# PDU :: Cables connect with us

# THE PREFERRED CHOICE

for complete prefabricated UL Listed Data Center power distribution cable assemblies.





## PDU CABLES, THE INDUSTRY LEADER

Welcome to PDU Cables, the leading manufacturer of prefabricated data center power distribution cable assemblies in the United States since 1981, where technology, quality, innovation and creativity are taken to the highest level and customer service has real meaning.

As the preferred supplier of UL Listed power cable assemblies to data centers, PDU Cables mission is to provide superior customer service, knowledge and value while exceeding the expectations of our data center design, construction and facility management partners.

Our 85,000+ square foot corporate headquarters and manufacturing facility is located in Minneapolis, Minnesota where you will find a dedicated staff of manufacturing specialists assembling and testing each and every custom cable we build. With our experienced sales team providing unsurpassed product knowledge and superior customer service, it's no wonder why over 5,000 data centers have chosen PDU Cables as their supplier of choice for custom prefabricated power cable assemblies.





#### Letter from the CEO

PDU Cables is a division of Engineered Products, Inc.; a family owned and operated business with a history of manufacturing and supplying components in the electrical power industry for nearly four decades. When PDU Cables began manufacturing power distribution cable assemblies, we did so at the request of our customers. What started out as a simple need for a higher quality power whip, consistently manufactured and delivered on a short lead time, has led PDU Cables to be the industry's leading manufacturer of prefabricated power distribution cable assemblies.

Over the years a lot has changed at PDU Cables, yet much remains the same. While the number of innovations that PDU Cables initiates has increased each year, our philosophy of producing quality power cable assemblies as quickly as possible, with unsurpassed customer service, remains constant.

To our many customers, thank you for your loyalty and the chance to supply your mission critical facilities with high quality power cable assemblies. For those of you who have yet to experience the benefits of PDU Cables, give us a call for a free quote or send us a small order. See for yourself why today's top enterprise and colocation data centers rely on PDU Cables to supply prefabricated power distribution assemblies to ensure the reliability of their power supply.

connect with us

Duncan Lee, CEO PDU Cables 

## PDU CABLES, THE PREFERRED CHOICE IN UL LISTED POWER DISTRIBUTION CABLE ASSEMBLIES

Many of today's power cabling industry standards and best practices were first introduced by PDU Cables as a result of our close working relationship with customers to understand their unique business needs. Some of these "firsts" include; UL listing, 100% pre-testing of cable assemblies, the cable configurator, use of colored liquid tight flexible metal conduit, colored faceplates and colored boxes, custom labeling, packaging for easy installation, and shipment within 24 hours of order placement.

For PDU Cables, our accomplishments are measured through the success of our customers and partners. Our staff's years of experience, technical knowledge of the industry, flexibility and responsiveness in designing solutions to customer cabling problems, along with a commitment to service, is what distinguishes PDU Cables from other cable manufacturers.

Committed to exceeding the mission critical needs of today's data centers, PDU Cables strives to supply the highest quality power distribution cable assemblies possible. The process begins with the engineering of each cable assembly to UL Standards, selecting the best industrial grade components, and manufacturing the cable in a controlled factory setting for unequaled quality, safety and reliability

## When you buy from PDU Cables, not only do you get the industry's leading power cables assemblies, you also get:

- 1. To work with an experienced sales team
- 2. The PDU Cables configurator tool
- 3. Free project take-offs
- 4. Quick turnaround and fast delivery
- 5. Unsurpassed customer service
- 6. Limited lifetime warranty
- 7. Only the highest quality components
- 8. UL Listed power cables
- 9. 100% pre-tested power cables
- **10.** Multiple conduit options
- **11.** Single or multi-circuit options
- **12.** Mounting hardware options
- **13.** Colored conduit options
- **14.** Colored faceplates and box options
- 15. Custom labeling options

- 16. Cables and tails cut to any length
- Cables packaged for protection and ease of installation
- **18.** Matching circuit breakers
- 19. Molded power cord assemblies
- 20. Ground bonding kits

If your data center is mission critical, uptime depends on the integrity of your electrical system—rely on PDU Cables to provide a complete prefabricated power distribution cable assembly solution to ensure the highest reliability for your data center environment.

## EXPERIENCED SALES TEAM

At the heart of solving complex cable management issues is the PDU Cables sales team.

After manufacturing power cable assemblies for over 30 years, PDU Cables knows what it takes to get the job done right. Our experience tells us that success begins and ends with the quality of the people configuring and building the cables. At PDU Cables our sales team is expert cable configurators. Their industry knowledge and product expertise make them the perfect choice to help trouble shoot and find solutions to cabling problems. Every member of our sales team has spent time on our factory floor assembling cables. This invaluable experience provides insight into how cables are manufactured and the importance of proper configuration when specifying cable assemblies.

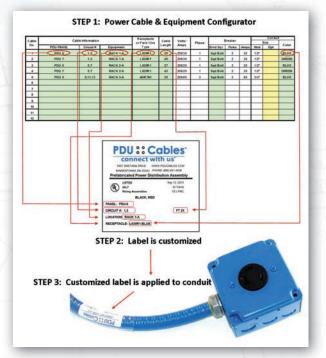
## CABLE CONFIGURATOR TOOL

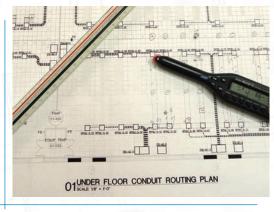
The PDU Cables Power Cable and Equipment Configurator Tool makes ordering cables easy.

Our configurator walks you through the process of selecting and ordering the cables you need. Use the drop down menus to select the components you want, standard electrical specifications will automatically populate along with the custom fields for the selected assembly.

Our checklists make sure that you don't forget anything, or design a cable that doesn't adhere to NEC code. The configurator speeds the ordering process and helps keep your power cables organized. The configuration process also creates a custom label for each cable.

If you prefer, we will gladly take your written requirements and configure your cable needs for you, and present to you the cable specifications in a written quote.





Cable project take-off in process

## FREE PROJECT TAKE-OFFS

Let PDU Cables configure your cables by performing a free electrical panel take-off.

Time is money, why spend it configuring power distribution cable assemblies? Let PDU Cables help you become more productive. Send your electrical panel schedules or electrical floor plans to us. We'll review your electrical drawings and deliver back to you a complete list of components to build the power distribution cables needed for your next project. When performing takeoffs, we consider every aspect of your project, providing you a comprehensive solution to your project needs.

#### FACTORY MANUFACTURED

In a factory setting, performing tasks repetitively cuts time and labor costs, creating efficiencies and saving money.

PDU Cables 85,000+ square foot facility allows us to stock large inventories of components needed to manufacture thousands of power cables each week. We have the expertise and the tools and inventory on-hand, and within easy reach, so that jobs are completed on-time and to UL specifications. Using time-tested manufacturing processes and procedures, PDU Cables' quick-turn factory assembled power distribution cables provide superior craftsmanship and significant cost savings over cables built on-site

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## **QUICK TURNAROUND**

PDU Cables is known for its quick turnaround and prompt delivery; most orders can be built and shipped within 24 hours.

Expedited orders and shipping are available as well. Our quick turn philosophy, with attention to detail, has helped many data center professionals meet tight deadline.

We've been a part of this industry long enough to know that short lead time power cable requests are a common occurrence, that's why we staff and prepare for these last minute rush jobs. We have processes and procedures in place, inventory on hand, and the staffing to allow us to insert rush orders into our production work flow without disrupting normal operations.

We won't leave you hanging, our sales support staff will schedule the rush job, verify with manufacturing and then respond to you with timelines and delivery expectations. We don't want you waiting to do your job while waiting for us to do ours.

Our ability to produce UL listed, 100% tested power whips with such short lead times is one reason why so many data centers and electrical contractors have chosen to have PDU Cables supply their power distribution cables instead of manufacturing it themselves

#### SENSE OF URGENCY

Time spent waiting, is wasted time, time that could have been spent on more productive things. At PDU Cables, we share your sense of urgency. That's why when you have a question or request a quote we'll get back to you as quickly as we can. With PDU Cables you can trust that we'll respect you enough to not waste your time



I know all so well PDU Cables' capabilities. Hell, I could probably sell your product based upon my experiences with your firm's personnel, its product reliability, and high level of service."

M. B.

## UNSURPASSED CUSTOMER SERVICE

With over 30 years of engineering and manufacturing experience, no cabling project is new to PDU Cables. Our expert sales team and their wealth of product and industry knowledge can help guide you through the cable configuration process. We are expert trouble shooters who can help identify and avoid obstacles before they occur, and find the right solutions to any problem.

> If there is something you need, something special you require, all you need to do is ask and we'll do our best to solve your problem or meet your needs. Special requests are what make our job interesting, and our people love their jobs.

> > 50 Amp receptacle

#### LIMITED LIFETIME WARRANTY & REPLACEMENT GUARANTEE

PDU Cables ensures that all power cable assemblies are free from defects in quality and workmanship from the date of original purchase. PDU Cables warranty excludes connectors, circuit breakers, and devices and does not cover damages due to accidents, abuse or improper installation. Contact your regional sales manager or visit our web site for more information about registering for the limited lifetime warranty.

## **ONLY THE HIGHEST QUALITY COMPONENTS**

Committed to exceeding the mission critical needs of today's data centers, PDU Cables strives to supply the highest quality power distribution cable assemblies possible. The process starts with the best industrial grade components available, selected from proven manufacturers. Each power cable assembly is then engineered to UL Standards and manufactured in a controlled environment for unequaled reliability and safety.

PDU Cables assembles millions of feet of cable each year, and our years of experience have told us which manufacturers' components are superior, and which to avoid. Our selection of manufacturers guarantees the highest quality components possible when producing power cable assemblies.

Quality starts with the best available components; below is a partial list of manufacturers we use to supply components:

- Hubbell
- Cooper Arrow Hart
- Red Dot
- RussellStoll
- Thomas <sup>0</sup> D
- Thomas & Betts
- Southwire

- Mennekes
- Steel City
- International Metalhose
- GE
- Square D
- Cutler-Hammer

We recognize that every data center has unique needs and every person has unique preferences. That's why at PDU Cables we stock components from several manufacturers. If a specific preference for a manufacturer's components is desired, we will gladly substitute any component as per your request.

## **UL LISTING**

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Underwriters Laboratory (UL) is the standard for safety and compliance. PDU Cables power cable assemblies meet all requirements of the UL to assure the electrical inspector that all the cables will meet the UL Standards and not cause electrical hazards in a mission critical facility.

Conforming to wiring assembly #478, manufactured with UL Listed components and certified as a complete UL Listed assembly, PDU Cables comply with 2011 NEC Article 350.30(A) and 645.5(E) so they do not have to be securely fastened in place and supported every 4.5 feet, expediting installation and integration.



Underwriters Laboratory Listing

#### NEC ARTICLE 350.30(A)

LFMC shall be securely fastened in place by an approved means within 300mm (12in.) of each box, cabinet, conduit body or other conduit termination and shall be supported and secured at intervals not to exceed 1.4m (4.5ft.).

#### NEC ARTICLE 645.50(E)

Power cables and associated boxes, connectors, plugs and receptacles that are LISTED as part of, or for, Information Technology Equipment (ITE) shall NOT be required to be secured in place.

NEC Article 350.30(A) and 645.50(E)







## **TESTING-QUALITY CONTROL**

All (100%) of PDU Cables power distribution cable assemblies are thoroughly tested and factory inspected to ensure unsurpassed performance and reliability.

#### **Insulation Leakage Test**

PDU Cables performs insulation testing on all of its power cable assemblies. The test ensures minimal leakage through wire sheathing and verifies that the conductors were not damaged during assembly which can create arching between conductors or to ground, causing a circuit to trip.

#### **Ground Continuity Test**

This test confirms there is grounding continuity between the grounding blade or socket of the supplied plug or receptacle and the supplied grounding conductor on the opposing end of the cable. The continuity testing guarantees that there are no breaks in the conductors used.

#### **Phase Rotation Test**

The phase rotation test makes certain all conductors are connected to the proper terminals. In addition to the tests required by Underwriters Laboratory, PDU Cables performs an additional continuity test on each conductor to safeguard that each device is wired properly. This tests continuity between each blade or socket of the supplied plug or receptacle and the correct color conductor at the opposing end of the cable, ensuring the device is wired according to the correct color code.

### Dielectric Withstand Voltage Test (Hi-Pot)

The Hi-Pot test is performed on each conductor at twice the rated circuit voltage plus 1000 volts. No breakdown (shorting or arching) of any conductor during the test is allowed.

#### **Test Results**

Test results for each cable are documented and supplied along with each cable order. Test results are also retained for each cable and are available upon request.

## Power Cable Test Results

II All power cables are thoroughly factory-tested and checked to ensure unsurpassed performance and reliability. Ground continuity and Hi-pot quality assurance testing is performed on each complete cable assembly. These tests meet, and exceed, UL requirements for data processing equipment cables.

It Testing ensures the following: Proper ground integrity, Continuity, No insulation leakage, Proper phase rotation, and Circuit voltage capacity (tested at twice-rated circuit voltage plus 1000 volts).

Each cable is marked with the manufacture date. Test reports are retained for each cable by circuit and panel number. Individual

so	# P: 0420	9	Barrel #: 1			
	Panel	Circuit #	Equipment	Recept.	Length	Pass/Fail
1	16A-PNL1	17,19	174.01	L630R1	38	Passed
2	16A-PNL1	20,22	174.02	L630R1	36	Passed
3	16A-PNL1	21,23	174.03	L630R1	34	Passed
4	16A-PNL1	24,26	174.04	L630R1	32	Passed
5	16A-PNL2	17,19	174.05	L630R1	30	Passed
6	16A-PNL2	18,20	174.06	L630R1	28	Passed
7	16A-PNL2	21,23	174.07	L630R1	26	Passed
8	16A-PNL2	22,24	174.08	L630R1	24	Passed
9	16A-PNL3	18,20	174.09	L630R1	22	Passed
10	16A-PNL3	21,23	174.1	L630R1	20	Passed
11	16A-PNL3	22,24	174.11	L630R1	18	Passed
12	16A-PNL4	18,20	174.12	L630R1	16	Passed
13	16A-PNL4	21,23	174.13	L630R1	14	Passed
14	16A-PNL4	22,24	174.14	L630R1	12	Passed
15						
16						
17						
18						
19						
20						



Hi-Pot testing



#### PRE-TESTING CABLES SAVES MONEY

The time to find a power whip problem is before it is installed and under load. Once installed, your data center risks downtime and extensive costs as a result of the outage and eventual cable replacement.

The cost associated with down time and outages is why most N+1 data centers insist on UL Listed, 100% pre-tested and labeled power whips. They can't afford the cost and risk of downtime to untested power cables.

While some cable manufacturers perform random tests of their cables, to ensure PDU Cables power cable assemblies won't fail under load, we pre-test each cable (100%) before it is labeled as a UL certified assembly. If it has a PDU Cables UL listed label, you know, as well as the electrical inspector, that each power cable has been tested, certified and is ready for installation.

*"Keep up the great work, we use you guys for all orders small and large."* 

Actual test results sheet

## CONDUIT OPTIONS

PDU Cables offers several choices for supplying critical power from power distribution units and remote power panels to server racks and cabinets, including both under floor and overhead power cable solutions.

**Liquid Tight Flexible Metal Conduit Assemblies (LFMC)** – Strong, durable and liquid tight; by far data centers most popular conduit option. (Available in eleven standard colors)

### CABLING UNDER COMPUTER ROOM RAISED FLOORS

NEC article 645.5 modifies article 300, permitting branch circuit conductors to be installed under a raised floor using either Liquid Tight or Flexible Metal Conduit, if the computer room meets the qualification as an Information Technology Equipment (ITE) room.

Liquid Tight Flexible Metal Conduit is both listed by Underwriters Laboratories and certified by Canadian Standards Association and offers outstanding protection against wet and oily conditions. Liquid Tight is permitted for use in exposed or concealed locations and is approved for use with Information Technology Equipment in raised floor plenum environments (NEC 645). The flexible inner core is made from a spiral wound strip of heavy gauge, corrosion resistant, hot-dipped galvanized steel and includes an integral bonding strip of copper that is enclosed within the convolutions throughout their entire length. This ensures a stable ground and reduces EMI, RFI and cable "cross talk". The liquid tight jacketing material is a high quality, rugged, flame retardant flexible PVC compound which resists oils, mild acids and exposure to sunlight.

**Flexible Metal Conduit—Greenfield RWS/RWA Assemblies** - When local electrical jurisdictions prohibit the use of Liquid Tight conduit, the next best option is Flexible Metal Conduit. (Colored boxes and faceplates may be added to color code for dual powered equipment)

Greenfield is a reduced wall Flexible Metal Conduit that is available in either steel (RWS) or aluminum (RWA). The main difference between Flexible Metal Conduit and Liquid Tight is the absence of the PVC sheathing and the integrated copper ground bonding strip. A separate green ground conductor must be utilized. Flexible Metal Conduit is permitted for use in ITE raised floor environments (NEC 645), but is not suitable in damp or wet locations.

Closed-nipple multi-circuit cables Liquid Tight Flexible Metal Conduit

## SINGLE OR MULTI-CIRCUIT CABLES

Space under the data center floor can prove difficult to allocate and manage. Considering the number of "line-powered" devices to be provisioned, installing multi-circuit cables might be the best option. Multiple circuits can be run through the same cable conduit allowing for two, three or more pieces of equipment to be powered off the same power whip, saving time and money.

A growing number of data centers take advantage of the space and cost savings associated with multi-circuit cables. Our sales team can help you decide when and where daisy chains or multiple circuit cables make sense.

**Note:** SO Cord, Metal Clad (MC) Cable, Generator Cables and other custom cable assembly options are available. Contact your sales manager or visit our web site for more information.

## **MOUNTING HARDWARE**

Mounting hardware is available as an add-on to any branch circuit power whip cable assembly. PDU Cables offers a variety of options that facilitate elevated mounting positions. In addition to some of the industry standard mounting options; beam, pedestal clamp, bolts, brackets and ears, PDU Cables can work with you to design and develop custom mounting solutions to meet your unique needs.

Mounting hardware allows your cable receptacles to be secured to raised-floor pedestals, beams or uni-struts. This facilitates improved airflow and allows easier access to the receptacles and keeps the cables off the floor eliminating the risk of water damage.

Though many of our customers utilize an elevated mounting position so they can lift a floor tile and have the power whip receptacle within easy reach, mounting hardware isn't limited to raised floors, PDU Cables also offers mounting options for overhead applications.

#### **IMPROVING AIRFLOW**

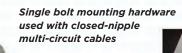
Proper airflow is critical to optimal operating efficiencies. Keep under floor power cables in the hot aisle running parallel to the computer room air conditioner (CRAC) unit airflow. Consider elevating mounting positions for the receptacles to help protect against possible pooling water and cable air dams, allowing for better airflow and improved CRAC unit efficiency.





Pedestal clamp mounting hardware used with closed-nipple multi-circuit cables

Cable tray C50 mounting brackets



1

Overhead mounting for cable tray and ladder racks

Beam Clamp



Single Bolt

Mounting Ears



Double Bolt

Pedestal Clamp





PDU Cables stocks eleven colors of liquid tight conduit

10

## COLOR CONDUIT

A data centers greatest challenge is keeping its equipment up and running 7x24, especially during maintenance on the critical power paths that feed the equipment. Even if your site allows you to shut down periodically, you are still faced with the possibility of failed power supplies in the IT equipment, or tripped circuit breakers, which can cause an outage.

We offer painted hard body IEC 309 boxes

Most data centers have adopted the use of redundant power sources, and a good way to organize those dual power feeds is to match liquid tight conduit by color for each power source. For added convenience and improved cable management, PDU Cables offers eleven colors of conduit allowing data centers to have unique colors for each primary and redundant PDU/RPP unit.

Colored conduit allows easy identification of primary power from redundant power. Track individual cable runs from each PDU to ensure dual corded equipment is fed from both power paths. Utilizing multicolored conduit facilitates the marking of each panel board with the PDU.

## COLOR CODING POWER CABLES

Color-coding dual power feeds ensures you are utilizing both A and B power paths to your dual-corded equipment. Color-coding leads to better organization, improved troubleshooting, and overall better management. In the event you need to shut down for maintenance or to trouble shoot a problem, you can easily identify and isolate power sources. In the event of a breaker trip on failover or during a restart, color-coding each electrical power path makes isolating power sources easier.

> Colored faceplates & Boxes, perfect for Flexible Metal Conduit RWS/RWA

## COLOR FACEPLATES AND BOXES

When a Chicago based customer asked us to find a way to supply different color receptacle boxes and faceplates for their Flexible Metal Conduit cable assemblies, so they could identify their primary and secondary

power feeds, we said we'd try. And if you know us; we love a challenge.

PDU Cables now offers colored faceplates and boxes for both weatherproof and 1900 style boxes in the same eleven colors of our Liquid Tight conduit; red, green blue, black, white, pink, yellow, orange, purple, brown and grey.

Once you see how great these colored faceplates look, you'll understand why we take the time to bubble wrap each colored box/faceplate to protect the finish. We're excited and proud of them, and so will you, so much so that you'll be pulling floor panels

to show them off during your next visitor tour.

Colored faceplates & boxes compliment colored conduit

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Available in eleven colors



## **CUSTOM LABELING**

Each PDU Cable power cable assembly includes a cable identification label referencing the circuit number, equipment, PDU panel, receptacle and length, as well as the UL certification. This allows for easier on-site installation and for guicker isolation of cables if you need to shut equipment down. Individual conduit labels are protected with clear heat shrink wrap tubing to prevent alteration or accidental removal, and are located at both ends of the cable. Additional labels can be located on the conduit per customer specification for convenient identification.

By adding custom labeling to boxes or faceplates, one quick glance, and you know exactly which cable feeds which rack or cabinet A or B side.

#### **Colored Labeling**

For those few data centers where liquid tight conduit isn't an option, the addition of colored labels on Flexible Metal Conduit at intervals throughout the length of the cable assembly can help you better identify your power sources. Labels are offered in the same eleven colors as the liquid tight conduit, boxes and faceplates.



Colored conduit labels, perfect for Flexible Metal Conduit cables

#### **Conductor Labeling**

POU-PANEL

CIRCUIT#12

Conductor circuit labeling saves you time and reduce installation errors. When pulling wires into an RPP/PDU panel up from a raised floor, the electrician feeds the power whip tails through the panel knockout. The electrician doesn't have clear visibility to the standard label at the end of the conduit, which can easily be six feet away or more. So the electrician doesn't

have to keep looking back under the floor at the conduit label, PDU Cables can label each conductor wire identifying its circuit. This speeds the wiring process dramatically, saving time and reduces the chance of installation errors. If you're not sure of the value of this label, just ask the electrician installing the power cable assemblies.

**Colored Box Labels** 

Faceplate Labels

Conduit labels are available in eleven colors

PDU :: Cables connect with us 5401 SMETANA DRIVE WWW.PDUCABLES.COM

MINNENTONKA MN 55343 PHONE (866) 631-4238 Prefabricated Power Distribution Assembly

Sep 12, 2013

10 THHN 1/2 LFMC

FT 40

11

CIR. #: 30

## RECEPTACLE: L630R-BLUE

#### **Conduit Labels Reference:**

UL Certification

LISTED

Wiring Assemblies

LOCATION: RACK 1-RECP 1 L8

BLACK, RED

2417

PANEL: PDU-B-3

CIRCUIT # 1,2

- PDU/RPP Identification
- Circuit Number
- Cable Length
- Equipment
- Device Type

NOTE: Additional information can be put on labels at customer request.

Box labels, perfect for overhead power whip applications

PDU: PNL 24A CIR.#: 34

LOCATION: STORAGE CAR

RECEPTACLE: 630R.BLUE

PDU: PNL 24A CIR.#: 32

## CABLES AND TAILS CUT TO ANY LENGTH

Avoid installing cables too long or too short. Short cables risk disconnects if bumped; long cables consume space, waste money, add clutter and can make troubleshooting more difficult.

That's why at PDU Cables we manufacture each power cable to exact specifications. Every application and every configuration is unique, at PDU Cables; your cables are manufactured to those exacting specifications. Let our experienced sales team help you determine the right length for each and every power distribution cable you need.

#### Power whip cable tails are cut to an 8' standard length. Longer tails are available when wiring to tall RPP units or connecting to a cable trough.

#### **USING THE RIGHT LENGTH CABLE**

Power cables shouldn't be any longer than necessary. As power cord length increases the resistance increases and voltage is lost from the source to the equipment. Always use the correct length of cables, allowing some slack at the end for device movement and final fitting.

## PACKAGING

12

PDU Cables power cable assemblies are coiled into sturdy fiber drums, from shortest to longest cable length and barreled by PDU designation, panel and row (or any other customer provided specification) for ease of in-row installation. Cables are wiped clean prior to barreling to ensure cleanliness and minimize the introduction of contaminants into the data center. Each drum is labeled with a barrel sheet that identifies exact contents, showing Hi-Pot test results, and loaded onto a standard shipping pallet. The fiber drums provide cable protection during shipment and make it easy to unload and move cables around the job site.



Cables being cleaned and packed for shipping

Fiber barrel with cable sheet attached

"We have ordered as few as 2 whips and as many as 20+ you guys are always my first Go To' for my whips, breakers and power cord needs...Keep up the excellent work." K. W.



## MATCHED CIRCUIT BREAKERS

PDU Cables is your one-stop-shop; with each cable purchase we can provide a circuit breaker matched to the cable and your main breaker, giving you one less thing to worry about. Packed along with the power whips, having a matched circuit breaker on hand makes the installation faster and easier. PDU Cables stocks a full line of both plug-in and bolt-in style circuit breakers, including Square D, GE and Cutler-Hammer.

Circuit Breakers - GE, Square D, Cutler-Hammer

## MOLDED POWER CORD ASSEMBLIES

Connect servers and other equipment to rack PDU power strips with IEC 320 jumper cords, available in 5-15P, 5-15R, C13, C14, C19, and C20 configurations offered at various lengths and colors.









Ground bonding wire with standard two-hole lug and split bolt connector

Data Center equipment is sensitive to electrical disturbances. While minimum ground requirements are designed for personnel safety and fire prevention purposes, data center downtime and damage to equipment as a result of inadequate grounding can cost an organization millions of dollars. Proper grounding is the most important factor in reliable network equipment performance.

The goal of a grounding system within a data center is to equalize electrical potentials and to create a low impedance path to ground to help prevent transient voltage from damaging sensitive electrical equipment.

Offered in custom lengths and multiple lug options, PDU Cables, SurgGuard Ground Bonding Kits, make grounding racks and cabinets fast and easy. Don't let transient voltage and electrical surges damage critical equipment. Protect your Data Center, ground bond your racks and cabinets with PDU Cables SurgGuard Ground Bonding Kits.

#### **GROUND BONDING BEST PRACTICES**

According to TIA-942 and the IEEE any metallic component that is part of the system including racks, cabinets, cable trays, servers and other equipment must be bonded to the grounding system. TIA-942 recommends each rack to bond directly to the grounding grid or common bonding network, directing current away from sensitive electronics.

Each ground bonding kit includes anti-oxidant and tread forming mounting screws



#### **Electrical Disturbances**

Without proper grounding transient voltages and electrical surges can damage critical computer equipment. By ground bonding equipment to a grounding grid, Data Centers can eliminate or reduce equipment damage caused by electrical surges.

CANNET

#### **Electrical Noise**

In a data center, electrical noise introduced on data cables when surges are not properly dissipated by the grounding system, result in faulty data signals, lost data and network inefficiencies. Rack ground bonding improves data transmission efficiencies by reducing the noise polluting the computer network.

			Service		Breaker		Wire		Conduit
Part Number	Receptacle	Volts	AMP	Phase	Pole	AMP	Quantity	Size	Inches
515R1*	5261	120	15	1	1	15	3	12 AWG	0.5
515R2*	5262	120	15	1	1	15	3	12 AWG	0.5
515R4*	5262 (2)	120	15	1	1	15	3	12 AWG	0.5
520R1*	5361	120	20	1	1	20	3	12 AWG	0.5
520R2*	5362	120	20	1	1	20	3	12 AWG	0.5
520R4*	5362 (2)	120	20	1	1	20	3	12 AWG	0.5
530R1*	9308	120	30	1	1	30	3	10 AWG	0.5
550R1	9360	120	50	1	1	50	3	8 AWG	0.5
615R1*	5661	208	15	1	2	15	3	12 AWG	0.5
615R2*	5662	208	15	1	2	15	3	12 AWG	0.5
615R4*	5662 (2)	208	15	1	2	15	3	12 AWG	0.5
620R1*	5461	208	20	1	2	20	3	12 AWG	0.5
620R4*	5462 (2)	208	20	1	2	20	3	12 AWG	0.5
630R1*	9330	208	30	1	2	30	3	10 AWG	0.5
1420R1	8410	120/208	30	1	2	30	4	12 AWG	0.5
1430R1	9430	120/208	30	1	2	30	4	10 AWG	0.5
1450R1*	9450	120/208	50	1	2	50	4	8 AWG	0.75

## NEMA STRAIGHT BLADE CABLES

#### \*Available with isolated ground.

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All NEMA Type cable assemblies are available in closed nipple and daisy-chain configurations.



NEMA STANDARD LOCKING CABLES										
		Service			Breaker		Wire		Conduit	
Part Number	Receptacle	Volts	AMP	Phase	Pole	AMP	Quantity	Size	Inches	
L515R1*	4710	120	15	1	1	15	3	12 AWG	0.5	
L515R2*	4700	120	15	1	1	15	3	12 AWG	0.5	
L520R1*	2310	120	20	1	1	20	3	12 AWG	0.5	
L530R1*	2610	120	30	1	1	30	3	10 AWG	0.5	
L615R1*	4560	208	15	1	2	15	3	12 AWG	0.5	
L615R2*	4550	208	15	1	2	15	3	12 AWG	0.5	
L620R1*	2320	208	20	1	2	20	3	12 AWG	0.5	
L630R1*	2620	208	30	1	2	30	3	10 AWG	0.5	
L715R1	4760	208	15	1	2	15	3	12 AWG	0.5	
L1420R1*	2410	120/208	20	1	2	20	4	12 AWG	0.5	
L1430R1*	2710	120/208	30	1	2	30	4	10 AWG	0.5	
L1520R1*	2420	208	20	3	3	20	4	12 AWG	0.5	
L1530R1*	2720	208	30	3	3	30	4	10 AWG	0.5	
L2120R1*	2510	208	20	3	3	20	5	12 AWG	0.5	
L2130R1*	2810	208	30	3	3	30	5	10 AWG	0.5	
CS8269	CS8269	250	50	1	2	50	3	8 AWG	0.5	
CS8369	CS8369	250	50	3	3	50	4	8 AWG	0.75	

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All NEMA Type cable assemblies are available in closed nipple and daisy-chain configurations.

\*Available with isolated ground.

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RUSSELLSTOLL CONNECTORS—(IBM STYLE)										
		Service			Breaker		Wire		Conduit	
Part Number	Receptacle	Volts	AMP	Phase	Pole	AMP	Quantity	Size	Inches	
IBM A	RS 3913	208	20	1	2	20	3	12 AWG	0.5	
IBM A-U1	RS 3913-U1	120	20	1	1	20	3	12 AWG	0.5	
IBM A-U2	RS 3913-U2	208	15	1	2	15	3	12 AWG	0.5	
ІВМ В	RS 3914	208	15	3	3	15	4	12 AWG	0.5	
IBM C	RS 3933	208	30	1	2	30	3	10 AWG	0.5	
IBM D	RS 3934	208	30	3	3	30	4	10 AWG	0.5	
IBM E	RS 7428	208	60	3	3	60	4	6 AWG	0.75	
IBM F	RS JCS1034H	208	100	3	3	100	4	3 AWG	1.25	
9C23U0	9C23U0	600/250	20	1	2	20	3	12 AWG	0.5	
9C23U2	9C23U2	250	20	1	2	20	3	12 AWG	0.5	
9C33U0	9C33U0	600/250	30	1	2	30	3	10 AWG	0.5	
9C33U2	9C33U2	250	30	1	2	30	3	10 AWG	0.5	
9C34U0	9C34U0	600/250	30	3	3	30	4	10 AWG	0.5	
9C34U2	9C34U2	250	30	3	3	30	4	10 AWG	0.5	
9C53U0	9C53U0	600/250	50	1	2	50	3	8 AWG	0.75	
9C53U2	9C53U2	250	50	1	2	50	3	8 AWG	0.5	
9C54U0	9C54U0	600/250	50	3	3	50	4	8 AWG	0.75	
9C54U2	9C54U2	250	50	3	3	50	4	8 AWG	0.75	
9C63U2	9C63U2	250	60	1	2	60	3	6 AWG	0.75	



## IEC 309 CABLES-(PIN & SLEEVE)

		Service			Breaker		Wire		Conduit
Part Number	Receptacle	Volts	AMP	Phase	Pole	AMP	Quantity	Size	Inches
320C6W	A3206C6W	250	20	1	2	20	3	12 AWG	0.5
330C6W	330C6W	250	30	1	2	30	3	10 AWG	0.5
360C6W	A3606C6W	250	60	1	2	60	3	6 AWG	0.75
420C9W	420C9W	208	20	3	3	20	4	12 AWG	0.5
430C7W	430C7W	480	30	3	3	30	4	10 AWG	0.5
430C9W	430C9W	250	30	3	3	30	4	10 AWG	0.5
460C9W	460C9W	208	60	3	3	60	4	6 AWG	0.75
4100C9W	4100C9	250	100	3	3	100	4	2 AWG	1.25
560C9W	560C9W	208	60	3	3	60	4	6 AWG	1
5100C9W	5100C9W	208	100	3	3	100	5	2 AWG	1.25

Hubbell devices with VO rating are available upon request.

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