Micro Data Center Layout, Cable Management, Grounding/Bonding, Power, and ID

21 Wire Basket Overhead Cable Tray Routing System

3 Dielectric Armored Fiber (Uplink)

7 Category 6A Cable

To Core Switch

To Integrated Network Zone Systems or Switches

14,15 Thermal

Blanking panels optimize air flow and improve appearance. Perforated and solid blanking panels shown.

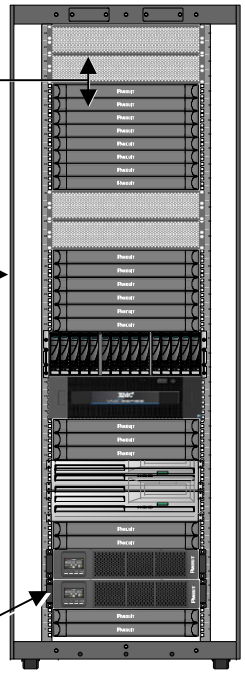
Inside Cabinet

16 Strain Relief

Strain relief bar and clip securely hold horizontal cable preventing disconnect.

17 UPS Intelligent Power Solutions

Highly reliable, efficient power distribution
With secure access and manageability



Front View

Light

Heavy

4 Cable Management

1RU Fiber enclosure with splice mangement, bend radius control, and protection.

Fiber Adapter Panel (FAP) 5

Small Diameter Patch Cord 8

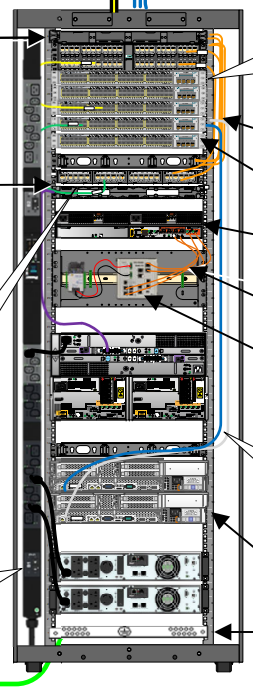
Category 6A RJ-45 Jacks 9

11, 12 Cable Management

Standard 24-port patch panel with D-ring horizontal manager.

18 Intelligent Power Distribution (PDU)

High density G5 iPDU device provides reliable power and energy/UPS monitoring while maximizing rack space.



Rear View

10 Cable Management

High-density patching using a 48-port angled patch panel. Horizontal managers not needed.

6 Multimode Fiber Patch Cord

Network Switch

Storage Array

Layout
Switches turned around to have ports on same side.

2 DIN Rail Tier

13 Port Block-Outs

19 Identification

Label cords with FROM and TO location. Panduit TurnTell labels makes it easy to view.

Servers

20 Identification

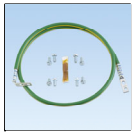
The *Rapid*ID™ Network Mapping System reduces the time and cost of documenting patch cords. Panduit copper and fiber patch cords are pre-labled for *Rapid*ID.

1 Micro Data Center

42 RU NEMA Type 12 or Pre-Configured cabinet(s).

22 Grounding / Bonding

Grounding cable attaches to grounding bar.
Jumpers attach to ground bar and equipment.



Use this drawing when:

- Deploying a new compute, network, and/or storage cabinet or rack
- Upgrading or adding devices
- Expanding the network
- Addressing moves, adds, and changes maintenance issues

PCD007-SEP23-ENG

PANDUIT™

Micro Data Center
(Cabling Subsystem 3)

Bill of Materials

Part Number	Description
	Pre-Configured Micro Data Centers
MDC82NN	42 RU NEMA 12 pre-configured micro data center, two side panels, network cabling, patch panels, cable management, grounding, and casters. 82.1" (2085.5mm)
	Copper and Fiber Cable and Connectivity
FOJDZ12	50um OM4 12 Fiber dielectric double jacketed fiber cable, riser (OFNR), 250um loose tube fibers
FX2ERLNLNSNM002	2 fiber OM3 LC duplex to LC duplex patch cord OFNR (riser) rated, 16mm jacketed cable Std lL 2 meters
FAP6WAQDLCZ	LC 10Gig OM3/OM4 FAP loaded with six LC 10Gig Duplex Multimode Fiber Optic Adapters (Aqua) with zirconia ceramic split sleeves
FCE1UA	Opticom® Fiber Enclosure, 1RU, uses up to 4 FAP or FMP adapter panels
IFRH6X04BL-UG	IndustrialNet™ Category 6A Shielded Copper Cable, 600V, 4-pair, 23/1 AWG
CJS6X88TGY	Category 6A, RJ45, 8-position, 8-wire, Shielded Mini-Com® universal jack module has TG-style termination and is black.
STP28X1MBU	Category 6A, shielded 28 AWG patch cord enabled with RapidID, blue, 1 meter
PSL-DCJB	Jack module block-out device, 10 block-outs (red)
CPPL24WBLY	Mini-Com® 24-port modular patch panel with labels and label covers, 1RU
CPPA48HDWBLY	Mini-Com® 48-port angled high-density patch panel, 1RU
	Cable Management and Pathways
SRBBRWC-KIT	Strain relief bar kit includes a strain relief bar, SRBWCY and quick release brackets, SRBBRKT
CMPHF1	Horizontal D-Ring Cable Manager, front only, 1RU, 1pc + CMDRH1 D-ring
TLBP1S-V	1RU tool-less blanking panel, mounts to 19" (483mm) wide cage nut rails
ZDINS25	Expansion Tier with UPS for 2 industrial switches. Includes a 4RU DIN rail mount bracket, 48-port patch panel, UPS, power supplies AC to DC, terminal blocks, and wiring for 120 V AC input.
PWB4X18EZ	Wire basket Overhead Cable Tray Routing System, 4 in. deep x 18 in. wide, electro zinc finish. Compatible with splie connectors, sidewalls, waterfalls, mounting brackets, and accessories.
	Power Solutions
U03N11V	Uniterruptible Power Supply, 3kVA, 2U, 120V, VRLA, single phase, double-conversion on-line power protection with intelligent network card and rail kit
P24G01M	G5 Monitored and Switched per Outlet Power Distribution Unit, 30 amp, 208 V, single phase, with NEMA L6-30P input plug with 10-foot power cord; 20 C13 and 4 C19 outlets
P24G06M	G5 Monitored and Switched per Outlet Power Distribution Unit, 32 amp, 230 V, single phase, with IEC 60309 2P+E 6h 32A (IP44) input plug with 10-foot power cord; 20 C13 and 4 C19 outlets
	Grounding and Bonding
RGRB19CN	Grounding busbar; 19" (483mm) length; with two cage nut bonding studs and four #12-24 bonding nuts.
RGEJ660PF	#6 AWG (16mm²) jumper, 90° bent lug on grounding strip side to straight lug on equipment.
	Identification
R100X150V1T	Thermal transfer Turn-Tell label with print-on area 0.50" (12.7 mm) high, clear with a white print-on area color.
RPDSCN	RapidID™ Network Mapping System barcode scanner works with all RapidID-enabled copper and fiber patch cords.

For an expanded product offering visit panduit.com.

About this Configuration

Server, Switch and Storage Layout

For best stability, heavier equipment like server, UPS, and storage should be mounted towards the bottom of a cabinet or rack with lighter components like switch, firewall, and patch panel towards the top. Reliable and efficient cabling is best with all equipment ports facing backwards. Equipment like switches may need to be turned around with their port side facing backwards. Cabinet rails may need to be moved forward to line up devices on the front. Ensure cabinet or rack RU holes are compatible with equipment rails and brackets.

Cable Management

Follow best practices to route and protect cabling to achieve the highest reliability and ease moves, adds, and changes. Reduce interference with ports by placing rack mounted horizontal cable managers above and below equipment or flat patch panels to route cables away from port. Use angled patch panels for high density patching. A fiber enclosure protects exposed fiber cable, termination management (e.g., fusion splice), and bend radius control. Select patch cord lengths that have minimal slack between connections. Use slack spools to take up slack. Buncle cables using Hook & Loop cable ties for easy cable additions and removal. Horizontal cable should have strain relief, such as a strain relief bar, to prevent jack connection damage.

Power Distribution

Reliable power is achieved with redundant power sources via UPS or dual, independent power lines to a Power Distribution Unit (PDU). The PDU should have a current rating and outlets sized to support current and future equipment. PDUs can also come with power and environmental monitoring to provide critical alerts.

Grounding and Bonding

Grounding and bonding is essential for reliable communication and equipment protection. A solid copper grounding conductor is terminated to a lug and then landed on a grounding bar. Jumper cables are attached to the equipment ground terminal and then routed to the grounding bar terminated with a lug that is attached to the grounding bar with a screw.

Identification

Clear and intuitive identification eases installation along with moves, adds, and changes. This includes labeling cables on both ends following TIA-606-B standards. All Panduit patch cords come pre-labeled with bar codes on each end to facilitate network mapping via the RapidID™ Network Mapping System. Color coding can help identify VLANs, areas, and media type.

For more information contact your local distributor, Panduit Sales Representative, or the Panduit Industrial Network Infrastructure team at networkinfrastructure@panduit.com.

PANDUIT™