interpower®

White Paper

Opening Up New Market Opportunities with an Accessory Power System

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Contents

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Opening Up New Market Opportunities with an Accessory Power System

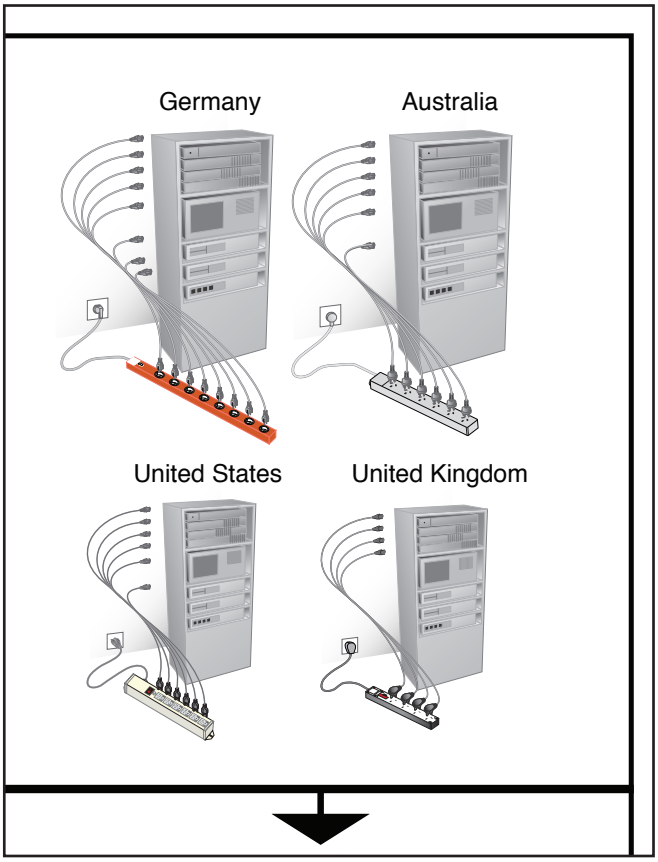
Overview

One of the keys to success for a company is to have choices available to make a product more marketable. An accessory power system allows options that help to simplify power supply connections. It can also open up opportunities for new markets.

An accessory power system, which uses IEC 60320 components, can help a company offer products that are more easily adapted to the needs of global markets without requiring reconfiguration by the user. It gives a company the ability to offer a product that can be used in many different countries because it eliminates the need to have all of the different kinds of plugs available or inventoried somewhere in a warehouse. This can result in a cost-saving benefit for the company.

IEC 60320 components are a common connector interface throughout the industrialized world which simplifies the task of specifying a connector to use on a cord set. They provide a framework to work from for product design and testing. They also help to prevent improper connections by their design configurations and provide a uniform connector for similar voltages, thus ensuring safe connections.

This system makes it easier to build for worldwide markets. With a variety of different plug/socket patterns used around the world, exporting to the global market may seem unapproachable or too expensive to pursue. Part of the versatility of the accessory power system is because IEC 60320 components are generally accepted for use throughout the world. Previously, when a company would send a product that used different power supply connections to various countries, a country-specific cord for every connection was required. Now only one country-specific cord set is needed as the primary power connection.



Accessory Power Defines Power Connections To Peripheral Equipment From a Central System

This illustration shows a typical accessory power system using IEC 60320 interconnection components, with a country-specific cord set (in this example, a Continental European cord set) that connects to a wall
socket. Country-specific plugs and sockets are not needed for accessory power connections.

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Using Accessory Power

"Accessory power is specifying one plug and socket configuration that is accepted globally for connections between equipment systems. A country-specific mains connection is needed only for the primary power supply connections."

"Accessory power is specifying one plug and socket configuration that is accepted globally for connections between equipment systems. A country-specific mains connection is needed only for the primary power supply connections," explained Dan Ford, Technical Support Specialist at Interpower. "This makes it easier to design and build equipment that can be accepted worldwide. The IEC 60320 interconnection system is generally accepted for use throughout the world. By using a plug and socket configuration that is accepted globally, it can allow the equipment to be more marketable."

Using accessory power to distribute and control power to peripheral equipment through a central system is advantageous for a number of areas, including industrial, information technology, medical, dental, ophthalmological, test and measurement, and food production.

The accessory power system allows a designer to build a product that can simplify and organize a rack and/or multiple equipment units. Such a system can be beneficial when the main power system will be controlled by the accessory power strip, when there is not sufficient panel space, or when an overall power control needs to be added to coordinate different pieces of equipment.

For example, accessory power systems are used in a number of mall and airport kiosks. In these places, where space is at a premium, there are numerous electrical devices that need power. By using an accessory power system, only one cord set is plugged into the power source and the rest of the devices are supplied with power through jumper cord sets which connect to the accessory power strip. Another example where this type of system can be valuable is with a computer setup that has a variety of components.

Major Components of an Accessory Power Distribution System

The major components of an accessory power distribution system include:

One Accessory Socket Strip
One socket strip provides multiple power outlets for connecting several pieces of equipment to a single source of electrical power.

Jumper Cord Sets
Global cord sets connect the accessory socket strip to the peripheral equipment.

One Country-Specific Cord Set
One connection for the entire system to the electrical power source, minimizing the number of country-specific cord sets that need to be in inventory.

By incorporating the above components into an accessory power distribution system, there are several benefits that a company could see.

Production Efficiencies
The main equipment components can be the same in the overall design. The only component that needs to change in the assembly is the country-specific cord set.

Cost Savings
Price volume discounts are possible along with lower inventory.

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IEC 60320 Components Used in Accessory Power

In order to design products that do not require reconfiguration by the user, one way is to incorporate accessory power distribution components that are based on the IEC 60320 standard.

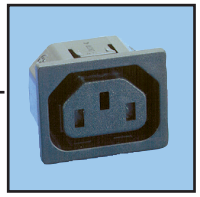
By using IEC 60320 components, product designers can simplify power supply connections for electrical equipment. Different components work together in one system.

The key components can include:

- **a power inlet**
- **an outlet**
- **a connector**
- **a plug connector**
- **a jumper cord**

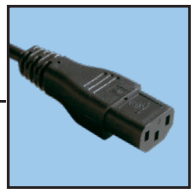
For a list of all of the IEC 60320 components, download our free IEC 60320 Appliance and Interconnection Couplers Guide by clicking the link below.

Additional Component:
Interpower Connector Locks



Outlet

The outlet can be an important part of the equipment. It is typically either snap-mount or screw-mount and may be integrated with an EMI shield and filter to minimize radiated and conducted noise emissions. In applications where vibration or transportation of equipment could create unwanted power disconnections, consider the use of a connector lock.



Connector

The connector is commonly molded on or assembled on to flexible cable.

Plug Connector

The corresponding component to the outlet is the plug connector, which is commonly molded or assembled on to flexible cable. This is the IEC 60320 plug equivalent to a country-specific plug.

Jumper Cord

A jumper cord is a combination of a connector and a plug connector on flexible cable. This is the IEC 60320 cord set equivalent to a country-specific cord set.

Interpower Connector Locks

Helps to prevent accidental power interruptions. This design does not require tools for use and helps to secure the connection.

Power Inlet

A component common to the input power and accessory power distribution is the AC power inlet. It is typically either snap-mount or screw-mount.

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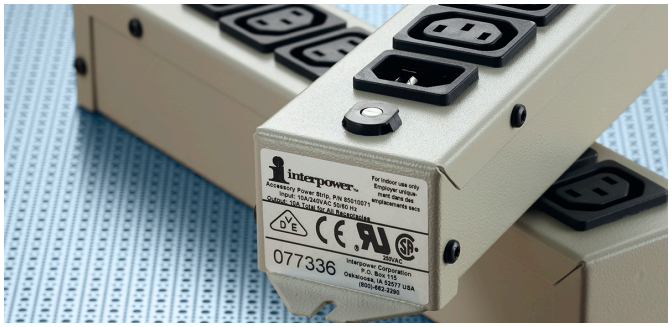
Accessory Power System at Interpower

Interpower has spent the last few years designing and perfecting its own accessory power system. The Accessory Power Strip (APS) and the Power Distribution Unit (PDU) allow equipment to be built with the different components working together in one system. The APS is a socket strip that provides multiple power outlets for connecting all of the pieces of equipment to a single source of electrical power. The PDU is a socket strip using IEC 60320 components in a case enclosure that is larger than an APS. It fits into a 19-inch rack. Both the APS and the PDU can be utilized wherever power needs to be supplied to multiple units of equipment.

Accessory Power Strip (APS)



"At its core, this power strip incorporates the AC power inlet, with multiple AC power outlets, typically four, but as many as 20 outlets. Other features commonly included are power on/off switches, circuit breakers, supplementary overcurrent protector or fuse holders and fuses," Mr. Ford said.

"It is important to note that overcurrent protection is for the entire power strip. A power strip with a 15A circuit breaker does not mean that each outlet can deliver 15A maximum each. It means that the entire power strip, whether four or 20 outlets, can deliver up to 15A across all outlets combined," he emphasized.

Features of the APS

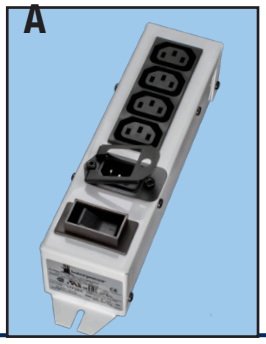
IEC 60320 C14 Inlet Rated up to 15A/250V		**IEC 60320 C20 Inlet** Rated up to 20A/250V, Connector Lock available with C14 & C20 inlet		**Push-to-Reset CBE** Rated up to 20A/250V		**Lighted Rocker Style CBE** Rated up to 20A/250V	
IEC 60320 Sheet F Outlet Rated up to 15A/250V		**IEC 60320 Sheet J Outlet** Rated up to 20A/250V		**Rocker Style CBE** Rated up to 20A/250V		**Circuit Breaker Guard**	

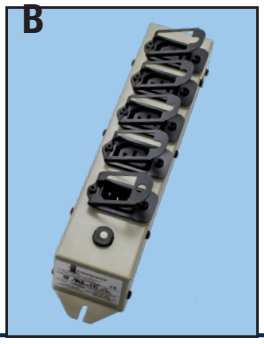
Some APS units also incorporate the new, tool-free Interpower Connector Locks.

A. 4-Position Accessory Power Strip w/ Connector Lock
P/N: 852J2D10

B. 4-Position Accessory Power Strip w/ Connector Locks
P/N: 852J2D11

C. 5-Position Accessory Power Strip w/ Connector Locks
P/N: 852J2E01





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Power Distribution Unit (PDU)

The most common place to find a PDU is in an equipment rack. All of the components can be installed into one rack and work together as a specific unit. This rack is designed to hold different components of a system. Examples include a complete computer system (monitor, CPU, keyboard, and printer), test equipment, medical research equipment, and telephone equipment.

Features of the PDU	
IEC 60320 Sheet F Outlet Rated up to 15A/250V	
IEC 60320 C20 Inlet Rated up to 20A/250V	
IEC 60320 Sheet J Outlet Rated up to 20A/250V	
Rocker Style CBE Rated up to 20A/250V	
Lighted Rocker Style CBE Rated up to 20A/250V	

Additional Resources

For more information on accessory power offered by Interpower, see the below links:

Accessory Power

Accessory Power Strip & Power Distribution Unit Featured Product Page

Accessory Power for Worldwide Markets Webcast

Interpower offers free technical support. For further assistance, please contact Customer Service.

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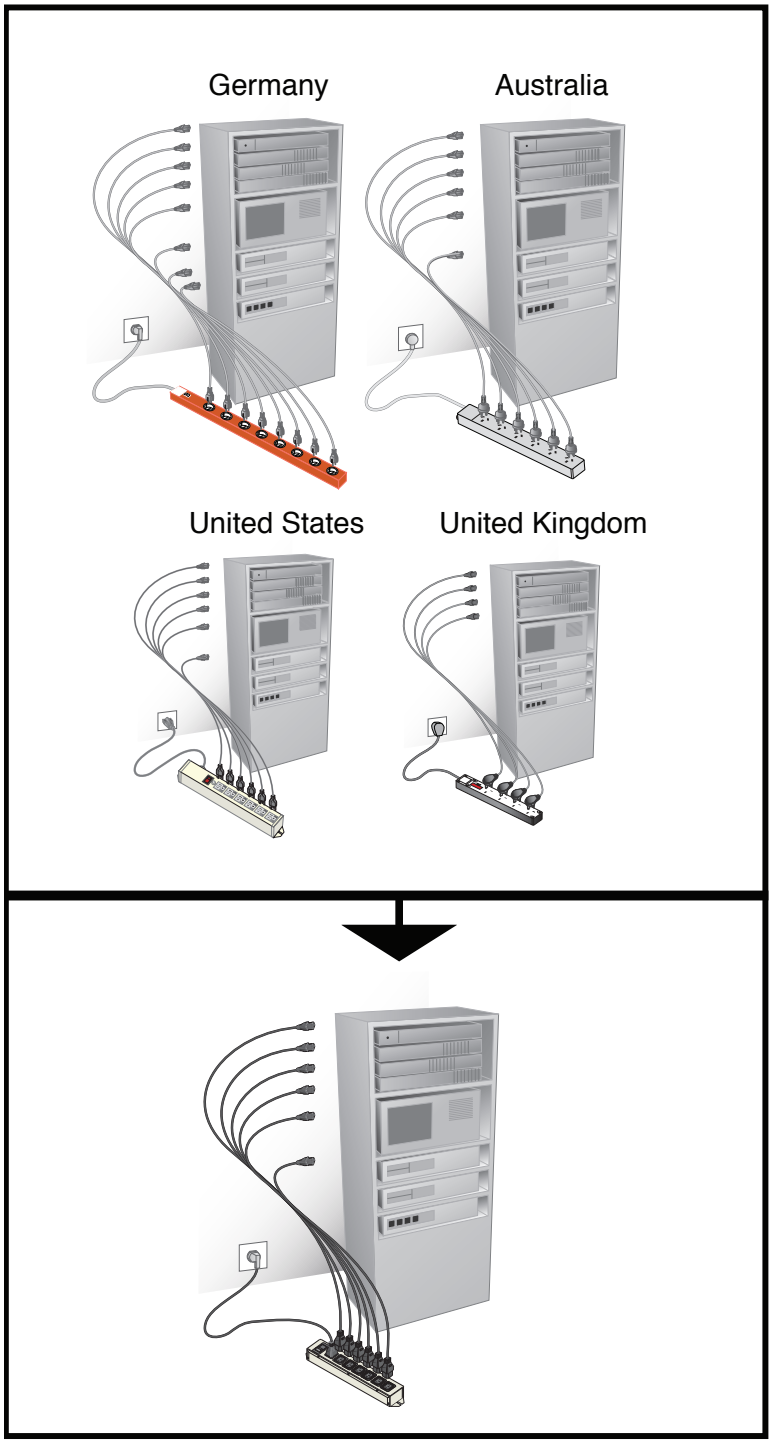
We Make It Easier

"At Interpower, we can make it easier to build equipment that can be sold worldwide because different components work together in one system. Instead of having to make four different systems to export to four different countries, a company can design one system and then add a cord set with a country-specific plug," Mr. Ford said. "This allows the same system to be exported globally with cost-saving benefits."

Jumper Cord Sets

Interpower offers jumper cord sets to use in the Accessor Power system. A jumper cord set has an IEC 60320 plug connector (Sheet E or Sheet I) on one end and an IEC 60320 connector (C5, C13, or C19) on the other end. Jumper cord sets are designed for specific applications. They can be used to "jump" power from unit to unit within one application which would include multiple pieces of equipment working together to accomplish one task. Using jumper cords with the Accessory Power Strip allows that only one cord set is needed to connect to the primary power source (wall socket).

Interpower offers a variety of jumper cord sets that include current and voltage ratings of 2.5A to 20A/225VAC to 250VAC and are available in different conductor sizes and cable types.



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