (10 in.)
- Reversible stabilization plates
- Grounding inserts
- Weight capacity (static load) 909 kg (2,000 lb.)

VDIM33174 — 4U overhead patch frame

- 19 in. frame
- Weight capacity up to 15 kg (33 lb.)
- Attaches to cable ladder and wire basket trays for network patching overhead row

Four-Post Rack Accessories

AR8652 — Rack PDU mounting bracket

- Mounts on sides as a spacer when using vertical cable managers between two racks
- Mounts on face of vertical rails, perpendicular, for single rack applications
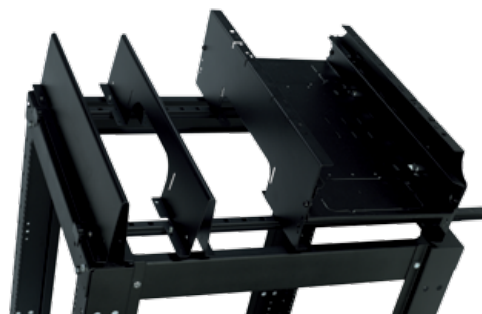- Designed to toollessly mount Schneider Electric rack PDUs

AR8652 mounted on right rear corner of four-post rack with rack PDU

AR8450A — Trough and partition adapter

- Provides mounting locations for overhead trough and partition cable management system

NetShelter CX enclosure

Soundproofed "server room in a box" which allows for IT deployment wherever and whenever it is needed

Conveniently deploy servers and networking equipment in a quiet, ventilated, secure, and office-ready cabinet. The NetShelter CX is a cost-effective alternative for when there is no space, budget, or time for a traditional server room or wiring closet.

AR40381A - 38U   AR40241A - 24U   AR40181A - 18U   AR4000MV

NetShelter CX features

Cable management
Full-height vertical cable trays, front, middle, and rear of all units.

Composite wood structure
Composite structure with acoustic foam lining keeps hardware quiet and secure.

Integrated fan module
Each unit is outfitted with a fan module providing up to 3.6 kW thermal capacity.
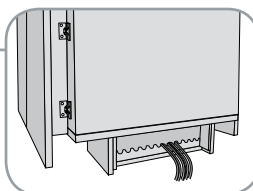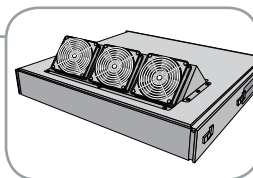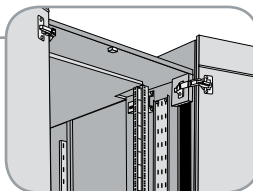
Zero-U rack PDU
Each unit includes a Basic Rack PDU (AP9567) preinstalled, providing 13 available outlets with AR40181A, 12 with AR40241A, and 11 with AR40381A.

Cable egress
Cable egress provides discrete and quiet exit of up to 400 CAT 5/6 cables.

Castors
Each unit sits on four castors, two swivel and two fixed, for ease of deployment and mobility.

Standard features

Floor space requirements: Enclosures are designed to be placed directly against a wall. Clearance of 200 mm/8 in. on both sides of the cabinet is essential for normal operation.

Cooling system: One ultra-low-noise exhaust fan module, 1.2 kW maximum recommended total thermal load (or 4,100 BTU/hr.). One module with AR40181A, two with AR40241A, and three with AR40381A.

Noise reduction: 18.5 dB broadband noise reduction, measured 1 m (39 in.) in front of the enclosure (HP® and Dell™ servers were used as noise source in noise reduction measurements).

Mobility:
- Four heavy-duty castor-type wheels
- Front wheels have 360° rotation for maneuverability — rear wheels have fixed front-to-back motion for stability

Rear and side access:
- Detachable rear side panels, left and right, for equipment installation and maintenance access
- Detachable rear fan modules give completely open rear rack access

Cable management: 75 mm (3 in.) width, full-height vertical 0U accessory channels located on each side at the front, middle, and rear of the rack.

Grounding: All equipment installed within a NetShelter CX should have conventional grounding via power cables but, unlike conventional metal-case cabinets, the NetShelter CX has no requirement for additional grounding in the form of ground strapping or pipe earthing, etc. The enclosure shell is constructed entirely from non-conductive materials, and the rack is completely isolated from outside contact.

Door locking: Key-operated lock.

NetShelter CX Mini enclosure

The CX "Mini" is a purpose-built tower server enclosure aimed at small, non-IT spaces such as home office, school, AV, small office, and remote office environments.

NetShelter CX accessories — Mini

- **AR4000MV12U** — 12U vertical mounting rail kit for NetShelter CX Mini. Converts basic enclosure to a 12U rack enclosure.

- **AR4000MV-FR** — Fixed rail kit for NetShelter CX Mini provides two horizontal mounting ledges for equipment placement. Must be used with AR4000MV12U vertical mounting rail kit.

- **AR4601** — Bolt-down kit — two L-shaped brackets secure the enclosure to the floor.

NetShelter CX Mini features

- **Ventilation system** — The ultra-low-noise exhaust fan module has a 800 W maximum recommended total thermal load.

- **Cable management** — Two cable ports allow passage into and out of the enclosure for power and networking cables.

- **Mobility** — Four office-style castors.

- **Access** — A detachable and lockable rear panel ensures security and quick access to the equipment inside.

- **Integrated power strip** — Includes three IEC outlets and two sets of quantity of three regional-specific equipment cords. The power strip is removable to allow installation through the rear, without power-off equipment.

NetShelter CX accessories — 18, 24, 38U

- **AR4601** — Bolt-down kit — two L-shaped brackets secure the enclosure to the floor.

- **AR4602** — Allows use of NetShelter SX handles including combination lock handles (AR8132A) and NetBotz™ Rack Access PX-HID (AP9361).

- **AR4701** — Dust filter pack for 18 and 24U. Increases the Ingress Protection Rating (IP) from IP44 to IP54 and reduces the risk of dust-related equipment issues.

- **AR4702** — Dust filter pack for 38U. Includes filters for bottom and top of enclosure air intake holes.

- **AR4703** — Fan booster increases the CX thermal capacity by up to 40%.

AR4601
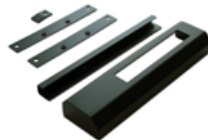
AR4602
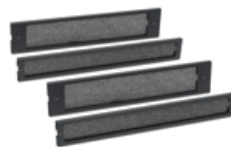
AR4702

AR4703

Specialty enclosures

NetShelter WX wall-mount enclosure

Support remote patching and networking applications in a convenient wall-mount rack with an easy-install rear-hinged section and reversible doors.

- **AR100** — 13U x 580 mm (23 in.) wide x 630 mm (25 in.) deep, wall-mount enclosure with vented sides and glass front door

- **AR100HD** — 13U x 580 mm (23 in.) wide x 630 mm (25 in.) deep, wall-mount enclosure with vented sides and full vented front door

- **AR8206ABLK** — Roof fan tray 120 V

- **AR8207BLK** — Roof fan tray 208/230 V

- **AR8359** — Castor kit for NetShelter WX

- **AR8355** — Ventilation plates for NetShelter WX

AR100

NetShelter seismic enclosure

Enclosure designed for essential facilities and carrier applications in seismic environments. Meets NEBS test standard GR-63-CORE Zone 4 at 454.5 kg (1,000 lb.) equipment load.

- **AR2144BLK** — 42U x 600 mm (24 in.) wide x 1,070 mm (42 in.) deep, NEBS enclosure, with sides.

- **AR2145BLK** — 42U x 600 mm (24 in.) wide x 1,070 mm (42 in.) deep, NEBS enclosure, without sides.

AR2145BLK

Cooling and airflow management

Air sealing

Covers open rack space to prevent air recirculation and reduce bypass airflow to improve cooling efficiency.

- **AR8136BLK** — 1U toolless snap-in blanking panel, 10 pk

- **AR8136BLK200** — 1U toolless snap-in blanking panel, 200 pk

- **AR8108BLK** — 1U standard metal blanking panel, 2 pk
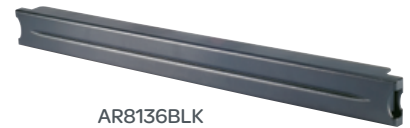
- **AR8101BLK** — 1U, 2U, 4U, 8U, blanking panel kit

- **AR7708** — NetShelter SX Air Recirculation Prevention Kit for closing gaps and pass-through holes between side panels and equipment mounting rails

- **AR7731** — NetShelter SX external air sealing kit seals external openings at roof and floor, 10pk

AR8101BLK

AR8136BLK

AR7731

Side airflow cooling

Support cooling for small and large networking switches mounted within networking enclosures.

- Consists of two duct assemblies that act as diverters, utilizing the existing fan power of the switch

- Systems of baffles are located throughout the enclosure to mitigate exhaust air from recirculating back into the air intake

- **AR7742 (42U)/AR7747 (48U)** — Side airflow solution for Cisco Nexus 7018 attaches to sides of 1,200 mm (47.5 in.) deep enclosures

- **AR7715** — Side airflow duct kit mounts inside 750 mm (30 in.) wide enclosures for Cisco 6509, 6513, 9509, 9513, and 9500 series switches

- **AR7725** — Side airflow duct kit mounts inside 30 in. wide enclosures for Cisco Nexus 7009 series switches

AR7715

AR7715

Ducting only

Vertical Exhaust Duct (VED) for NetShelter SX is an easy-to-install, low-cost cooling option that can increase the efficiency of the attached cooling system.

- **AR7751** — VED for 600 mm (24 in.) enclosures, short range

- **AR7752** — VED for 600 mm (24 in.) enclosures, tall range

- **AR7753** — VED for 750 mm (30 in.) enclosures, short range

- **AR7754** — VED for 750 mm (30 in.) enclosures, tall range

- **AR7755** — Overhead cable extension for VED 600 mm (24 in.)

- **AR7756** — Overhead cable extension for VED 750 mm (30 in.)

Roof fan trays available for 1,070 mm (42 in.) deep enclosures, see "Rack components" on page 13.

KoldLok® raised floor grommets

Seal a variety of cutouts in a raised floor environment to reduce cold air leakage and improve cooling efficiency under the raised floor.

- **AR7720** — Integral raised floor grommet (enclosed) for new installation, 10 pk

- **AR7730** — Surface-mount raised floor grommet (split) for existing cables, 10 pk

- **AR7740** — Extended raised floor grommet to cover length of floor tile, 10 pk

AR7720

AR7740

AR7751 and AR7755 installed on AR3300 with cable management

Rack power distribution

Global power densities are increasing and becoming more unpredictable. Whether deploying rack power distribution in a wiring closet, server room, or data center, Schneider Electric offers a consistent way to meet a variety of power density applications up to 22 kW per strip.

Schneider Electric Rack PDUs have sufficient power and receptacle outputs to meet high kW loads in a minimal amount of space. Their ease of installation accelerates speed of deployment and reduces installation costs. With advanced rack power distribution, Schneider Electric offers real-time remote load monitoring of connected equipment and individual outlet power control for remote power recycling.

Manage power at the rack level with pinpoint control

- **Basic Rack PDU** — Entry-level power distribution for rack-mount equipment

- **Metered Rack PDU** — Advanced power distribution provides real-time remote monitoring of connected loads

- **Switched Rack PDU** — Premium power distribution allows remote control of individual outlets and monitoring of aggregate current consumption

- **Metered-by-Outlet with Switching** — Provides real-time remote monitoring of each individual outlet and on/off outlet control

- **Rack Automatic Transfer Switch** — Provides redundant power to single-corded equipment

Intelligent Rack PDUs offer advanced networking features to meet today's data center demands

Current, power, and energy monitoring at the rack (depending on model series), combined with user-customizable warning/overload settings and automated alarm notifications, enables enhanced capacity and change management.

- Web interface
- Telnet, SNMP
- Security
- Schneider Electric StruxureWare™ for Data Centers software

For a comprehensive list of Rack PDUs, download the latest pocket guide.

Rack PDU local display
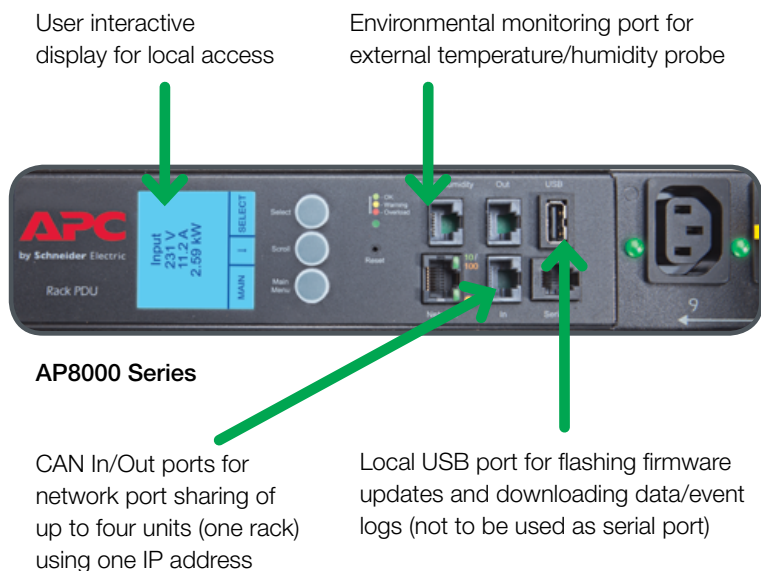
User interactive display for local access

Environmental monitoring port for external temperature/humidity probe

AP8000 Series

CAN In/Out ports for network port sharing of up to four units (one rack) using one IP address

Local USB port for flashing firmware updates and downloading data/event logs (not to be used as serial port)

LCD monitors and KVM switches

**Optimize rack space.
Maximize system visibility.**

Rack LCD Consoles are a keyboard, mouse, LCD console, and optional integrated 8/16 port analog KVM switch (17 in. model only), all in a compact 1U design. This compact design allows a KVM switch to be mounted in the rear of the Rack LCD Console or eliminate the need for a separate KVM switch altogether by choosing a Rack LCD Console with integrated 8/16 port analog KVM switch. The console is easily installed and minimizes support and maintenance costs, ensuring lower cost of ownership. The ultra-thin LCD screen, touch pad technology, and easy-to-install single user rack-mount kit combine to form a high-quality, streamlined solution built for server management. The Rack LCD Consoles can be used in a variety of IT environments, from computer rooms to large data centers.

- Ultra-thin 17 in. or 19 in. LCD monitor
- Integrated keyboard with number pad
- USB port for external media
- Space-saving 1U design
- Touch pad mouse
- Easy to install
- **Localized keyboard versions available**

Access your servers across the room or across the world.

Rack KVM switches empower IT administrators through both local and remote POST- and BIOS-level access and control of connected servers. Schneider Electric Analog, CAT-5 Analog, and IP KVM switches help reduce total cost of ownership — minimizing space, hardware, electricity, and cabling by leveraging just one keyboard, monitor, and mouse for multiple servers. Improve return on investment and flexibility through enterprise-level scalability with centralized management. IT infrastructure management in data centers, computer rooms, and remote branch offices is now possible with greater control and peace of mind with Rack KVM switches.

AP5808

LCD Console	SKU
17 in. Rack LCD Console	AP5717*
19 in. Rack LCD Console	AP5719

*Localized keyboard versions available

LCD Console with Integrated KVM Switch	SKU
17 in. Rack LCD Console with Integrated 8-Port KVM Switch	AP5808
17 in. Rack LCD Console with Integrated 16-Port KVM Switch	AP5816
KVM USB Cable, 1.8 m (6 ft.)	AP5821
KVM USB Cable, 3 m (12 ft.)	AP5822
KVM USB Cable, 5 m (25 ft.)	AP5823

Rear of AP5816

KVM Switches with CAT-5 Type Connection	SKU
32-Port Digital Enterprise IP KVM with Virtual Media, Two Remote Users	KVM2132P
16-Port Digital Enterprise IP KVM with Virtual Media, Two Remote Users	KVM2116P
16-Port Digital IP KVM with Virtual Media, One Remote User	KVM1116P
16-Port Analog Enterprise KVM with Virtual Media, Two Local Users	KVM0216A
16-Port Analog KVM, One Local User	KVM0116A
8-Port Analog KVM, One Local User	KVM0108A
KVM USB Server Module	KVM-USB
KVM PS/2 Server Module	KVM-PS2
KVM USB Server Module with Virtual Media	KVM-USBVM
KVM PS/2 Server Module with Virtual Media	KVM-PS2VM
KVM USB Server Module with Virtual Media and CAC Support	KVM-USBVMCAC
KVM Serial Server Module	KVM-SERIAL
KVM to Rack PDU Power Management Cable	AP5641
KVM 1U Bracket for Rear Mount Behind Rack LCD Console	KVM-LCDMOUNT
KVM Access Software License Upgrade to Enterprise (1,024 Nodes)	SEKVM1024N

AP5201

KVM Switches with Coaxial-Type Connection	SKU
8-Port Analog KVM	AP5201
16-Port Analog KVM	AP5202

Cables	0.6 m	0.9 m	1.8 m	3.6 m	7.6 m
KVM USB Cable			AP5253	AP5257	AP5261
KVM PS/2 Cable		AP5264	AP5250	AP5254	AP5258
KVM Daisy-Chain Cable	AP5262		AP5263		

NetBotz security and environmental monitoring

Security and environmental monitoring for network closets to data centers

NetBotz

Surveillance:
- Leverage NetBotz, Pelco™ IP, and CCTV camera technology to monitor IT assets remotely

Management capabilities:
- Alarming allows alerts, multiple notification methods, scheduling, graph and video attachments, and escalation
- StruxureWare Central available for centralized monitoring of multiple appliances

Environmental monitoring:
- Wide range of sensor support to monitor the health of your IT assets
- Temperature, humidity, leak, door, smoke, vibration, dew point, airflow, dry contact, 4 – 20 mA, and 0 – 5 V

Access control:
- Control and manage access privileges for NetShelter SX enclosures over the network

NBWL0455

NBPD0160

NBPD0155

NBRK0201

NBRK0451

High-level security option for NetShelter SX

NetBotz rack access PX — HID system AP9361
- Configure individual HID proximity cards for access or schedule access to equipment for maintenance purposes
- Control and manage rack access privileges from a Web browser
- Perform audit trails on rack access
- Receive alarm notification when the rack is in a compromised security state

AP9361

AP9361

NetBotz rack access pod 170 — NBPD0171
- Rack access pod connects via A-Link and mounts in the rack basement, minimizing space usage
- Rack access solution scales easily and can be used with any NetShelter SX brand enclosure

NBPD0171

NetShelter enclosure and rack accessory compatibility chart

SKU	Description	AR3100 NetShelter SX 1070 Deep 42U x 600 (W)	AR3105 NetShelter SX 1070 Deep 45U x 600 (W)	AR3107 NetShelter SX 1070 Deep 48U x 600 (W)	AR3150 NetShelter SX 1070 Deep 45U x 750 (W)	AR3155 NetShelter SX 1070 Deep 45U x 750 (W)	AR3157 NetShelter SX 1070 Deep 48U x 750 (W)	AR3300 NetShelter SX 1200 Deep 42U x 600 (W)
Vertical Cable Management								
AR7502	NetShelter SX 42U Vertical PDU Mount and Cable Organizer	•			•			•
AR7505	Rear Center Mount Cable Tree for NetShelter SX	•		•	•		•	•
AR7511	Narrow Vertical Cable Organizer, NetShelter SX, 42U	•			•			•
AR7552	Vertical Cable Organizer, NetShelter SX, 45U		•			•		
AR7572	NetShelter SX 48U Vertical PDU Mount and Cable Organizer			•			•	
AR7580A	Vertical Cable Manager for NetShelter SX 750 mm Wide 42U (Qty 2)				•			
AR7581A	Hinged Covers for NetShelter SX 750 mm Wide 42U Vertical Cable Manager (Qty 2)				•			
AR7585	Vertical Cable Manager for NetShelter SX 750 mm Wide 45U (Qty 2)					•		
AR7586	Hinged Covers for NetShelter SX 750 mm Wide 45U Vertical Cable Manager (Qty 2)					•		
AR7588	Vertical Cable Manager for NetShelter SX 750 mm Wide 48U (Qty 2)						•	
AR7589	Hinged Covers for NetShelter SX 750 mm Wide 48U Vertical Cable Manager (Qty 2)						•	
AR7706	NetShelter SX 750 mm Mounting Rail Brush Strips				•	•	•	
AR7721	Vertical Cable Manager for NetShelter SX 600 mm Wide, 42U	•						•
AR7722	Vertical Cable Manager for NetShelter SX 600 mm Wide, 45U		•					
AR7723	Vertical Cable Manager for NetShelter SX 600 mm Wide, 48U			•				
AR8442	Vertical Cable Organizer for NetShelter 0U Channel	•	•	•	•	•	•	•
AR8443A	Vertical Fiber Organizer	•	•	•	•	•	•	•
AR8444	Fiber Spools	•	•	•	•	•	•	•
AR8008BLK	Side Channel Cable Trough				•	•	•	
AR8016ABLK	NetShelter SX Side Channel Cable Trough				•	•	•	
Rack Cooling SKUs								
AR7708	NetShelter SX Air Recirculation Prevention Kit	•	•	•	•	•	•	•
ACF001	RM Air Distribution Unit 120 V	•	•	•	•	•	•	•
ACF002	RM Air Distribution Unit 208/230 V	•	•	•	•	•	•	•
ACF003	RM Air Distribution Unit 100 V	•	•	•	•	•	•	•
ACF501	NetShelter SX Roof Fan Tray 115 VAC	•	•	•				
ACF502	NetShelter SX Roof Fan Tray 208 – 230 VAC	•	•	•				
ACF503	NetShelter SX Roof Fan Tray 115 VAC 750 mm				•	•	•	
ACF504	NetShelter SX Roof Fan Tray 208 – 230 VAC 750 mm				•	•	•	
AR7715	NetShelter SX Internal Side Air Flow Duct Kit				•	•	•	
AR7725	NetShelter SX Internal Side Airflow Duct Kit for Nexus 7009				•	•	•	
AR7742	NetShelter SX 42U Nexus 7018 Duct Kit							
AR7747	NetShelter SX 48U Nexus 7018 Duct Kit							

AR3305 NetShelter SX 1200 Deep 45U x 600 (W)	AR3307 NetShelter SX 1200 Deep 48U x 600 (W)	AR3350 NetShelter SX 1200 Deep 42U x 750 (W)	AR3355 NetShelter SX 1200 Deep 45U x 750 (W)	AR3357 NetShelter SX 1200 Deep 48U x 750 (W)	AR3140 Networking 1070 Deep 42U x 750 (W)	AR3340 Networking 1200 Deep 42U x 750 (W)	AR3347 Networking 1200 Deep 48U x 750 (W)	AR3104 NetShelter SX 1070 Deep 24U x 600 (W)	AR3200 Co-location SX 1070 Deep 42U x 600 (W)	AR3810 AR3812 NetShelter SX AV 825 Deep 42U x 600 (W)	AR3814 NetShelter SX AV 825 Deep 24U x 600 (W)
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# Online resources

Help me choose

Visit Rack PDU test drive sites

Small IT Solution Designer

Channel partners access this Web-based designer tool through Schneider Electric Design Portal.

- Rack selector to find the right enclosure
- Drag and drop into the rack for fast configuration
- Instant validation with warnings and recommendations ensuring a proper solution

Learn more about channel partner programs.
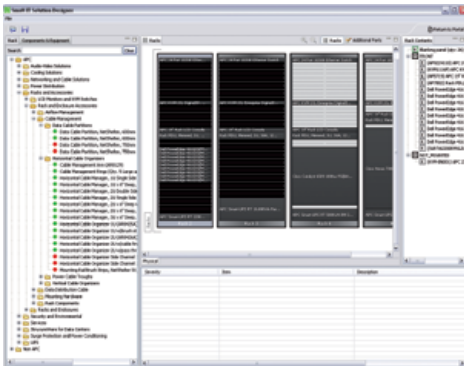
Additional resources

Download the White Paper #72:
"Five Basic Steps for Efficient Space Organization in High Density Enclosures"

Download the White Paper #44:
"Improving Rack Cooling Performance Using Airflow Management Blanking Panels"

Download the Application Note #133:
"Cable, Trough, Ladder, and Partition Configuration Guide"

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Try our **FREE**, Web-based applications to experiment with virtualization, efficiency, and more by visiting **www.schneider-electric.com**

Make the most of your energy™

Schneider Electric