WoCo

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World Cord Sets, Inc
Locking Power Cables
Reference Guide

Overview

The data center industry has been expanding at an exponential rate, and the innovation in the technology that drives it has been increasing in complexity. Data centers now have more competitive Service Level Agreements (SLA's), and, therefore significantly higher costs for disruptions in service. Due to this, there has been a proliferation of locking data center cables, and with the many different types available, it can be difficult to know which one to choose.

In this paper, we will explore the different kinds of locking power cables that aid in ensuring that disruptions in service do not occur due to accidental disconnects of power cables from PDUs or equipment.

General

The factors that influence what kind of locking power cables are right for your application include PDU Vendor, Equipment Vendor, Outlet Type, Inlet Type, and specific customer requirements.

PDU Vendor

One of the largest factors in choosing a locking power cable is which brand of PDU you have. Typical brands include ServerTech, Raritan, APC and Geist. Based on the PDU you are using from one of the previously mentioned vendors, it may have an outlet which is designed to mate with a certain style locking plug, and, in these cases, the locking plug it is designed to work with should be used.

Plug & Connector?

The second factor to take into consideration is whether or not you require both ends of the cable to lock.

Outlet & Inlet Type

When looking at the different locking variations, you must also ensure that you are choosing the correct plug/connector configuration when choosing the cable.

Do you have a

Server Technology
A brand of legrand

- OR -

Raritan
A brand of legrand

- OR -

VERTIV

PDU?

World Cord Sets, Inc is a factory auothorized distributor of P-Lock power cables for your ServerTech, Raritan, and Vertiv PDUs

Server Technology, Raritan, and Vertiv PDUs have outlets that mate with P-Lock power cables to securely lock the plug into the PDU. P-Lock cables feature tabs on the outside of the plug which clip into the outside of the outlet on the PDU. To disconnect a P-Lock cable, you simply squeeze the tabs. See below for an illustration of an IEC 60320 C14 P-Lock to IEC 60320 C13. The C13 mates with the C14 inlet on the server, and, the C14 mates with the matching C13 oulet on the PDU. Please note, standard P-Lock cables do not have a locking mechanism on the equipment end.

C14 Inlet on HPE Proliant Server

① C14 P-Lock Plug

② C13 Connector
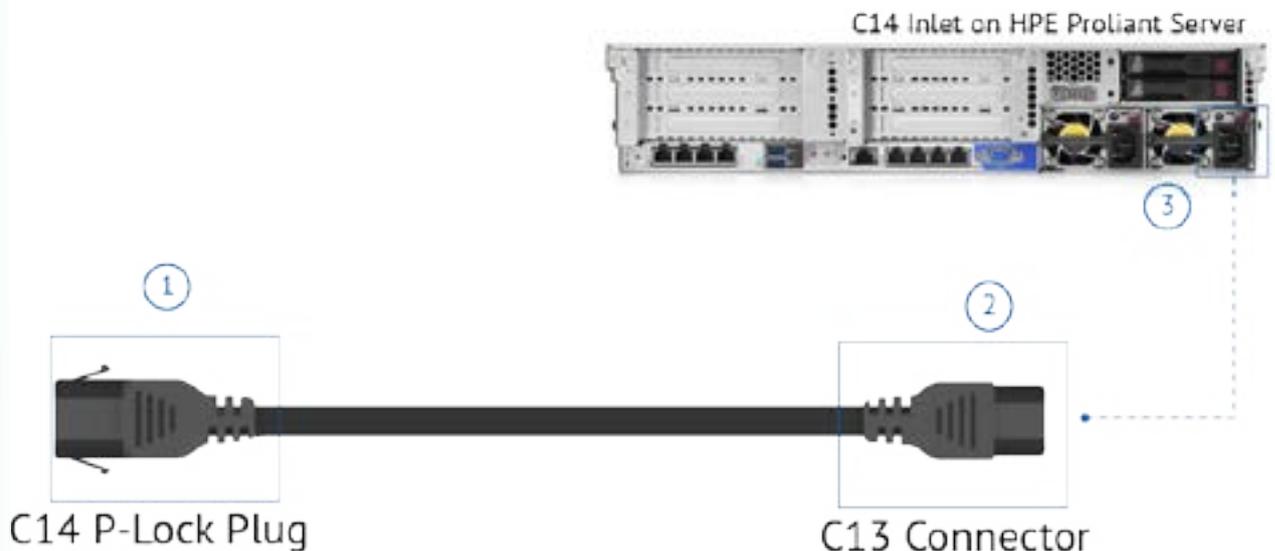
- P-Lock Power Cables only mate with **Server Technology, Raritan, and Vertiv Emerson PDUs**
- P-Lock cables only lock on the PDU end of the cable, they do not have a locking mechanism on the equipment end.

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Do you have an

APC ™
by Schneider Electric

PDU?

APC AP8000 series PDUs are designed to mate with V-Lock power cables in order to lock the plug into the mating receptacle/outlet on the PDU. V-Lock power cables also utilize a locking end on the equipment side as well as the PDU side.

C14 Inlet on HPE Proliant Server

C14 V-Lock Plug

C13 Connector

- *Are V-Lock locking cords compatible with non-locking outlets?*
  V-Lock plugs will still mate with any standard IEC 60320 mating outlet, however, the lock will not engage and the cable will act as a normal cable without a locking feature.
- *Are tools required to remove the cable from the PDU?*
  No, no tools are required to remove the cable from the PDU. The cable features a tab on the top of the plug which, when pushed down, will disengage the cable from the outlet.
- *Do V-Lock cables lock on both ends?*
  Yes, V-Lock cables feature a locking mechanism on both the plug and the connector. However, both the outlet you are plugging into and the inlet you are plugging into must be matching V-Lock inlets/Outlets.

A-Lock Power Cables

A-Lock Power Cables feature small buttons/tabs on the outside of the **connector** (female/equipment end) which "grabs" the ground pin of the mating inlet. This ensures that the equipment does not become disonnected due to vibration, which is extremely common in data center cabinets. A-Lock cables are UNIVERSAL on the connector end, meaning they will lock with any standard matching IEC inlet.

- **Do A-Lock cables lock on both ends?**
  No. A-Lock cables ONLY lock on the female/equipment/connector end of the cable. They do not feature any locking mechanism on the plug end/pdu end.
- **Are tools required to remove the cable from the equipment?**
  No, no tools are required to remove the cable from the equipment. Simply squeeze the buttons/tabs on the side of the connector to disconnect it from the equipment.
- **Do A-Lock cables work with any kind of equipment?**
  Yes, because the A-Lock simply "grabs" the ground pin of the inlet, these cables will lock onto ANY equipment that has the correct inlet for the connector being used.

IEC-Lock Power Cables

IEC-Lock Power Cables feature a small tab on the top of the connector, similar to a V-Lock, however, the IEC-Lock connector does not require a proprietary inlet to lock onto. It will lock on any inelt by squeezing the ground pin.

- ***Do IEC-Lock cables lock on both ends?***
  No. IEC-Lock cables ONLY lock on the female/equipment/connector end of the cable. They do not feature any locking mechanism on the plug end/pdu end.
- ***Are tools required to remove the cable from the equipment?***
  No, no tools are required to remove the cable from the equipment. Simply pull the tab back on the top of the connector to release the cable.
- ***Do IEC-Lock cables work with any kind of equipment?***
  Yes, because the IEC-Lock simply "squeezes" the ground pin of the inlet, these cables will lock onto ANY equipment that has the correct inlet for the connector being used.

Z-Lock Power Cables

Z-Lock Power Cables feature a spin lock plug which mates with any receptable, allowing it to lock into any type of PDU. However, Z-Lock cables have plugs that are significantly longer than standard C14 plugs, making them difficult to install in high density data center applications. They also feature a connector similar to the A-Lock which grabs the ground pin on the inlet to lock it onto the equipment.

zLock C14 - C13

zLock C14 - C15

zLock NEMA 5-15 - C13

- ***Do Z-Lock cables lock on both ends?***
    Yes. Z-Lock cables lock on both ends of the cable, ensuring neither the PDU or the equipment become disonnected from the cable.
- ***Are tools required to remove the cable from the equipment?***
    No, no tools are required to remove the cable from the equipment. Simply pull the tab back on the top of the connector to release the cable. And spin the red portion on the back of the plug to release it.
- ***Do Z-Lock cables work with any kind of equipment?***
    Yes, because the Z-Lock simply "squeezes" the ground pin of the inlet, these cables will lock onto ANY equipment that has the correct inlet for the connector being used.
- ***What are the drawbacks of Z-Lock cables?***
    Z-lock cables require much more space to install, and, require a signifiicantly longer time to install than a normal power cable due to spinning the plug to lock it onto the receptacle. Z-Locks are also the most expensive of the different brands of locking power cable.